



Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Request for Quote  
 Chemicals

<b>Proc Folder:</b> 1274273		<b>Reason for Modification:</b>	
<b>Doc Description:</b> ADDENDUM NO.1 Repair Products for Roads and Bridges		ADDENDUM NO.1 Vendor Questions and Responses	
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2023-09-05	2023-09-07 13:30	CRFQ 0803 DOT2400000014	2

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

**Vendor Customer Code:** 000000176598

**Vendor Name :** DJL Material & Supply, Inc.

**Address :** P.O. Box 5293

**Street :**

**City :** Akron


**State :** Ohio **Country :** USA **Zip :** 44334

**Principal Contact :** Michael Leahy

**Vendor Contact Phone:** (330) 922-3630 **Extension:**

09/06/23 15:10:19  
 WV Purchasing Division

**FOR INFORMATION CONTACT THE BUYER**  
 John W Estep  
 304-558-2566  
 john.w.estep@wv.gov

**Vendor Signature X**  **FEIN#** 34-1318958 **DATE** 9/6/2023

All offers subject to all terms and conditions contained in this solicitation

**ADDITIONAL INFORMATION****ADDENDUM NO.1**

Addendum No.1 issued to publish and distribute the attached information to the Vendor Community.

**REQUEST FOR QUOTATION:**

The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Division of Highways to establish an open-end, multiple award contract for delivery of various rapid-setting mortar, concrete, asphalt, and bridge surface repair products, FOB destination, for use in the preventative maintenance of bridges and roadways throughout the state of West Virginia. Per the Bid Requirements, Specifications, Terms and Conditions attached to this solicitation.

**INVOICE TO**

VARIOUS AGENCY  
LOCATIONS  
AS INDICATED BY ORDER

No City                      WV  
US

**SHIP TO**

VARIOUS AGENCY  
LOCATIONS  
AS INDICATED BY ORDER

No City                      WV  
US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	CRAFCO Patcher I, Patcher II, or Equal	0.00000	1 Day 1 Week 1 Month	UNIT \$900.00 \$1,350.00 <del>\$2,998.00</del>	\$900.00 \$1,350.00 <del>\$2,998.00</del>

Comm Code	Manufacturer	Specification	Model #
22101600	Crafco, Inc.	Patcher I & Patcher II	56700 for Mastic, Mastic 502 & Techcrete

**Extended Description:** Meets all WVDOH and Crafco specifications.  
CRAFCO Patcher I or Patcher II or Equal. Bid per daily, weekly, and monthly rental periods.

**INVOICE TO**

VARIOUS AGENCY  
LOCATIONS  
AS INDICATED BY ORDER

No City                      WV  
US

**SHIP TO**

VARIOUS AGENCY  
LOCATIONS  
AS INDICATED BY ORDER

No City                      WV  
US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	CRAFCO Super Shot 125 Gal. Dbl. Drum Diesel Melter or Equal	0.00000	1 Day 1 Week 1 Month	UNIT \$750.00 \$1,300.00 <del>\$2,500.00</del>	\$750.00 \$1,300.00 <del>\$2,500.00</del>

Comm Code	Manufacturer	Specification	Model #
22101600	Crafco, Inc.	SuperShot 125 gal. Double Drum Melter	47400

**Extended Description:** Meets all WVDOH and Crafco specifications.  
CRAFCO Super Shot 125 Gal. Double Drum Diesel Melter or Equal. Bid per daily, weekly, and monthly rental periods.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	AQUAFIN-IC ADMIX or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
AQUAFIN-IC ADMIX or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
4	AQUAFIN Pavemend DOTline Rapid Repair Concrete or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
AQUAFIN Pavemend DOTline Rapid Repair Concrete or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
5	AQUAFIN PAVEMEND SL or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
AQUAFIN PAVEMEND SL or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
6	AQUAFIN PAVEMEND SLQ or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
AQUAFIN PAVEMEND SLQ or Equal, per contract specifications.

<b>INVOICE TO</b>	<b>SHIP TO</b>
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VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER  No City                      WV US	VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER  No City                      WV US
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Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
7	AQUAFIN PAVEMEND VR or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
 AQUAFIN PAVEMEND VR or Equal, per contract specifications.

<b>INVOICE TO</b>	<b>SHIP TO</b>
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VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER  No City                      WV US	VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER  No City                      WV US
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Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
8	CHEM-CRETE PAVIX CCC100 or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
 CHEM-CRETE PAVIX CCC100 or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
9	CHEM-CRETE SOFIX CCC100 or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
CHEM-CRETE SOFIX CCC100 or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
10	CHEM-CRETE YUFIX CCC 1000 or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
CHEM-CRETE YUFIX CCC 1000 or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
11	CHLOR*RID or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
CHLOR\*RID or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price	
12	CRAFCO HP Asphalt Cold Patch - Grade L or Equal	0.00000	1 Bag	UNIT	\$18.00	\$18.00
			1 Pallet		\$952.00	\$952.00
			1 Truckload		\$15,120.00	\$15,120.00

Comm Code	Manufacturer	Specification	Model #
30000000	Crafco, Inc.	HP Asphalt Cold Patch Grade L	34977ER

**Extended Description:** Meets all WVDOH and Crafco specifications.  
CRAFCO HP Asphalt Cold Patch - Grade L or Equal, per contract specifications.

INVOICE TO				SHIP TO			
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER				VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER			
No City	WV	No City	WV	US		US	
Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price		
13	CRAFCO HP Asphalt Cold Patch - Grade M or Equal	0.00000	1 Bag UNIT 1 Pallet	\$18.00 \$952.00	\$18.00	\$952.00	
			1 Truckload	\$15,120.00	\$15,120.00	\$15,120.00	
Comm Code	Manufacturer	Specification	Model #				
30000000	Crafco	HP Asphalt Cold Patch Grade M					

**Extended Description:** Meets all WVDOH and Crafco specifications.  
CRAFCO HP Asphalt Cold Patch - Grade M or Equal, per contract specifications.

INVOICE TO				SHIP TO			
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER				VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER			
No City	WV	No City	WV	US		US	
Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price		
14	CRAFCO HP Concrete Cold Patch or Equal	0.00000	1 Bag UNIT 1 Pallet	\$58.00 \$3,024.00	\$58.00	\$3,024.00	
			1 Truckload	\$50,400.00	\$50,400.00	\$50,400.00	
Comm Code	Manufacturer	Specification	Model #				
30000000	Crafco, Inc.	HP Concrete Cold Patch	34969				

**Extended Description:** Meets all WVDOH and Crafco specifications.  
CRAFCO HP Concrete Cold Patch or Equal, per contract specifications.



INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
15	CRAFCO Mastic One or Equal	0.00000	1 Box	\$22.00	\$22.00
			1 Pallet	\$1,269.60	\$1,269.00
			1 Truckload	\$21,600.00	\$21,600.00

Comm Code	Manufacturer	Specification	Model #
30000000	Crafco, Inc.	Mastic One	33339

**Extended Description:** Meets all WVDOH and Crafco specifications.  
CRAFCO Mastic One or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
16	CRAFCO Matrix 501 Asphaltic Plug Bridge Joint Syst. or Equal	0.00000	1 Box	\$42.00	\$42.00
			1 Pallet	\$2,367.00	\$2,367.00
			1 Truckload	\$40,320.00	\$40,320.00

Comm Code	Manufacturer	Specification	Model #
30000000	Crafco, Inc.	Matrix 501 Asphaltic Plug Bridge Joint System	

**Extended Description:** Meets all WVDOH and Crafco specifications.  
CRAFCO Matrix 501 Asphaltic Plug Bridge Joint System or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
15 A	CRAFCO Mastic One or Equal	0.00000	1 Box UNIT	\$19.50	\$19.50
			1 Pallet	\$1,154.40	\$1,154.40
			1 Truckload	\$26,282.10	\$26,282.10

Comm Code	Manufacturer	Specification	Model #
30000000	CrafcO, Inc.	Plexi-Melt	33339-MP

**Extended Description:** Meets all WVDOH and CrafcO specifications.  
CRAFCO Mastic One or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
16	CRAFCO Matrix 501 Asphaltic Plug Bridge Joint Syst. or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
CRAFCO Matrix 501 Asphaltic Plug Bridge Joint System or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
17	CRAFCO Matrix 501 Mastic or Equal	0.00000	1 Box 1 Pallet	\$39.95 \$2,352.00	\$39.95 \$2,352.00
			1 Truckload	\$39,980.00	\$39,980.00

Comm Code	Manufacturer	Specification	Model #
30000000	CrafcO, Inc.	Matrix 501 Mastic	

**Extended Description:** Meets all WVDOH and CrafcO specifications.  
CRAFCO Matrix 501 Mastic or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
18	CRAFCO Matrix 501 Adhesive or Equal	0.00000	1 Box 1 Pallet	\$21.20 \$1,249.00	\$21.20 \$1,249.00
			1 Truckload	\$21,600.00	\$21,600.00

Comm Code	Manufacturer	Specification	Model #
30000000	CrafcO, Inc.	Matric One Type 2	33340

**Extended Description:**  
CRAFCO Matrix 501 Adhesive or Equal, per contract specifications.

Mastic One Type 2 Model 33340 Asphalt & Concrete Patch. Meets all WVDOH and CrafcO specifications.

INVOICE TO		SHIP TO			
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER			
No City US	WV	No City US	WV		
Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
19	CRAFCO Matrix 501 Adhesive or Equal	0.00000	1 Bag 1 Pallet 1 Truckload	UNIT \$49.83 \$3,737.25 \$67,270.50	\$49.83 \$3,737.25 \$67,270.50
Comm Code	Manufacturer	Specification	Model #		
30000000	Crafco, Inc.	TechCrete Fibre Mastic			

**Extended Description:** Meets all WVDOH and CrafcO specifications.  
CRAFCO Matrix 501 Adhesive or Equal, per contract specifications.

INVOICE TO		SHIP TO			
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER			
No City US	WV	No City US	WV		
Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
20	CRAFCO TechCrete-R ("TC-R") or Equal	0.00000	1 Bag 1 Pallet 1 Truckload	UNIT \$55.00 \$4,025.00 \$72,450.00	\$55.00 \$4,025.00 \$72,450.00
Comm Code	Manufacturer	Specification	Model #		
30000000	Crafco, Inc.	TechCrete R	34952		

**Extended Description:** Meets all WVDOH and CrafcO specifications.  
CRAFCO TechCrete-R ("TC-R") or Equal, per contract specifications.

INVOICE TO			SHIP TO		
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER			VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		
No City US	WV		No City US	WV	
Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
21	CRAFCO TechCrete-TBR or Equal	0.00000	1 Bag 1 Pallet 1 Truckload	UNIT \$42.00 \$2,352.00 \$42,336.00	\$42.00 \$2,352.00 \$42,336.00
Comm Code	Manufacturer	Specification	Model #		
30000000	Crafco	TechCrete TBR	34953		

**Extended Description:** Meets all WVDOH and CrafcO specifications.  
CRAFCO TechCrete-TBR or Equal, per contract specifications.

INVOICE TO			SHIP TO		
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER			VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		
No City US	WV		No City US	WV	
Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
22	DOWSIL 888 Silicone Joint Sealant or Equal	0.00000	UNIT		
Comm Code	Manufacturer	Specification	Model #		
30000000					

**Extended Description:**  
DOWSIL 888 Silicone Joint Sealant or Equal, per contract specifications.

INVOICE TO		SHIP TO			
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER			
No City US	WV	No City US	WV		
Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
23	DOWSIL 890-SL Silicone Joint Sealant or Equal	0.00000	UNIT		
Comm Code	Manufacturer	Specification	Model #		
30000000					

**Extended Description:**  
DOWSIL 890-SL Silicone Joint Sealant or Equal, per contract specifications.

INVOICE TO		SHIP TO			
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER			
No City US	WV	No City US	WV		
Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
24	IMCO D-TECK 470 Sealer or Equal	0.00000	UNIT		
Comm Code	Manufacturer	Specification	Model #		
30000000					

**Extended Description:**  
IMCO D-TECK 470 Sealer or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
25	IMCO MG-KRETE FLEX Regular or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
IMCO MG-KRETE FLEX Regular or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
26	IMCO High Temperature Retarder or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
IMCO High Temperature Retarder or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
27	IMCO Low Temperature Accelerator or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
IMCO Low Temperature Accelerator or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
28	IMCO MG-KRETE NO ODOR Regular or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
IMCO MG-KRETE NO ODOR Regular or Equal, per contract specifications.



INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
29	IMCO MG-KRETE NO ODOR Fine or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
IMCO MG-KRETE NO ODOR Fine or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
30	IMCO MG-KRETE Regular Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
IMCO MG-KRETE Regular Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
31	IMCO MG-KRETE Regular or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
IMCO MG-KRETE Regular or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
32	MASTER BUILDERS MasterEmaco T 1060 Rapid Mortar or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
MASTER BUILDERS MasterEmaco T 1060 Rapid Mortar (formerly 10-60 Rapid Mortar) or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
33	MASTER BUILDERS MasterFlow 100 or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
MASTER BUILDERS MasterFlow 100 (formerly Construction Grout) or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
34	Perma-Patch or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
Perma-Patch or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
35	PHOSCRETE Fast-Set Admix or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
PHOSCRETE Fast-Set Admix or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
36	PHOSCRETE HC or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
PHOSCRETE HC or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
37	PHOSCRETE SG (Dry-Mix Shotcrete/Gunite) or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
PHOSCRETE SG (Dry-Mix Shotcrete/Gunite) or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
38	PHOSCRETE VO (Vertical/Overhead) or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
PHOSCRETE VO (Vertical/Overhead) or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
39	SKUNK RUST SR-17 or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SKUNK RUST SR-17 or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
40	SOPREMA ALSAN Flashing or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SOPREMA ALSAN Flashing or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
41	SOPREMA ALSAN PolyFleece or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SOPREMA ALSAN PolyFleece or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
42	SOPREMA Elastocol 500 Primer or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SOPREMA Elastocol 500 Primer or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
43	SOPREMA Sopralene Flam 180 or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SOPREMA Sopralene Flam 180 or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
44	SOPREMA Sopralene Flam Antirock or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SOPREMA Sopralene Flam Antirock or Equal, per contract specifications.



INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
45	SSI DECK SEAL Polymer Deck Sealant or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SSI DECK SEAL Polymer Deck Sealant or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
46	SSI RE-DECK Skid-Resistant Overlay or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SSI RE-DECK Skid-Resistant Overlay or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
47	SSI SILSPEC Flexpatch Polymer Patching Mortar or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SSI SILSPEC Flexpatch Polymer Patching Mortar or Equal, per contract specifications.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
48	CSL SI-COAT 529AG Sil. Paint Anti-Corros./ Graffiti or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
CSL SI-COAT 529AG Silicone Paint Anti-Corrosive/Graffiti or Equal.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
49	SEALTIGHT 3405 Hot Applied Polymeric Joint Sealant or Equal	0.00000	1 Carton UNIT	\$15.75	\$15.75
			1 Pallet	\$1,181.25	\$1,181.25
			1 Truckload	\$22,950.00	\$22,950.00

Comm Code	Manufacturer	Specification	Model #
30000000	Crafco, Inc.	Crack Sealant, D-3405	34221

**Extended Description:** Meets all WVDOH and Crafco specifications.  
SEALTIGHT 3405 Hot Applied Polymeric Joint Sealant or Equal.

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
50	Sikdaur - 31 Hi-Mod Gel or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
Sikdaur - 31 Hi-Mod Gel or Equal.

<b>INVOICE TO</b>		<b>SHIP TO</b>	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
51	SIKADUR Crack Repair Kit or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SIKADUR Crack Repair Kit or Equal

<b>INVOICE TO</b>		<b>SHIP TO</b>	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
52	SIKADUR Crack Fix or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SIKADUR Crack Fix or Equal

INVOICE TO		SHIP TO	
VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER		VARIOUS AGENCY LOCATIONS AS INDICATED BY ORDER	
No City US	WV	No City US	WV

Line	Comm Ln Desc	Qty	Unit Issue	Unif Price	Total Price
53	SSI 900 PNS Nosing Expansion Opening Repair Mater. or Equal	0.00000	UNIT		

Comm Code	Manufacturer	Specification	Model #
30000000			

**Extended Description:**  
SSI 900 PNS Nosing Expansion Opening Repair Material or Equal

SCHEDULE OF EVENTS		
Line	Event	Event Date
1	Tech Questions due by 10:00am	2023-08-30

	Document Phase	Document Description	Page
DOT240000014	Draft	ADDENDUM NO.1 Repair Products for Roads and Bridges	29

**ADDITIONAL TERMS AND CONDITIONS**

See attached document(s) for additional Terms and Conditions

**SOLICITATION NUMBER: CRFQ DOT2400000014**

**Addendum Number: 1**

The purpose of this addendum is to modify the solicitation identified as CRFO DOT2400000014 ("Solicitation") to reflect the change(s) identified and described below.

**Applicable Addendum Category:**

- Modify bid opening date and time
- Modify specifications of product or service being sought
- Attachment of vendor questions and responses
- Attachment of pre-bid sign-in sheet
- Correction of error
- Other

**Additional Documentation:**

Vendor Questions and Responses

Bid Opening remains 09/07/2023 at 1:30pm

**Terms and Conditions:**

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

# SOLICITATION NUMBER – CRFQ DOT240000014

Addendum Number: 1

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## Responses to Vendor Posed Questions:

**Question 1:** We have comparable materials in all categories, and I would like to bid these materials. Will there be any issue as you have a column for proposed equivalent?

**Response:** *Per Section 3.2.1:*

*Proposed Equivalents: Vendor may list proposed equivalents ("Equal") for any Contract Items bid on ATT A and include product technical data sheets or equipment specifications with its bid submission.*

*3.2.1.1 Vendor should also provide any Approval Product List ("APL"), laboratory testing, part number, or material certification information for items proposed on ATT A.*

*3.2.1.2 The WVDOH may contact the Vendor if additional information is needed in order to determine equivalency or acceptance for use in project site work.*

*3.2.1.3 The evaluation, acceptance, and rejection of proposed Item equivalency is at the sole discretion of the WVDOH.*

*3.2.1.4 If a Contract Item equivalent is not provided, the WVDOH will assume that Vendor will provide the brand identified in these specifications.*

**Question 2:** I would like to understand the process for getting my companies materials specified.

**Response:** *For more information regarding certification of materials, please visit: <https://transportation.wv.gov/highways/most/Pages/default.aspx>*

**Question 3:** ITEM 15 (3.2.13) Crafcoc Mastic One or Equal

Why is the WVDOH using Crafcoc as the Item Number and showing another manufactures specs/value?

Why is the WVDOH changing the Property on Mastic with no field testing or previous history of the new Mastic you are asking for?

**Response:** *The values of Contract Item 15 are input directly from the Product Data Sheet for CRAFCO Mastic One (attached), which includes their ASTM test methods. The properties listed for this CRAFCO product were not changed from its listing in the previous contract.*





**PRODUCT DATA SHEET**

**MASTIC ONE**

PART NO. 33333

March 2020

6165 W Detroit St. • Chandler AZ 85226  
 +1 (602) 276-4466 • +1 (800) 528-8242 • FAX +1 (480) 961-0513  
 www.crafcocom

**READ BEFORE USING THIS PRODUCT**

**GENERAL:** Mastic One is a hot-applied, scorable, aggregate filled, black color, polymer modified asphalt pavement repair mastic. Mastic One complies with ASTM D8260 Type I. Mastic One is used for sealing, filling, and repairing many distresses in both asphalt concrete and portland cement concrete pavements and those rock surfaces that are larger than those typically repaired by crack or joint sealing, but smaller than repairs requiring remove and replace patching procedures. Typical uses include sealing, filling and leveling of wide transverse or longitudinal cracks and joints, filling potholes and utility cuts, localized skin patch repairs, repairs prior to surface treatments, and leveling bridge approaches or duffed areas. When properly applied, Mastic One forms a well-bonded, flexible, durable, traffic resistant repair. To use, Mastic One is placed into an appropriate master (CrafcO Patcher units), mixed and heated until application temperature is reached, poured into the prepared repair area and then leveled. Mastic One is formulated to provide neat feathered edge installation. Mastic One is then ready for traffic when it has cooled and equaled. VOC = 0.0%.

**PROPERTIES:** Properties of the binder, aggregate and blended and heated Mastic One according to ASTM D8260 are as follows:

<u>Property</u>	<u>Requirement</u>
<b>POLYMER MODIFIED BINDER</b>	
Cone Penetration, 77°F (25°C) (ASTM D5329)	60 max
Cone Penetration, 122°F (50°C) (ASTM D5329)	120 max
Softening Point, (ASTM D36)	200°F (93°C) min
Flexibility, 1" (25.4 mm), 150", 10 sec (ASTM D3111 modified)	Pass at 32°F (0°C)
<b>AGGREGATE</b>	
Abrasion Resistance (ASTM C131)	35% max
<b>BLENDED PRODUCT</b>	
Flexibility, 32°F (0°C) (ASTM D5329)	Pass
Adhesion, 77°F (25°C) (ASTM D5329)	25 PSI (172 KPA) min
Specific Gravity	1.7 - 2.0
Minimum Application Temperature	375°F (190°C) *
Maximum Application Temperature	400°F (204°C)

<u>Test</u>	<u>ASTM D8260 Type I Specification Limits</u>
Mastic Resilience (ASTM E516)	50% minimum
Effects of Rapid Deformation (ASTM D2794) (-7°C)	3 passing specimens no chipping, cracking or separation & 16-m
Crack Bridging (ASTM C1305 modified) (-7°C)	Pass 3 cycles
Mastic Stability (ASTM D8260) (70°C)	40.0 mm maximum

\*Refer to installation instructions if working on sloped pavements or repairing larger defects

**INSTALLATION:** The density of Mastic One is 115 pcf (4.2%) and the weight per gallon is 15.5 lbs./gal (1.86 kg/m<sup>3</sup>) at 60°F (15.5°C). Prior to use, the user must read and follow installation instructions for Mastic One to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage, precautions and safety procedures. These instructions are available at [www.crafcocom](http://www.crafcocom) and provided with each pallet of Mastic One.

**PACKAGING:** Mastic One is supplied in either cardboard boxes, or in meltable, seamless PLEXI-melt packaging. Each package contains premeasured polymer modified binder and aggregate. Both package types are labeled in accordance with OSHA, GHS, and specification requirements, are sold by net weight, are interlock stacked on 28 x 40 in. (102 x 102 cm), 4-way pallets; can be stored outside, and are covered with a weather resistant pallet cover and 3 layers of UV protected stretch wrap.

- **BOX** packaging consists of cardboard boxes containing approximately 40 lb. (18.1 kg) of product with 60 boxes per pallet, weighing approximately 2400 lb. (1090 kg). Boxes contain a quick melting release film for easy removal and are taped closed, without any staples.
- **PLEXI-melt** packaging consists of 30 lb. (13.6 kg) blocks of product with 70 packages per pallet, weighing 2100 lb. (953 kg). To use, the pallet wrap is removed, and individual blocks are placed in the master. There are no cardboard boxes or other cardboard components to open, empty, handle, or dispose of. PLEXI-melt packaging quickly melts into the product without affecting specification conformance.

**WARRANTY:** CRAFCO, Inc. warrants that CRAFCO products meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing or filling are beyond our control as are the use and application of the products; therefore, CrafcO shall not be responsible for improperly applied or misused products. Remedies against CrafcO, Inc. as agreed to by CrafcO, are limited to replacing nonconforming product or refund (full or partial) of purchase price from CrafcO, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by CrafcO, Inc. whichever is earlier. There shall be no other warranties expressed or implied. For optimum performance, follow CrafcO recommendations for product installation.

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: CRFO DOT2400000014**

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input type="checkbox"/> Addendum No. 2            | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

DJL Material & Supply, Inc. \_\_\_\_\_

Company

 \_\_\_\_\_  
Authorized Signature

9/6/2023 \_\_\_\_\_  
Date

**NOTE:** This addendum acknowledgment should be submitted with the bid to expedite document processing.

**REPAIR PRODUCTS FOR ROADS AND BRIDGES  
ATTACHMENT A (ATT A) PRICING PAGES**

**INSTRUCTIONS TO VENDORS:** Vendor shall complete ATT A providing its name, service area selection, and Contract Item information below. Vendor shall select the District(s) it will provide Contract Items bid for the selected service areas. If pricing will differ among Districts, Vendor shall complete a separate ATT A for each service area selection(s) and its corresponding pricing. If additional space is needed, provide a separate document and reference the corresponding Contract Item with your information. No future use of the Contract or any individual item is guaranteed throughout the life of this contract.

- District 1: Boone, Clay, Kanawha, Mason & Putnam cos.
- District 2: Cabell, Lincoln, Logan, Mingo & Wayne cos.
- District 3: Calhoun, Jackson, Pleasants, Ritchie, Roane, Wirt & Wood cos.
- District 4: Doddridge, Harrison, Marion, Monongalia, Preston & Taylor cos.
- District 5: Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral & Morgan cos.

**Service Area Selection**

- District 6: Brooke, Hancock, Marshall, Ohio, Tyler & Wetzel cos.
- District 7: Barbour, Braxton, Gilmer, Lewis, Upshur & Webster cos.
- District 8: Pendleton, Pocahontas, Randolph & Tucker cos.
- District 9: Fayette, Greenbrier, Monroe, Nicholas & Summers cos.
- District 10: McDowell, Mercer, Raleigh and Wyoming cos.

*For Proposed Equivalent Equipment: Provide manufacturer, make, and model information. Must also provide equipment specifications/information with bid.*  
*For Proposed Equivalent Material: Enter brand/product name, part no., API, or material certification information & provide technical data sheet w/bid.*

VENDOR NAME: \_\_\_\_\_

Contract Item No.	Contract Item	Proposed Equivalent Equipment / Material	UOM	Quantity per UOM Price		Additional Bulk/Tier Pricing Options	Proposed Equivalent Suggested Use / Application Method (per Manufacturer Recommendation)
				Enter amounts per UOM (unless already noted) for item pricing	Cost per UOM		
1	CRAFICO Patcher I or Patcher II or Equal	MEETS ALL WVDOH & CRAFICO SPECIFICATIONS Crafcio Patcher I and Crafcio Patcher II	Daily Rate	1	\$900.00		
			Weekly Rate	1	\$1,350.00		
			Monthly Rate	1	\$2,998.00		
2	CRAFICO Super Shot 125 Gal. Double Drum Diesel Melter or Equal	MEETS ALL WVDOH & CRAFICO SPECIFICATIONS Crafcio SuperShot 125 Double Drum Melter	Daily Rate	1	\$750.00		Patcher II Model #56700 for Mastic, Mastic 501 and Techcrete.
			Weekly Rate	1	\$1,300.00		
			Monthly Rate	1	\$2,500.00		
3	AQUAFIN-IC ADMIX or Equal		Pail	gals. per pail			SuperShot 125 Double Drum Model #47400
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
4	AQUAFIN Pavemend DOTline Rapid Repair Concrete or Equal		Bag	lbs per bag			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
5	AQUAFIN PAVEMEND SL or Equal		Pail	lbs per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
6	AQUAFIN PAVEMEND SLQ or Equal		Pail	lbs per pail			
			Pallet	bags per pallet			
			Truckload	pallets per truckload			
7	AQUAFIN PAVEMEND VR or Equal		Pail	lbs per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			

Contract Item No.	Contract Item	Proposed Equivalent Equipment / Material	UOM	Quantity per UOM Price Enter amounts per UOM (unless already noted) for item pricing.	Cost per UOM	Additional Bulk/Tier Pricing Options	Proposed Equivalent Suggested Use / Application Method (per Manufacturer Recommendation)
8	CHEM-CRETE PAVIX CCC100 or Equal		Pail	<i>gals. per pail</i>			
			Pallet	<i>pails per pallet</i>			
			Truckload	<i>pallets per truckload</i>			
			Drum	<i>gals. per drum</i>			
			Pallet	<i>drums per pallet</i>			
			Truckload	<i>pallets per truckload</i>			
9	CHEM-CRETE SOFIX CCC100 or Equal		Pail	<i>gals. per pail</i>			
			Pallet	<i>pails per pallet</i>			
			Truckload	<i>pallets per truckload</i>			
			Drum	<i>gals. per drum</i>			
			Pallet	<i>drums per pallet</i>			
			Truckload	<i>pallets per truckload</i>			
10	CHEM-CRETE YUFIX CCC 1000 or Equal		Pail	<i>gals. per pail</i>			
			Pallet	<i>pails per pallet</i>			
			Truckload	<i>pallets per truckload</i>			
			Drum	<i>gals. per drum</i>			
			Pallet	<i>drums per pallet</i>			
			Truckload	<i>pallets per truckload</i>			
11	CHLOR*RID or Equal		Gallon	1 <i>gallon</i>			
			Pallet	<i>gals. per pallet</i>			
			Pail	<i>gals. per pail</i>			
			Pallet	<i>pails per pallet</i>			
			Truckload	<i>pallets per truckload</i>			
			Drum	<i>gals. per drum</i>			
			Pallet	<i>drums per pallet</i>			
			Truckload	<i>pallets per truckload</i>			
12	CRAFCO HP Asphalt Cold Patch Grade L or Equal	MEETS ALL WVDOH & CRAFCO SPECIFICATIONS Crafco HP Asphalt Cold Patch #34977ER Grade L	Bag	<i>lbs per bag</i>	\$18.00		
			Pallet	<i>pails per pallet</i>	\$952.00		
			Truckload	<i>pallets per truckload</i>	\$15,120.00		
13	CRAFCO HP Asphalt Cold Patch Grade M or Equal	MEETS ALL WVDOH & CRAFCO SPECIFICATIONS Crafco HP Asphalt Cold Patch	Bag	<i>lbs per bag</i>	\$18.00		
			Pallet	<i>pails per pallet</i>	\$952.00		

Contract Item No.	Contract Item	Proposed Equivalent Equipment / Material	UOM	Quantity per UOM Price Enter amounts per UOM (unless already noted) for item pricing.	Cost per UOM	Additional Bulk/Tier Pricing Options	Proposed Equivalent Suggested Use / Application Method (per Manufacturer Recommendation)
		Grade M	Truckload	<i>pallets per truckload</i>	\$15,120.00		
14	CRAFCO HP Concrete Cold Patch or Equal	MEETS ALL WVDOH & CRAFCO SPECIFICATIONS Crafcoc HP Concrete Cold Patch #34969	Bag	<i>lbs per bag</i>	\$58.00		
			Pallet	<i>pails per pallet</i>	\$3,024.00		
			Truckload	<i>pallets per truckload</i>	\$50,400.00		
15	CRAFCO Mastic One or Equal (Requires heating equipment)	MEETS ALL WVDOH & CRAFCO SPECIFICATIONS Crafcoc Mastic One #33339  MEETS ALL WVDOH & CRAFCO SPECS Plexi-Melt #33339-MP	Box	<i>lbs per box</i>	\$22.00		
			Pallet	<i>boxes per pallet</i>	\$1,269.60		
			Truckload	<i>pallets per truckload</i>	\$21,600.00		
			Plexi-Melt block	<i>lbs per block</i>	\$19.50		
			Pallet	<i>blocks per pallet</i>	\$1,154.40		
			Truckload	<i>pallet per truckload</i>	\$26,282.10		
16	CRAFCO Matrix 501 Asphaltic Plug Bridge Joint System or Equal (Requires heating equipment)	MEETS ALL WVDOH & CRAFCO SPECIFICATIONS	Box	<i>lbs per box</i>	\$42.00		
			Pallet	<i>boxes per pallet</i>	\$2,367.00		
			Truckload	<i>pallets per truckload</i>	\$40,320.00		
17	CRAFCO Matrix 501 Mastic or Equal	MEETS ALL WVDOH & CRAFCO SPECIFICATIONS	Box	<i>lbs per box</i>	\$39.95		
			Pallet	<i>boxes per pallet</i>	\$2,352.00		
			Truckload	<i>pallets per truckload</i>	\$39,980.00		
18	CRAFCO Matrix 501 Adhesive or Equal	MEETS ALL WVDOH & CRAFCO SPECIFICATIONS Crafcoc Mastic One Type 2 #33340	Box	<i>lbs per box</i>	\$21.20		
			Pallet	<i>boxes per pallet</i>	\$1,249.00		
			Truckload	<i>pallets per truckload</i>	\$21,600.00		Crafcoc Mastic One Type 2 Model #33340 Asphalt
19	CRAFCO TechCrete Fibre Mastic or Equal (Requires heating equipment)	MEETS ALL WVDOH & CRAFCO SPECIFICATIONS	Bag	<i>lbs per bag</i>	\$49.83		
			Pallet	<i>boxes per pallet</i>	\$3,737.25		
			Truckload	<i>pallets per truckload</i>	\$67,270.50		
20	CRAFCO TechCrete-R ("TC-R") or Equal (Requires heating equipment)	MEETS ALL WVDOH & CRAFCO SPECS	Bag	<i>lbs per bag</i>	\$55.00		
			Pallet	<i>boxes per pallet</i>	\$4,025.00		Concrete Patch
			Truckload	<i>pallets per truckload</i>	\$72,450.00		
21	CRAFCO TechCrete-TBR or Equal (Requires heating equipment)	MEETS ALL WVDOH & CRAFCO SPECS	Bag	<i>lbs per bag</i>	\$42.00		
			Pallet	<i>boxes per pallet</i>	\$2,352.00		
			Truckload	<i>pallets per truckload</i>	\$42,336.00		

Contract Item No.	Contract Item	Proposed Equivalent Equipment / Material	UOM	Quantity per UOM Price Enter amounts per UOM (unless already noted) for item pricing	Cost per UOM	Additional Bulk/Tier Pricing Options	Proposed Equivalent Suggested Use / Application Method (per Manufacturer Recommendation)
22	DOWSIL 888 Silicone Joint Sealant or Equal		Unit (sausages)	sausages per unit			
			Pail	gals. per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
			Drum	lbs per drum			
			Pallet	drums per pallet			
23	DOWSIL 890-SL Silicone Joint Sealant or Equal		Unit (sausages)	sausages per unit			
			Pail	lbs per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
			Drum	lbs per drum			
			Pallet	drums per pallet			
24	IMCO D-TECK 470 Sealer or Equal		Unit (sausages)	sausages per unit			
			Pail	gals. per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
			Drum	gals. per drum			
			Pallet	drums per pallet			
25	IMCO MG-KRETE FLEX Regular or Equal		Unit	1 Part A & B			
			Pallet	units per pallet			
			Truckload	pallets per truckload			
			Bag	gals. per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
26	IMCO High Temperature Retarder or Equal		Bag	gals. per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
			Bag	gals. per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
27	IMCO Low Temperature Accelerator or Equal		Unit	1 Part A & B			
			Pallet	units per pallet			
			Truckload	pallets per truckload			
			Bag	gals. per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
28	IMCO MG-KRETE NO ODOR Regular or Equal		Unit	1 Part A & B			
			Pallet	units per pallet			
			Truckload	pallets per truckload			
			Bag	gals. per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			

Contract Item No.	Contract Item	Proposed Equivalent Equipment / Material	UOM	Quantity per UOM Price Enter amounts per UOM (unless already noted) for item pricing.	Cost per UOM	Additional Bulk/Tier Pricing Options	Proposed Equivalent Suggested Use / Application Method (per Manufacturer Recommendation)
29	IMCO MG-KRETE NO ODOR Fine or Equal		Unit	1 Part A & B			
			Pallet	units per pallet			
			Truckload	pallets per truckload			
30	IMCO MG-KRETE Regular Equal		Unit	1 Part A & B			
			Pallet	units per pallet			
			Truckload	pallets per truckload			
31	IMCO MG-KRETE Regular or Equal		Unit	1 Part A & B			
			Pallet	units per pallet			
			Truckload	pallets per truckload			
32	MASTER BUILDERS MasterEmaco T 1060 Rapid Mortar (formerly 10-60 Rapid Mortar) or Equal		Bag	lbs per bag			
			Pallet	bags per pallet			
			Truckload	pallets per truckload			
33	MASTER BUILDERS MasterFlow 100 (formerly Construction Grout) or Equal		Bag	lbs per bag			
			Pallet	bags per pallet			
			Truckload	pallets per truckload			
34	Perma-Patch or Equal		Bag	lbs per bag			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
			Pail	lbs per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
			Bulk Bag	lbs per bulk bag			
			Pallet	bulk bags per pallet			
			Truckload	pallet per truckload			
35	PHOSCRETE Fast-Set Admix or Equal		Pail - Small	lbs per pail			
			Pallet	pails per pallet			
			Truckload	pallet per truckload			
			Pail - Large	lbs per pail			
			Pallet	pails per pallet			
36	PHOSCRETE HC or Equal		Truckload	pallets per truckload			
			Pail (sm. bag + jar)	lbs per bag			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
			Full Kit (lg. bag + jar)	lbs per bag			
			Pallet	kits per pallet			
			Truckload	pallets per truckload			

Contract Item No.	Contract Item	Proposed Equivalent Equipment / Material	UOM	Quantity per UOM Price Enter amounts per UOM (unless already noted) for item pricing.	Cost per UOM	Additional Bulk/Tier Pricing Options	Proposed Equivalent Suggested Use / Application Method (per Manufacturer Recommendation)
37	PHOSCRETE SG (Dry-Mix Shotcrete/Gunite) or Equal		Full Kit Pallet	lbs per bag			
			(bags + drum)	lbs per drum			
			Truckload	kits per pallet			
38	PHOSCRETE VO (VerticalperOverhead) or Equal		Tub (sm bag + jar)	lbs per bag			
			Pallet	tubs per pallet			
			Pail (sm. bag + jar)	lbs per bag			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
			Full Kit (bags + jar)	lbs per bag			
			Pallet	bags per pallet			
Truckload	pallets per truckload						
39	SKUNK RUST SR-17 or Equal		Case	1 12 - 32oz bottles			
			Pallet	cases per pallet			
			Gallon	1 gallon			
			Pallet	gals. per pallet			
			Pail	gals. per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
40	SOPREMA ALSAN Flashing or Equal		Gallon	1 gallon			
			Pallet	gal per pallet			
			Pail	gals. per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
41	SOPREMA ALSAN PolyFleece or Equal		Roll	1 4 in. wide roll			
			Pallet	rolls per pallet			
			Roll	1 6 in. wide roll			
			Pallet	rolls per pallet			
			Roll	1 8 in. wide roll			
			Pallet	rolls per pallet			
			Roll	1 39 in. wide roll			
			Pallet	rolls per pallet			
42	SOPREMA Elastocol 500 Primer or Equal		Pail	gals. per pail			
			Pallet	pails per pallet			
			Truckload	pallets per truckload			
43	SOPREMA Sopralene Flam 180 or Equal		Roll	1 33 ft x 39 in roll			
44	SOPREMA Sopralene Flam Antirock or Equal		Pallet	rolls per pallet			
			Roll	1 33 ft x 39 in roll			
			Pallet	rolls per pallet			



Contract Item No.	Contract Item	Proposed Equivalent Equipment / Material	UOM	Quantity per UOM	Price per UOM (unless already noted) for item pricing.	Cost per UOM	Additional Bulk/Tier Pricing Options	Proposed Equivalent Suggested Use / Application Method (per Manufacturer Recommendation)
45	SSI DECK SEAL Polymer Deck Sealant or Equal		Gallon	1	gallon			
			Pallet		gals. per pallet			
			Pail		gals. per pail			
			Pallet		pails per pallet			
			Truckload		pallets per truckload			
			Drum		gals. per drum			
			Pallet		drums per pallet			
46	SSI RE-DECK Skid-Resistant Overlay or Equal		Kit - Small	1	2- 1 gal pails (1 unit)			
			Pallet		kits per pallet			
			Pail Kit	1	2- 3 gal. pails (1 unit)			
			Pallet		pails per pallet			
			Truckload		pallets per truckload			
			Drum Kit	1	2- 55 gal drums (1 unit)			
			Pallet		kits per pallet			
47	SSI SILSPEC Flexpatch Polymer Patching Mortar or Equal		Kit	1	1 bag + 1 gal (1 unit)			
			Pallet		kits per pallet			
			Truckload		pallets per truckload			
48	CSL Si-COAT 529AG Silicone Paint Anti-Corrosive/Graffiti or Equal		Gallon	1	gallon			
			Pallet		gals. per pallet			
			Pail		gals. per pail			
			Pallet		pails per pallet			
			Truckload		pallets per truckload			
49	SEALTIGHT 3405 Hot Applied Polymeric Joint Sealant or Equal	MEETS ALL WVDH & Crafco SPECIFICATIONS Crafco #34221, D-3405	Carton		blocks per carton	\$15.75		
			Pallet		cartons per pallet	\$1,181.25		
			Truckload		pallets per truckload	\$22,950.00		
50	Sikdaur - 31 Hi-Mod Gel or Equal		Gallon	1	gallon			Crack Sealant D-3405 Crafco #34221
			Pallet		gal per pallet			
			Kit	1	3 gallons (1 unit)			
			Pallet		kits per pallet			
			Truckload		pallets per truckload			
51	SIKADUR Crack Repair Kit or Equal		Kit	1	multi-component (1 unit)			
			Pallet		kits per pallet			
52	SIKADUR Crack Fix or Equal		Carton	1	12 cartridges (1 unit)			
			Pallet		cartons per pallet			
53	SSI 900 PNS Nosing Expansion Opening Repair Material or Equal		Kit	1	cf per kit			
			Pallet		kits per pallet			

REQUEST FOR QUOTATION  
**Repair Products for Roads and Bridges**

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**SPECIFICATIONS**

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Division of Highways to establish an open-end, multiple award contract for delivery of various rapid-setting mortar, concrete, asphalt, and bridge surface repair products, FOB destination, for use in the preventative maintenance of bridges and roadways throughout the state of West Virginia.
  
2. **DEFINITIONS:** The terms listed below shall have the following meanings assigned to them throughout and for the purpose of this Solicitation. Additional definitions can be found in Section 2 of the General Terms and Conditions.
  - 2.1 **“AASHTO”** – The American Association of State Highway and Transportation Officials. Reference: [www.transportation.org](http://www.transportation.org).
  
  - 2.2 **“ADO” and “Agency Delivery Order”** - A written order entered by WVDOH personnel in the wvOASIS financial system against a master agreement, authorizing quantities of commodities and/or services to be delivered in accordance with all terms, conditions, and prices stipulated in the original contract.
  
  - 2.3 **“Arm’s Length Transaction”** - A transaction between two independent and unrelated parties in which both parties are acting in their own self-interest.
  
  - 2.4 **“ASTM”** - The American Society for Testing and Materials. Reference: [www.astm.org](http://www.astm.org).
  
  - 2.5 **“Attachment A,” “ATT A,” or “Pricing Pages”** - The schedule of prices attached hereto and used to evaluate Solicitation responses.
  
  - 2.6 **“Contract Item(s)”** - The list of items available for Vendor to provide pricing as identified in Section 3.2 of this Solicitation and referenced throughout.
  
  - 2.7 **“Contractor” or “Vendor”** - Interchangeably used throughout this Solicitation and in any cited Sections of the West Virginia Department of Transportation, Division of Highways Standard Specifications, Roads and Bridges, adopted latest Standard Specs edition, as amended, including any Supplementals and refers to any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract, as context requires.
  
  - 2.8 **“Emergency Requests”** – Work or orders requiring to be done without delay owing to circumstances for which the WVDOH could not have reasonably expected and has been designated as such by a representative of the WVDOH.
  
  - 2.9 **“FOB” or “Free on Board”** - Indicates that the price for goods includes delivery at the Vendor’s expense to a specified point, and that the Vendor retains liability for loss or damage until the goods are delivered.

REQUEST FOR QUOTATION  
**Repair Products for Roads and Bridges**

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- 2.10 **“Liquidated Damages”** - Monetary compensation due from the Vendor in the event the Vendor’s performance falls short of contractual stipulation or breaches the contract. Delays in the delivery of goods and/or services or quality failures or corrections by the Vendor may result in the Agency assessing charges for such deficiencies per these contract Specifications, the Standard Specs Section 108.7, as amended, and calculated from the table posted in Section 6.5.1 of these Specifications.
- 2.11 **“Solicitation”** - The official notice of an opportunity to supply the State with goods or services.
- 2.12 **“Standard Specs”** – The West Virginia Department of Transportation, Division of Highways Standard Specifications, Roads and Bridges, most recent edition, as modified or amended by all subsequent Supplemental Specifications.
- 2.13 **“WVDOH” or “Agency”** - Interchangeable terms for the West Virginia Division of Highways.

**3. GENERAL REQUIREMENTS:**

- 3.1 **Standard Specifications Roads and Bridges:** The following Standard Specs Sections shall apply, as applicable, to the administration of this contract: 101, 102, 103, 104, 105, 106, 107, 108, 109, and 110, as amended.

Free electronic copies of the Standard Specs and Supplementals are available at:  
<https://transportation.wv.gov/highways/TechnicalSupport/specifications/Pages/default.aspx>.

- 3.2 **Contract Items and Mandatory Requirements:** Vendor shall provide Agency with the Contract Items or equivalents (“Equal”) listed below and on ATT A on an open-end and continuing basis. Vendor may bid one price per unit of measure and/or enter additional bulk pricing options on ATT A. There are no estimated quantities or guarantees that any Contract Item will be purchased throughout the life of contract. Vendor delivery of materials shall be FOB destination and Contract Items listed below must meet or exceed the mandatory requirements as shown below.

- 3.2.1 **Proposed Equivalents:** Vendor may list proposed equivalents (“Equal”) for any Contract Items bid on ATT A and include product technical data sheets or equipment specifications with its bid submission.

3.2.1.1 Vendor should also provide any Approval Product List (“APL”), laboratory testing, part number, or material certification information for items proposed on ATT A.

3.2.1.2 The WVDOH may contact the Vendor if additional information is needed in order to determine equivalency or acceptance for use in project site work.

REQUEST FOR QUOTATION  
Repair Products for Roads and Bridges

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3.2.1.3 The evaluation, acceptance, and rejection of proposed Item equivalency is at the sole discretion of the WVDOH.

3.2.1.4 If a Contract Item equivalent is not provided, the WVDOH will assume that Vendor will provide the brand identified in these specifications.

3.2.2 **Heating Equipment:** The WVDOH may require use of heating or melting equipment for certain materials available under this Contract and initiate an Agency Delivery Order (“ADO”) to detail the delivery or pickup location and dates of need. Vendor may bid a daily, weekly, and monthly rental rate on ATT A for the following equipment types or their equivalents:

- **CRAFCO Patcher I or Patcher II or Equal (Contract Item 1):** Equipment brochure/specifications provided as Exhibits 2 and 3 (“EXH 2” and “EXH 3”).
- **CRAFCO Super Shot 125 Gal. Double Drum Diesel Melter or Equal (Contract Item 2):** Equipment brochure/specifications provided as Exhibit 1 (“EXH 1”).

3.2.2.1 **Rental Periods:**

3.2.2.1.1 **Daily Rental:** Single day rental, up to and including six (6) consecutive days that an Agency is in possession of rented equipment.

3.2.2.1.2 **Weekly Rental:** Seven (7) consecutive days that an Agency is in possession of rented equipment, including weekends and Holidays.

3.2.2.1.3 **Monthly Rental:** Thirty (30) consecutive days that an Agency is in possession of rented equipment. This includes weekends and Holidays.

3.2.2.2 **Delivery Inspection and Acceptance:** An Agency representative shall inspect the rented equipment upon delivery or pick-up and, if equipment is found to be in acceptable condition, the Agency representative will complete, sign, and date an SM-93 Statement of Acceptance form (“EXH 4”). The Vendor’s representative shall confirm the Agency’s acceptance of the rented equipment by signing and dating the SM-93 form. The SM-93 date of acceptance shall be deemed as the first day of the equipment rental period.

3.2.2.2.1 Vendor shall provide rented equipment with a full tank of fuel, which should be noted on the SM-93 form.

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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**3.2.2.2.2** WVDOH reserves the right to reject equipment it deems unsafe or unusable for any reason. In such case, the SM-93 form will not be executed by the WVDOH and vendor will provide an immediate replacement of the rejected equipment.

**3.2.2.3 Technical Support:** The Contract Manager shall be available to provide assistance to WVDOH personnel operating rental equipment Monday through Friday from 8:00 am – 5:00 pm, at no additional charge to the Agency.

**3.2.2.3.1** Should the need arise, Vendor shall have personnel available to provide on-site assistance for rental equipment within a reasonable amount of time, as agreed upon between the Agency and Vendor, at no additional charge to the Agency.

**3.2.2.4 Equipment Maintenance:** Vendor shall provide a maintenance checklist addressing any equipment upkeep, maintenance needs, and their schedules, per manufacturer and Vendor requirements. These checklists should minimally include the following guidance:

**3.2.2.4.1** Maintenance requirements for fuel, oil, coolant, and lubrication needs.

**NOTE:** The WVDOH, at its own expense, will perform routine maintenance by providing any manufacturer and Vendor recommended oil, fuel, and lubricants necessary for the use and operation of rental equipment in its possession. All other maintenance needs or component replacement necessary for the operation of rental equipment shall be maintained and provided by the Vendor.

**3.2.2.4.2** Inspection of engine components, equipment body, tires/tracks, attachments, and easily accessible components. Inspection of safety components and any other safeguarding attributes relevant to the specific type of rented equipment.

**3.2.2.5 Equipment Repair and Replacement:** Vendor shall be responsible for the repair or replacement of any faulty, defective, or recalled rental equipment. Upon notice of equipment failure or repair need, Vendor shall arrange for the prompt pick up and replacement of the faulty equipment.

**3.2.2.5.1** The WVDOH shall reimburse the Vendor for the repair or replacement of rented equipment or its parts that are destroyed, damaged, or made inoperative due to

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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negligence, abuse, improper use, or improper operation by its personnel.

**3.2.2.5.2** Equipment that has been out of operation for repair or maintenance needs for four (4) or more hours within a ay shall be considered as downtime and no payment shall be made for that day unless equipment down time is due to negligence or improper use/operation by its personnel.

**3.2.3 AQUAFIN-IC ADMIX or Equal (Contract Item 3):** Shall be a non-chloride, non-corrosive, liquid water-proofing additive for concrete, consisting of a water-based suspension of inorganic, water-proofing agents that can be added during the batching process or in a ready-mix truck at a job site. The admixture shall be used to seal hairline cracks up to 1/64" to become an integral part of concrete, allowing it to breathe and having a negligible effect on water reducers, plasticizers, slump, and air entrainment. Contract Item must meet/exceed the following properties:

Property	Value
Form	Liquid to ensure a homogenous mixture with no clumping
Permeability	No leakage up to 460 ft. or 200 psi head pressure
VOC Content	Zero
Toxicity	Non-Toxic
Working Temperature	>46°F
pH	10-12

**3.2.4 AQUAFIN Pavemend DOTline Rapid Repair Concrete or Equal (Contract Item 4):** Shall be a fiber reinforced, self-consolidating, cementitious based structural repair concrete, single component powder that is water activated and will reach compressive strengths of more than 2500 psi within 2 hours from mixing. Contract Item shall be designed for horizontal applications, form and pour projects, temporary asphalt pavement repairs, and meet/exceed the requirements of ASTM C928 and the following properties:

Property	Value	Test Method
Compressive Strengths, psi (MPa)	> 2,500 @ 2 hours > 5,000 @ 24 hours > 7,000 @ 7 days > 9,000 @ 28 days	ASTM C 39
Flexural Strength, psi (MPa)	> 600 @ 24 hours > 900 @ 7 days > 1,200 @ 28 days	ASTM C 78
Bond Strength, psi (MPa)	> 1,500 @ 24 hours > 2,000 @ 7 days	ASTM C 882

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Property	Value	Test Method
Modulus of Elasticity, psi	5.41 X 10 <sup>6</sup> @ 28 days	ASTM C 469
Set Times (at 72°F)	Initial set: 20-25 minutes Final set: 30-40 minutes	
Temperature Application Limits	40°F – 120°F	

**3.2.5 AQUAFIN PAVEMEND SL or Equal (Contract Item 5):** Shall be a cementitious, rapid setting, semi-leveling structural repair mortar suitable for very rapid concrete repair. Material shall be a water-activated, single component powder used for horizontal concrete repairs, sloped, or form and repair applications. Contract Item must meet/exceed the requirements of ASTM C928 and the following properties:

Property	Value	Test Method
Compressive Strengths, psi (MPa)	> 2,500 @ 2 hours > 5,000 @ 24 hours > 6,000 @ 7 days > 7,000 @ 28 days	ASTM C39
Bond Strength, psi (MPa)	> 1,500 @ 24 hours > 2,000 @ 7 days > 3,000 @ 28 days	ASTM C 882
Flexural Strength, psi (MPa)	> 850 @ 24 hours > 875 @ 7 days > 900 @ 28 days	ASTM C 78
Modulus of Elasticity, psi	5.2 X 10 <sup>6</sup> @ 28 days	ASTM C 469
Set Times (at 72°F)	Initial set: 15 - 20 minutes Final set: 25 - 35 minutes	
Temperature Application Limits	40°F – 120°F	
Rapid Freeze Thaw Resistance	100% @ 300 cycles (Durability Factor - Retained % of Dynamic Modulus)	ASTM C 672
Length Change, % of total length	< 0.02 @ 28 days air cure	ASTM C 157

**3.2.6 AQUAFIN PAVEMEND SLQ or Equal (Contract Item 6):** Shall be a cementitious, very rapid setting, self-leveling, water-activated, single component powder for use in horizontal concrete repairs/formed applications and can be extended with 3/8" pea gravel or 50% 3/8" or 1/2 " fractured aggregate. Contract Item shall meet/exceed the requirements of ASTM C928 and the following properties:

Property	Value	Test Method
Compressive Strengths, psi (MPa)	3,000 @ 1 hours > 4,000 @ 3 hours > 4,500 @ 24 hours > 5,000 @ 7 days > 6,000 @ 28 days	ASTM C 109M ASTM C39

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Property	Value	Test Method
Bond Strength, psi (MPa)	> 1,200 @ 24 hours > 1,375 @ 7 days	ASTM C 882
Flexural Strength, psi (MPa)	> 500 @ 7 days > 600 @ 28 days	ASTM C 78
Modulus of Elasticity, psi	1.93 EE <sup>6</sup> @ 28 days	ASTM C 469
Set Times (at 72°F)	Initial set: 2 - 4 minutes Final set: 4 - 10 minutes	
Temperature Application Limits	-20°F to 110°F	
Rapid Freeze Thaw Resistance	99.6% @ 300 cycles (Durability Factor - Retained percentage of Dynamic Modulus)	ASTM C 672
Length Change, % of Total Length	< -0.020 @ 28 days soak < -0.030 @ 28 days dry	ASTM C 157

- 3.2.7 AQUAFIN PAVEMEND VR or Equal (Contract Item 7):** Shall be a cementitious, rapid setting, one-step structural repair mortar with pargeting mortar consistency in a water activated, single-component powder form for use in vertical and overhead structural concrete repairs. Material shall have 10-15 minutes of working time plus an additional 10-15 minutes to shape/shave repair to match existing contours and can be applied in a single lift from 1/16" to over 4" without bonding agents. Contract Item shall meet/exceed the following physical properties and ASTM C928:

Property	Value	Test Method
Compressive Strengths, psi (MPa)	> 2,300 @ 2 hours > 3,000 @ 24 hours > 4,000 @ 7 days > 7,000 @ 28 days	ASTM C 109
Bond Strength, psi (MPa)	> 1,500 @ 24 hours > 1,600 @ 7 days	ASTM C 882
Flexural Strength, psi (MPa)	> 600 @ 7 day > 650 @ 28 days	ASTM C 78
Modulus of Elasticity, psi	3.17 @ 28 days	ASTM C 469
Set Times (at 72°F)	Initial set: 15 - 20 minutes Final set: 25 - 35 minutes	
Temperature Application Limits	40° F to 100° F	
Length Change, % of total length	-0.001/-0.001 @ 28 days soak/dry	ASTM C 157

- 3.2.8 CHEM-CRETE PAVIX CCC100 or Equal (Contract Item 8):** Shall be a ready-to-use, clear, water-based, penetrating sealer for application to the surface of concrete, above or below grade, to provide concrete moisture protection. Contract Item shall meet/exceed the following requirements:



**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Property	Value
Specific Gravity	1:1
Seals Cracks	Up to 1/16 inch
Viscosity	2.4 centipoises
Freezing Point	28°F
Environmental Hazards	None
Toxicity	Non-toxic
Flammability	None
Shelf Life	12 months min, stored away from direct heat

**3.2.9 CHEM-CRETE SOFIX CCC100 or Equal (Contract Item 9):** Shall be a water-based, catalyzed-chemicals product that will permanently eliminate moisture transmission through concrete structures and meet/exceed the following:

Property	Value	Test Method
Specific Gravity	1.07	
Rapid Freezing and Thawing	150 cycles: 4.14 grams/ft <sup>2</sup>	ASTM C666
VOC Content	Zero	
Toxicity	Non-toxic	
Color	Clear	
Flammability	None	
Odor	None	
Surface Film Formation	Non-Film Forming Hydrophilic Moisture	

**3.2.10 CHEM-CRETE YUFIX CCC 1000 or Equal (Contract Item 10):** Shall be a clear, water-based, catalyzed, non-hazardous, deep penetrating, water repellent product and sealer for all above grade vertical concrete and masonry substrates. Contract Item will not alter color, texture, or appearance of a surface reacting with CO<sup>2</sup> from the atmosphere and shall become a part of concrete or masonry substrate, permanently sealing concrete and masonry substrate pores, blocking ordinary capillary action of water, and shall meet/exceed the following:

Property	Value	Test Method
Property	Value	
Specific Gravity	1.06	
Rapid Freezing and Thawing	150 cycles: 4.14 grams/ft <sup>2</sup>	ASTM C666
VOC Content	None	
Toxicity	Non-toxic	
Color	Clear	
Flammability	None	
Odor	None	
Surface Film Formation	None	
Chloride Penetration	Passed	ASTM C 1218

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Property	Value	Test Method
Abrasion Resistance	1.17 grams/ft <sup>2</sup>	ASTM C 044
Water Vapor Trans	82% Reduction	ASTM E 96-95
Adhesion Strength	400 PSI	ASTM D 4541
Skid Resistance	No effect	ASTM E 303
Depth of Penetration	192 mils average	

**3.2.11 CHLOR\*RID or Equal (Contract Item 11):** Shall be a single component, liquid, organic bonding chemical blend that aids in the removal of chlorides sulfate/surface reacted salts for surface preparation prior to applying primers or coatings on a variety of surfaces including ferrous/non-ferrous metals, concrete, and others, suitable for application by pressure washer at any pressure and handwashing spot areas, and shall meet/exceed the following

Property	Value
Color	Blue
Coverage	300-1000 Sq. Ft./ Gal.
VOC Content	None
pH	3.3 (+/- 0.2)
Application Temp	+32°F
Flammability	Non-flammable

**3.2.12 CRAFCO Asphalt Cold Patch or Equal:** Asphalt cold patch products shall be black, cold- applied, single-component, pavement-patching materials for the repair of potholes, asphalt spalls, cracks, and other asphalt voids/distresses greater than 1½" wide. Item shall adhere to cold and damp asphalt, require no mixing, heating, or special application equipment, and develop strength after compaction by tampers, and/or vehicle tires, and be suitable for "throw and go" repair situations.

**Aggregate:** Aggregate shall be composed of quality, crushed, construction grade aggregate with a minimum of 95% of particles having at least two crushed faces, with a maximum L.A. Abrasion loss of 35% and shall meet/exceed the following:

Gradation Limits		Cold Mix Asphalt Binder	
Sieve	% Passing	Flash Point	200°F min. 325-800 cp
½ inch	100%	Viscosity,	Volume % Original
3/8 inch	90-100%	275°F Distillation	Sample
No. 8	5-35%	437°F	0.0%
No. 16	0-20%	500°F	0-5%
No. 30	0-15%	600°F	5-20%
No. 200	0-5%	680° F	4-88%

**Mix Design:** The mix design will vary slightly depending on aggregate characteristics. Binder content will range from 4.5% to 5.8% by total mix weight. Mix shall achieve 98% minimum aggregate coating, workability at 40°F.

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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**3.2.12.1 CRAFCO HP Asphalt Cold Patch L or Equal (Contract Item 12):** Shall be for application at temperatures less than 40°F.

**3.2.12.2 CRAFCO HP Asphalt Cold Patch M or Equal (Contract Item 13):** Shall be for application at temperatures greater than 40°F.

**3.2.12.3 CRAFCO HP Concrete Cold Patch or Equal (Contract Item 14):** Shall be a cold applied, single- component thermoplastic binder and aggregate, durable patching material suitable for repairing potholes, spalls, cracks, or other confined cement voids/distresses greater than 1" wide and greater than ½" deep. Material shall adhere permanently to concrete during wet, cold, and hot weather conditions with installation at pavement temperatures between 30°F and 100° F. Material shall allow for traffic immediately after compacting, require no mixing, heating, or special application equipment, and meet/exceed the following:

Property	Value
Color	Gray
Compacted in Place Weight	125 pcf unit weight
Compacted in Place Density	2.0
Volume per Bag	0.40 cu. ft.
Workability	30° to 100°F
Aggregate Size	100% passing 3/8 inch
Aggregate Durability	40% maximum Loss
Binder Coating Durability	95% minimum

**3.2.13 CRAFCO Mastic One or Equal (Contract Item 15):** Shall be a hot applied, pourable, aggregate filled, polymer modified, asphalt pavement repair mastic used for sealing, filling, and repairing distresses in asphalt concrete/cement pavements and bridge deck surfaces larger than those repaired by crack or joint sealing, but smaller than repairs requiring remove and replace patching procedures. When melted and mixed in a manufacturer approved melter, poured into the prepared repair area, and leveled, material shall provide neat, feathered edge installation, and be ready for traffic when solidified. Contract Item shall meet/exceed the following:

Property	Value	Test Method
Color	Black	
VOC	0 g/l	
Aggregate Abrasion Resistance	35% max	ASTM C131
Polymer Modified Binder		
Cone Penetration, 77° F	60 max	ASTM D5329
Cone Penetration, 122°F	120 max	ASTM D5329
Softening Point	200° F min	ASTM D36
Flexibility, 1 in., 180°, 10 sec	Pass at 32°F	ASTM D3111 modified

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Property	Value	Test Method
Blended Product		
Flexibility, 32° F	Pass	ASTM D5329
Adhesion, 77° F	25 psi min	ASTM D5329
Specific Gravity	1.7 - 2.0	
Min Application Temp	375°	
Max Application Temp	400°	

**3.2.14 CRAFCO Matrix 501 Asphaltic Plug Bridge Joint System or Equal (Contract Item 16):** Shall be a pre-measured, factory mixed, pre-packaged, hot-applied bridge expansion joint system primarily composed of uniquely formulated polymer-modified asphalt binder combined in one box with the exact ratio of select aggregate to eliminate field measuring, proportioning and mixing, used to provide a watertight, smooth riding joint that can accommodate up to ±1 inch of annual joint movement at the time of installation, in blockouts from 2-8 in. deep and 20-24 in. wide in either asphalt concrete/portland cement concrete bridge deck surfaces, with a blended density of 119 lb.ft<sup>3</sup> and shall meet/exceed the following:

**3.2.14.1 CRAFCO Matrix 501 Mastic or Equal (Contract Item 17):** Shall be a single component blend of a specially formulated, polymer-modified asphalt binder and aggregate, designed to be workable at application temperatures and resistant to segregation and binder flow on bridge surfaces that are sloped/crowned/super elevated, require no compaction, and form a bonded, flexible, compressible and traffic resistant joint system with the polymer modified asphalt binder meeting the requirements of Table 1 of ASTM D 6297 as follows:

Test	ASTM D6297 Limits
Softening Point (ASTM D36)	83°C min
Tensile Adhesion (ASTM D5329)	700% min
Ductility, 77°F (ASTM D113)	400 mm min
Cone Penetration, 77°F (ASTM D5329)	75 unit max
Low Temperature Cone Penetration, 0°F 200g, 60s (ASTM D6297, Sec 9.1)	10 unit min
Flow 140°F, 5 h (ASTM D5329)	3.0 mm max
Resilience, 77°F (ASTM D5329)	40 - 70%
Asphalt Compatibility ASTM D5329	Pass
Recommended Installation Temperature	380°F
Maximum Heating Temperature	400°F
Bond, 100% extension, 12.5 mm, 3 cycles (ASTM D 5329)	20°F
Flexibility (ASTM D5329)	-10°F

**3.2.14.1.1 Aggregate in Matrix 501 Mastic or Equal:** Shall be a specially-selected hard, durable igneous rock, screened to a specific gradation, double washed, dried, bagged,

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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and then combined with binder in one container. Aggregate content of Matrix 501 Mastic or its equal shall be 73 +/- 5% and gradation shall be as follows:

Screen Size	% Passing
½ inch	100
3/8 inch	80-100
No. 10	0-15
No. 16	0-3

**3.2.14.2 CRAFCO Matrix 501 Adhesive or Equal (Contract Item 18):**

Shall consist of specially formulated polymer modified asphalt designed to coat the block-out area, provide adhesion, and meet the properties of Table 1 in ASTM D 6297.

**3.2.15 CRAFCO TechCrete Fibre Mastic or Equal (Contract Item 19):**

Shall be a hot-applied, flexible mastic sealant compound made of polymer-modified synthetic resin containing chopped fiberglass, fillers, fine high-quality aggregate and 0.5- 1.0% steel fiber, designed to be melted and used in sealing wide cracks and joints, a variety of pavement distresses in Portland Cement Concrete Pavement and Asphalt Concrete Pavement. Design features should produce an impervious, impact-resistant, load bearing, flexible repair that withstands vehicle traffic, aircraft, movement and climatic conditions. The Contract Item shall be supplied in powder/granulated form in meltable bags to be mixed and heated to the required installation range, then poured into the pavement section with structural aggregate as specified in manufacturers installation instructions, then allowed to cool and solidify prior to opening to traffic.

TechCrete Fibre Mastic or its equal WITHOUT structural aggregate shall be designed for treating wide cracks and joints with a minimum joint of 1.5 to 4 in. wide and up to 4 in. wide and up to full-depth repairs. If used WITH structural aggregate, it shall be designed for treating wide cracks and joints greater than or equal to 2 in. wide and greater than or equal to 2 in. deep up to full-depth repairs and meet/exceed the following:

Property	Value
Color	Gray
Cone Flow 3 hrs. @ 158°F, (TEX-549-C)	4% Maximum
Tensile Strain to Failure (TEX-548-C) Peak Load	50 lb Minimum
0.75 in., 2.0 in./minute (TEX-548-C) Strain	35% Minimum
Aggregate Settlement (TEX-551-C)	2.3mm (3%)
Resilience (TEX-547-C)	50% Minimum
Minimum Application Temperature	330 °F
Shelf Life	2 Years

**3.2.16 CRAFCO TechCrete-R (“TC-R”) or Equal (Contract Item 20):** Shall be a hot-applied, pre-measured, pre-mixed combination of proprietary binder

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

and fine aggregates for use in shallow repairs, where neat edge feathering is required. Contract Item shall be designed for treating wide cracks and joints with a minimum width of 1.5 in. and up to 4 in. wide and up to full-depth repairs, treat most other distresses as partial-depth repairs less than 0.75 inch deep, and meet/exceed the following:

Property	Value	Test Method
Color	Gray	
Flow, 5 h 140° F	5 max	ASTM D5329 Modified
Form	Powder	
Specific Gravity	1.85-2.05g/cc	ASTM D2726 Modified
Binder Content	15-25 %	ASTM D6307 Method A
Min Application Temp	330° F	
Max Heating Temp	400° F	
Tensile Test t (Briquette) at 20°F, 3 specimens, lbs.	100-250 (445-1112 N), at least at least 2 out of 3 fail between grips	AASHTO T140 Modified TTM5
Tensile Adhesion	12 psi minimum, 0.5 in. minimum elongation	ASTM D5329 Modified
Impact Testing, 2 in. dia., 1 in. thick specimen, 0.625-in. impact dart	No cracking, chipping, or separation at 6 ft·lb (8.1 N·m) at 20 °F	ASTM D2794
Flexibility	No cracking or loss of Aggregate Adhesion	ASTM D3111
Aggregate Passing the No. 4 Sieve	85 minimum	ASTM D5444

**3.2.17 CRAFCO TechCrete-TBR or Equal (Contract Item 21):** Shall contain a pre-measured, pre-mixed combination of proprietary binder and aggregate be designed to treat wide cracks and joints greater than or equal to 2 in. wide and up to full depth repairs. Contract Item shall be designed to treat most other distresses as partial depth repairs from 0.75 to 8 in. deep, recognizing that the maximum application depth is 1.5 in. and shall meet or exceed the following specifications:

Property	Value	Test Method
Color	Gray	
Flow, 5 h 140° F	5 maximum	ASTM D5329 Modified
Form	Powder	
Specific Gravity	1.93-2.18g/cc	ASTM D2726 Modified
Binder Content	15-25 %	ASTM D6307 Method A
Min Application Temp	330° F	
Max Heating Temp	400° F	

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Property	Value	Test Method
Tensile Test t (Briquette) at 20°F, 3 specimens, lbs.	50 – 220 (222 – 979 N), at least at least 2 out of 3 fail between grips	AASHTO T140 Modified TTM5
Tensile Adhesion	12 psi minimum, 0.5 in. minimum elongation	ASTM D5329 Modified
Impact Testing, 2 in. dia., 1 in. thick specimen, 0.625 in. impact dart	No cracking, chipping, or separation at 6 ft·lb (8.1 N·m) at 20 °F	ASTM D2794
Flexibility	No cracking or loss of Aggregate Adhesion	ASTM D3111
Aggregate Passing the 0.625in. % Retained on No. 16	100 minimum 55 minimum	ASTM D5444

**3.2.18 DOWSIL 888 Silicone Joint Sealant or Equal (Contract Item 22):** Shall be a one-part, cold applied silicone that cures to a durable, flexible, low-modulus silicone, rubberjoint sealant for new/remedial joint sealing applications in concrete cement, and shall meet/exceed the following:

Property	Value	Test Method
Color	Gray	
Specific Gravity	1.48	ASTM C 792
Skin-over Time	1 hour or less (at standard conditions)	
Cure Time ½” x ½”x 2” (73°F, 50% R.H.)	21 days	
Ultimate Elongation	600%	ASTM D 412 (Die C)
Modulus	Low	
Durometer Shore A-2	15-25	ASTM C 661
Joint Movement Capability +100/-50%, 10 Cycles	No failure	ASTM C719

**3.2.19 DOWSIL 890-SL Silicone Joint Sealant or Equal (Contract Item 23):** Shall be a one- part, cold applied, self-leveling silicone that cures to an ultra-low-modulus silicone rubber upon exposure to atmospheric moisture, for new/remedial joint sealing applications in concrete cement and shall meet/exceed the following:

Property	Value	Test Method
Color	Dark Gray	
Flow	Smooth, level	ASTM C 639
Specific Gravity	1.26-1.34	ASTM D 1475
Skin-over Time	1 hour or less at standard conditions	
Cure time, ½” x ½” x 2” (73°F, 50% R.H.)	21 day	

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Modulus	Ultra-low	
Property	Value	Test Method
Durometer Shore 00	30 minimum	ASTM C 661
Joint Movement Capability, +100/-50%, 10 Cycles	No failure	ASTM C 719

**3.2.20 IMCO D-TECK 470 Sealer or Equal (Contract Item 24):** Shall be a ready-to-use, clear, water-based, penetrating sealer for application to the surface of concrete, above or below grade, interior or exterior. Contract Item shall also meet/exceed the following attributes:

- Increase concrete density and hardness without changing its appearance.
- Prevent chemical corrosion and physical abrasion of treated surface and is effective in reducing freeze-thaw spalling.
- No re-application required - treatment is permanent.
- Effective as a negative side waterproofing against a hydrostatic head over 115 feet.
- Reduce or eliminate efflorescence and leaching in concrete.
- Provide an effective barrier of water-vapor emission without loss of breathability.
- Solvent-free, odor-free, non-toxic, non-flammable.
- Improve bonding of cementitious toppings, coatings, and paints
- Ultra-violet stability.
- Normal application of 2 light coats will average 300-400 square feet per gallon.
- Applicable by brush, roller, or sprayer.

**3.2.21 IMCO MG-KRETE FLEX Regular or Equal (Contract Item 25):** Shall be a two component, synthetic fiber reinforced, high early strength structural material for areas subject to movement and stress and designed to increase flexural and tensile strength. Contract Item can be poured into forms and troweled vertically and overhead, and shall meet/exceed the following requirements:

Property	Value	
Water Absorption:	Waterproof	
Compression Strength:	45 minutes	2,610 psi / 18.0 MPa
	24 hours	5,148 psi / 35.5 MPa
	7 days	5,815 psi / 40.1 MPa
	28 days	11,194 psi / 77.2 MPa
Application Temperatures	Min 14°F w/ low temp. accelerator Over 100°F w/ high temp. retarder	
Initial Set Time at 68°F	15 minutes	
Shelf Life	12 months min, stored away from direct heat	
Toxicity	Non-toxic	
Clean up	Water – before material sets	
Components	Part A – dry component	
	Part B – liquid activator	



**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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**3.2.22 IMCO High Temperature Retarder or Equal (Contract Item 26):** Shall be a powder additive for addition to concrete repair material (per manufacturer recommendation) in order to extend working time in ambient temperatures of 70°F to 100°F without altering the performance characteristics of the concrete repair material.

**3.2.23 IMCO Low Temperature Accelerator or Equal (Contract Item 27):** Shall be a powder additive for addition to concrete repair materials, (per manufacturer recommendation) in order to accelerate curing in ambient temperatures of 15°F to 50°F without altering the performance characteristics of the concrete repair material.

**3.2.24 IMCO MG-KRETE NO ODOR Regular, Fine, or Equal (Contract Items 28 and 29):** Shall be a two-component, high early strength, structural repair material for use in patching and can be poured into forms, trowelled vertically and overhead, used to fill large cracks, used as a fast set plug, or as overlay material. Material shall be self-priming, suitable for feathering, being poured into forms, or troweled vertically/overhead with rapid-cure and return to service in one hour with no shrinkage. Material shall be able to bond to construction materials such as, but not limited to, concrete, wood, steel, asphalt, and shall meet/exceed the following:

Property	Value	
Water Absorption:	Waterproof	
Compression Strength:	45 Minimum	1,500 psi
	24 hours	2,600 psi
	7 days	3,800 psi
	28 days	7,800 psi
Temperature Limits	40° F (w/accelerator) to 100° F (w/retarder)	
Initial Set Time at 68°F	25 minutes	
Shelf Life	12 months min, stored away from direct heat	
Toxicity	Non-toxic	
Clean up	Cleans-up with water	
Components	Part A – dry component	
	Part B – liquid activator	

**3.2.25 IMCO MG-KRETE Regular, Fine, or Equal (Contract Items 30 & 31):** Shall be a two-component, high early strength, structural repair material for use in concrete repair and suitable for patching, from shallow feathering to deep pours. Material can be poured into forms, trowelled vertically and overhead, used to fill large cracks or as a fast set plug and shall be self-priming, with rapid-cure and return to service in 1 hour with no shrinkage. Material shall be able to bond to construction materials such as, but not limited to, concrete, wood, steel, asphalt, and shall meet/exceed the following:

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Property	Value	
Water Absorption:	Waterproof	
Compression Strength:	45 Minimum	2,610 psi
	24 hours	4,148 psi
	7 days	5,815 psi
	28 days	11,194 psi
Temperature Limits	14° F (w/accelerator) to 100° F (w/retarder)	
Initial Set Time at 68°F	15 minutes	
Shelf Life	6 months min., stored away from direct heat	
Toxicity	Non-toxic	
Clean up	Cleans-up with water	
Components	Part A – dry component	
	Part B – liquid activator	

**3.2.26 MASTER BUILDERS MasterEmaco T 1060 Rapid Mortar (formerly 10-60 Rapid Mortar) or Equal (Contract Item 32):** Shall be a one component, shrinkage-compensated, very rapid-setting cement-based mortar with extra low permeability to help minimize chloride intrusion, be designed for horizontal concrete surfaces where high early strength gain is required, and shall meet/exceed the following:

Property	Value	Test Method	
Fresh wet density, lb/ft <sup>3</sup>	130	ASTM C138	
Modulus of elasticity, psi (GPa)	19.5	ASTM 469	
Freeze/thaw resistance, % RDM, at 300 cycles	100	ASTM C666 Procedure A	
Working time, min	8		
Setting Time, min, at 72°	16 28	ASTM C191	
			Initial
Final			
Scaling resistance, at 25 cycles	0 rating; no scaling	ASTM C672	
Coefficient of thermal expansion, in/in/°F	7.0 x 10 <sup>-6</sup>	CRD C39	
Splitting tensile strength, psi (MPa)	400 (3) 450 (3)	ASTM C496	
			1 day
28 days			
Compressive strength, psi (MPa), 2" cubes	2,000 (14) 5,000 (34) 8,000 (55)	ASTM C109	
			1 hr
			1 day
			28 days
Compressive Strength, psi (MPa) 3x6" cylinders, at 28 days	7,400 (51)	ASTM C39	

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

**3.2.27 MASTER BUILDERS MasterFlow 100 (formerly Construction Grout) or Equal (Contract Item 33):** Shall be a non-catalyzed, multi-purpose construction grout containing mineral aggregate for application to concrete substrate, having no accelerators/chlorides or other similar salts, shall not contribute to corrosion of reinforcing steel, and is extendable with clean, well-graded coarse aggregate to fill large voids. Material shall harden free of bleeding when properly placed, yielding a high effective bearing area for proper support/load transfer, and shall meet/exceed the following:

Property	Value
Yield	One 50 lb bag mixed with 1.07 gal. water to provide approx. 0.45 ft <sup>3</sup> of flowable mixed grout
Color	Concrete gray when cured
Storage	Store in unopened containers in a cool, clean, dry area
VOC Content	0 g/L less water and exempt solvents

**Typical Properties: Mixed Grout Data\* (Flowable Mix)**

Property	Value
Approximate Water, gal (L)	1.07 (4.03)
Initial set, hrs, at 70° F	6
Final set, hrs, at 70° F	8

\*At a constant percent of water, consistency will vary with temperature. Final set takes place in approximately 8 hours at a flowable consistency and 70° F.

Property	Value	Test Method
Compressive strength, psi (MPa)		ASTM C 109, as modified by ASTM C 1107

	Consistency		
	Plastic <sup>1</sup>	Flowable <sup>2</sup>	Fluid <sup>3</sup>
1 day	3,500 (24.0)	2,000 (13.8)	1,500 (10.3)
3 days	6,000 (41.4)	5,000 (34.5)	3,500 (24.1)
7 days	8,000 (55.2)	6,000 (41.4)	4,500 (31.0)
28 days	10,000 (68.9)	7,000 (48.0)	5,500 (37.9)

Volume Change, % Flowable ASTM C 1090

	Change	Requirement of ASTM C 1107
1 day	0.01	0.0 – 0.3
3 days	0.01	0.0 – 0.3
7 days	0.01	0.0 – 0.3
28 days	0.01	0.0 – 0.3

<sup>1</sup> 100 – 125% flow on flow table per ASTM C 1437

<sup>2</sup> 125 – 145% flow on flow table per ASTM C 1437

<sup>3</sup> 20 – 30 seconds through flow cone per ASTM C 939

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

**3.2.28 PERMA-PATCH or Equal (Contract Item 34):** Shall be a pre-mixed, ready to use, all season, cold asphalt patching material composed of a blend of polymers, pressure sensitive plastics, angular limestone aggregate, for the repair of holes in asphalt or concrete in any weather condition. Material should require no primer or tack coat and shall meet/exceed the following:

Property	Value	Test Method
Color	Black	
Asphalt Content	5.2%	ASTM D 2172-92
Coverage	Approx. 60 lb. bag fills 0.48 cu ft. of 6 sq ft. area 1" deep	
Temperature	-5°F to 130°F	
Cure	Dynamic pressure	
Aggregate	¼" grade angular aggregate	
VOC Content	0.1% volume by weight	
Shelf Life	No less than two years, min., in a dry/covered area, unopened	

**3.2.29 PHOSCRETE Fast-Set Admix or Equal (Contract Item 35):** Shall be an additive for addition to concrete repair materials (per manufacturer recommendation) in order to achieve traffic ready strength one hour after the final bucket pour, even in sub-freezing temperatures.

**3.2.30 PHOSCRETE HC or Equal (Contract Item 36):** Shall be a cementitious two-part MPC (Magnesium-Phosphate-Cement) concrete repair material composed of magnesium oxide, aluminosilicates, aggregates, and reinforcing fibers, along with a liquid phosphate activator that forms a chemical and mechanical bond to cured concrete and itself. Material shall provide rapid-hardening and strength gain suitable to vehicular traffic in less than one hour at moderate ambient temperatures, with proven applications for bridge deck repairs, reinforced concrete, expansion joint nosing construction and repairs. Material shall be suitable for use on horizontal surfaces, poured/castable applications, vertical and overhead surfaces, form and pour applications, highway concrete spall and rutting repairs, full/partial depth concrete repairs, and shall meet/exceed the following physical properties:

Property	Value
Color	Concrete Grey
Cure	Accepts sealers and polymer coatings as soon as 15 minutes following initial set. No out-gas after cure.
VOC Content	0 g/L: Less exempt solvents
Shelf Life	Dry Mix: 24 months Liquid Activator: 12 months (when properly stored)

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Test	Time	Typical Results		Specification
Set Time	Initial/Final	13 min	16 min	ASTM C191
		8 min	9 min	ASTM C403
Slump	5 min	10.0 in		ASTM C143
Density (Unit Wt.) of Concrete		141 lb/ft <sup>3</sup>	2259 kg/m <sup>3</sup>	ASTM C387
Air Content		5.7%		ASTM C231
Free Shrinkage	28 Days Wet/Dry	0.00%	-0.03%	ASTM C157
Restrained Shrinkage	180 Days Deformation	Did not crack	-60 $\mu$ strain	ASTM C1581
Compressive Strength	1 hour	<u>psi</u> 5000	<u>MPa</u> 34.5	ASTM C109
	1 day	9000	62.1	
	28 days	11500	79.3	
Flexural Strength	1 day	<u>psi</u> 500	<u>MPa</u> 3.5	ASTM C78
	28 days	700	4.8	
Bond Strength	1 hour	<u>psi</u> 1500	<u>MPa</u> 10.3	ASTM C882
	1 day	2500	17.2	
	28 days	3000	20.7	
	1 hour	<u>psi</u> 1750	<u>MPa</u> 12.1	
	1 day	2500	17.2	
	28 days	3000	20.7	
Tensile Strength	1 day	<u>psi</u> 1000	<u>MPa</u> 6.9	ASTM C496
	28 days	1200	8.3	
Modulus of Elasticity	28 days	3.1 E <sup>+06</sup>	21 E <sup>+06</sup>	ASTM C469
		0.274		
Freeze Thaw	Durability Factor	94%		ASTM C666-A
Scaling	NaCl	0	0.00	ASTM C672
	CaCl <sub>2</sub>	0	0.00	
	MgCl <sub>2</sub>	0	0.00	
Chlorides	28 days	122 C (very low)		ASTM C1202
	90 days	10-20 mm	0.135%	ASTM C1543
		55-65 mm	0.117%	
	180 days	10-20 mm	0.195%	
55-65 mm		0.145%		
Abrasion	24 hours	16 g	1.8%	California CT-550

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

**3.2.31 PHOSCRETE SG (Dry-Mix Shotcrete/Gunite) or Equal (Contract Item 37):** Shall be a cementitious two-part dry mix system composed of magnesium and alumino aggregates, reinforcing fibers, plus a liquid phosphate activator, pneumatically conveyed separately and mixed at the nozzle to provide reduced setting times, very rapid hardening, early strength gain, and meet/exceed the following properties:

Property	Value
Color	Concrete Grey
VOC Content	0 g/L less exempt solvents
Shelf Life	Dry Mix: 24 months
	Liquid Activator: 12 months (when properly stored)

Test	Time	Typical Results		Specification
Set Time	Initial/Final	18 min	28 min	ASTM C266
Yield and Density	ft <sup>3</sup>   lb./ft <sup>3</sup>	0.47	138.2	ASTM C387
Air Content		11.5%		Caltrans CT-504
Free Shrinkage	28 Days Wet/Dry	0.00%	-0.03%	ASTM C157
Compressive Strength	1 hour	psi 5000	MPa 34.5	ASTM C109
	1 day	6500	44.8	
	28 days	8000	55.2	
Flexural Strength	1 hour	psi 400	MPa 2.76	ASTM C78
	1 day	500	3.4	
	28 days	700	4.8	
Bond Strength	1 hour	psi 1500	MPa 10.3	ASTM C882
	7 days	2000	13.8	
	28 days	2500	17.2	
Tensile Strength	1 day	psi 650	MPa 4.5	ASTM C496
	28 days	800	5.5	
Modulus of Elasticity	of 7 days	2.82 E <sup>+06</sup>	1.9 E <sup>+04</sup>	ASTM C469
		0.282		
Freeze Thaw	Durability Factor	98%		ASTM C666-A
Scaling		Visual	Loss	ASTM C672
	NaCl	0	0	
	CaCl <sub>2</sub> &MgCl <sub>2</sub>	0	0.00	
Chlorides	28 days	1331 C		ASTM C1202
	90 days	10-20 mm	0.135%	ASTM C1543
		55-65 mm	0.117%	
	180 days	10-20 mm	0.195%	
		55-65 mm	0.145%	
Abrasion	24 hours	16 g	1.8%	Caltrans CT-550

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Test	Time	Typical Results	Specification
Sulfate Resistance	28 days:	-0.005%	ASTM C1012
	91 days:	-0.009%	
	182 days:	-0.009%	
	365 days:	-0.013%	

**3.2.32 PHOSCRETE VO (Vertical/Overhead) or Equal (Contract Item 38):** Shall be a cementitious, two-part, very rapid hardening with early strength gain, concrete repair mortar composed of magnesium oxide, aluminosilicates, and reinforcing fibers, plus a liquid activator that mixes to a putty consistency, can be applied by hand or trowel, and can be feather finished. Material shall be for use in vertical and overhead above grade and below grade concrete repairs, fix spalls on concrete pavements/floors and shall meet/exceed ASTM C928 R2 and the following:

Test	Time	Typical Results		Specification
Set Time	Lab temp supercooled <sup>1</sup>	<u>Initial</u> 5 min	<u>Final</u> 6 min	ASTM C191
		9 min	11 min	
Density		153 lb/ft <sup>3</sup>	2450 kg/m <sup>3</sup>	ASTM C138
Air Content		8.3%		ASTM C231
Free Shrinkage	28 days Wet/dry	0.006%	-0.085%	ASTM C157
Compressive Strength	1 hour 1 day 28 days	<u>psi</u> 7,000	<u>MPa</u> 48.3	ASTM C109
		9,000	62.1	
		11,500	79.3	
Flexural Strength	1 day 7 days 28 days	<u>psi</u> 600	<u>MPa</u> 4.1	ASTM C78
		650	4.5	
		750	5.2	
Bond Strength	1 hour 7 days 28 days	<u>psi</u> 2500	<u>MPa</u> 17.2	ASTM C882
		3500	24.1	
		4000	27.6	
Tensile Strength	1 hour 28 days	<u>psi</u> 850	<u>MPa</u> 5.9	ASTM C496
		900	6.2	
Modulus of Elasticity	28 days	<u>psi</u> 4.24 E +06	<u>MPa</u> 2.92 E +04	ASTM C469
		0.243		
Freeze Thaw	Durability factor	96%		ASTM C666-A
Chlorides	28 days	437 C (very low)		ASTM C1202
	28 days Air cure	>1000	Negligible	AASHTO T358
	28 days Wet cure	123	Very low	

<sup>1</sup>† Time of Set reported for lab temp 68°F (20°C) for dry mix and activator. Supercooled Activator at 17°F (-8°C) and lab temp dry mix.

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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**3.2.33 SKUNK RUST SR-17 or Equal (Contract Item 39):** Shall be hygroscopic and designed for use in high-humidity environments on all metals for the removal of corrosion. Material can be used as a surface preparatory and pre-primer, receive coats of paint, be left uncoated as a preservation product, and renders chlorides, sulfates, and nitrates insoluble. Material may be applied by sprayer, roller, or brush, and must meet/exceed the following:

Property	Value
Color	Liquid clear to hazy
Components	Water based, hygroscopic, iron phosphate compound
Finish	Powdery, dry finish consists of a micro-crystalline structure of a metal phosphate with a secondary reaction forming an insulating layer between the crystals to completely insulate the substrate.
Coverage	Rusted surfaces: 400+/- sq ft per gal. (100 sq ft per qt, per coat) Blasted Surfaces: 600+/- sq ft per gal., per coat
Heat Resistance	Up to 2,450°F
Scratch Resistance	Yes
Incompatible Material	Concrete and nylon (product will attack both)

**3.2.34 SOPREMA ALSAN Flashing or Equal (Contract Item 40):** Shall be a polyurethane bituminous resin specifically formulated for liquid-applied flashings, detail, and maintenance applications. Material shall be a moisture-cured, low solvent, UV resistant, single component compound compatible with SBS modified bitumen membranes, can be applied by brush or roller in two to three layers, and shall meet/exceed the requirements of ASTM C836 and the following properties:

Property	Value	Test Method
Viscosity, cP	150,000 - 220,000	ASTM D2196
Elongation @ peak load %	67.2	ASTM D412
Tear resistance, lbf (N)	23.0 (102.3)	ASTM D412
Shore Hardness	74	ASTM E96 (Procedure A)
Application Temperature	70°F	
Full Cure	3 days	
VOC Content, g/L	<225	ASTM D2369

**3.2.35 SOPREMA ALSAN PolyFleece or Equal (Contract Item 41):** Shall be a high-performance, flexible, non-woven, spun-laced, polyester fabric reinforcement that saturates the elastomeric coatings and epoxy primers. If combined with Soprema Sopralene Flam Antirock or Equal, material forms a watertight, puncture, and UV resistant liquid flashing or membrane, and shall meet/exceed the following:



**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Property	Value
Color	White
Fiber Content	100% polyester
Construction	Stitch bond
Weight	2.4 oz/sy
Nominal Thickness	30 mils
Mullen Burst psi	70 lbs.
Roll Length	50 ft

**3.2.36 SOPREMA Elastocol 500 Primer or Equal (Contract Item 42):** Shall be an elastomeric, bitumen, solvent product that increases adhesion of the membrane when applied to dry, clean concrete substrate. Material can be applied by brush, roller, or sprayer at an application rate of 100 – 150 ft<sup>2</sup> and shall meet the requirements of ASTM D 41.

**3.2.37 SOPREMA Sopralene Flam 180 or Equal (Contract Item 43):** Shall be a base-sheet membrane composed of SBS modified bitumen and a non-woven polyester reinforcement with a polyolefin burn-off film on both sides to optimize heat welding and shall meet ASTM D 6164 Type 1, Grade S values and the following:

Property	MD	XMD	Test Method
Peak Load @ 0°F (-18°C), lbf/in	115	90	ASTM D5147
Elongation at 0 ± 3.6°F	35	40	ASTM D5147
Peak Load @ 73.4°F (23°C), lbf/in	85	65	ASTM D5147
Elongation at 73.4 ± 3.6°F %	55	60	ASTM D5147
Ultimate Elongation @ 73.4°F (23°C), %	65	80	ASTM D5147
Tear Strength at 73.4 ± 3.6°F lbf	125	85	ASTM D5147
Low Temperature Flex °F	-15	-15	ASTM D5147
Dimensional Stability %	<0.5	<.06	ASTM D5147
Compound Stability Temp °F			ASTM D5147

**3.2.38 SOPREMA Sopralene Flam Antirock or Equal (Contract Item 44):** Shall be composed of SBSmodified bitumen on non-woven polyester reinforcement with a thermofusible film on the underside and colored granules on the topside, applied as the finish ply in a heat-welded waterproofing assembly. Material shall meet ASTM D 6164 Type 1, Grade G values and the following:

Property	Value
Tensile Strength L x T (N / 50 mm)	≥ 800 x 800
Elongation L x T (%)	≥ 40 x 40
Peel Resistance of Joints (N / 50 mm)	≥ 100
Shear Resistance of Joints (N / 50 mm)	≥ 800
Flow Resistance at Elevated Temperature After Ageing	≥ 90°C
Flexibility at low temperature	≤ -16°C
Impact resistance	≥1750

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

Property	Value
Tear resistance	≥ 200
Dimensional Stability Maximum	<0.5%

**3.2.39 SSI SILSPEC Deckseal or Equal (Contract Item 45):** Shall be a polymer based sealing material designed for crack and surface sealing containing fluorescent tracer dye which shall illuminate under black light, providing evidence of penetration, and shall meet/exceed the following:

Property	Value	Test Method
Chloride Ion Penetration	0% @ 90 Days Ponding	AASHTO T-259
Bond Strength	2000 PSI min	ASTM C882
Brookfield Viscosity	<50 cps	ASTM C881
Water Absorption	0.74 % 24 hours	ASTM D570
Elongation @ Break	45%	ASTM D638
V.O.C.	<250 g/L	
Typical Coverage	90 sq. ft. to 150 sq. ft. per gallon	
Shelf Life	Unopened shall be no less than one year, min.	

**3.2.40 SSI RE-DECK Skid-Resistant Overlay or Equal (Contract Item 46):** Shall be a solvent-free, moisture insensitive, 100% solids, low modulus, two-component urethane-epoxy bonding agent that when broadcast with select aggregate shall form a skid-resistant overlay. Material shall meet/exceed the requirements of ASTM C881 Type III, Grade 1, Classes B&C and the following:

Property	Value	Test Method
Compressive Modulus	65,000 PSI	ASTM C881
Tensile Strength	2,500 PSI	ASTM D638
Tensile Elongation	50%	ASTM D638
Bond Strength	3,000 PSI 14-day cure	ASTM C882
Linear Shrinkage	Negligible	ASTM C883
Absorption	0.20%	ASTM D570
Chloride Ion Perm	0.9 Coulombs	AASHTO T-277
Shore D Hardness	70	ASTM D 2240
Thermal Compatibility	Pass	ASTM C884
Brookfield Viscosity	1,500 cps RV3 @ 20 rpm	ASTM C881
Typical Coverage	40 sq. ft./gallon first course with 10 lbs./sq. yd aggregate and 20 sq. ft./gallon second course with 14 lbs./sq. yd. aggregate	

**3.2.41 SSI SILSPEC Flexpatch Polymer Patching Mortar or Equal (Contract Item 47):** Shall be a three-component (polymer resin, curing agent, engineered, graded aggregates), 100% solids, high-strength, non-shrink, waterproof, abrasion resistant, non-conductive, semi-flexible patching material that will adhere to concrete and steel. Material shall require no external application of heat for curing and shall meet/exceed the following:

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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Property	Value	Test Method
Compressive Strength	1500 psi min @4 hrs. 4500 psi min @24 hrs.	ASTM C 579 Method B
Bond Strength	2500 psi min	ASTM C 882
Linear Shrinkage %	Negligible	ASTM C 531
Abrasion Resistance,	1.0 max, weight loss H- 22 grams	ASTM C 501
Chloride Ion Permeability	1.0 max coulombs	AASHTO T277
Thermal Compatibility	Pass	ASTM C884

**3.3 Emergency Requests:** Emergency requests, as ordered by WVDOH District Engineer or their designee, are orders that shall be initiated within forty-eight (48) hours from when the order is received by the vendor or within an agreed upon timeframe established between the WVDOH and the Vendor. The determination of an emergency request will be in accordance with Section 2.8 of this Solicitation and will be prominently noted on the ADO. Designated emergency requests will be paid at 1.50 times the Vendor's bid price.

**3.3.1** The Agency will pay delivery charges on all emergency requests provided that Vendor invoices those delivery costs as a separate charge with the original freight bill attached to the invoice.

**3.3.2** The WVDOH reserves the right to pick-up Contract Items from Vendor locations within 48 hours after Vendor receipt of an emergency order, as agreed upon between the WVDOH and Vendor. No delivery charges shall apply for WVDOH pick-up of emergency requests.

**4. CONTRACT AWARD:**

**4.1 Contract Award:** The Contract is intended to provide Agencies with a purchase price on all Contract Items. All qualified responsible Vendors shall be awarded a contract for those Contract Items bid which meet all mandatory requirements of this Contract.

**4.1.1 Determining Low Bid Per Project:** To determine the low bid vendor for individual projects, the WVDOH District Engineer or their designee will calculate the lowest overall total cost of the Contract Items required for individual projects. A written ADO will be issued to the Vendor with the lowest overall total cost.

WVDOH reserves the right to request any one or combination of Contract Items for which bids are awarded at the lowest overall total as set forth in this section.

REQUEST FOR QUOTATION  
Repair Products for Roads and Bridges

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**4.2 Pricing Pages, Attachment A (“ATT A”):** Vendor shall complete the ATT A by providing a bid price for each Contract Item listed. Vendor shall factor into their bid prices the material, delivery, and labor required to provide Contract Items. Vendors may bid any or all Contract Items and Districts, and shall complete ATT A for each Contract Item bid in their entirety, as failure to do so may result in Vendor’s bids being disqualified. All bids or pricing submitted shall be held and honored by the Vendor for 90 days after the bid opening date.

**4.2.1** The Pricing Pages contain a list of the Contract Items with no guarantee that any Contract Item will be purchased throughout the life of this contract. Estimated quantities are not available.

**4.2.2** Vendor should type or electronically enter the information into the Pricing Pages spreadsheet to prevent errors in the evaluation. In most cases, the Pricing Pages are available in wvOASIS within the solicitation attachments. However, Vendors may request an electronic copy of the Pricing Pages spreadsheet for bid purposes by sending an email request to the following address: [John.W.Estep@wv.gov](mailto:John.W.Estep@wv.gov)

**4.2.3** Changing a unit of measure or cell, column, row, or Contract Item description on the **Pricing Pages, Attachment A (ATT A)** shall result in the disqualification of Contract Item bid on the altered line. In circumstances when all Contract Items must be bid for bid evaluation and contract award, the disqualification of any Contract Item will result in the disqualification of the entire bid.

Submitting Pricing Pages other than those provided with this solicitation, as described in Section 4.4 shall result in the disqualification Vendor’s bid in its entirety.

Vendor entries of bid prices or other notations made in wvOASIS commodity line descriptions will not be considered for bid evaluation or award.

**4.3 Contract Award Transition:** Upon award of this contract, the WVDOH Operations Division will announce the effective date of use of this contract to the Districts and the Vendors, whether it is by the effective date, the completed and encumbered date, or an established date by the WVDOH. Upon the announced effective date of use, any order issued prior to the award of the contract shall remain in effect and should not be cancelled until that order is filled; however, after 10 working days of the Districts and Vendors notice, any order that has not been completely filled by the Vendors shall NOT be completed and a cancellation notice will be sent to that Vendor from the issuing District for cancellation of the balance of that order only. No orders from prior contracts should be held open by the Districts or Vendors longer than 10 working days after the effective date of use is announced for the new contract.

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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- 4.4 Cooperative Contracting:** The purchase prices on all Contract Items herein, available for the WVDOH, shall be adoptable for other public agencies upon their request. Agencies under the authority of the West Virginia Purchasing Division must receive prior approval by the Purchasing Director.
- 4.5 Price Adjustments:** In the event of a significant price increase of products or services utilized to perform under this Contract, by no fault of the Vendor, the contract pricing, may be equitably adjusted by change order as more fully described below.
- 4.5.1** A change in price may be considered if the price of the component material or equipment increases significantly from the original bid amount.
- 4.5.2** Any request for a price increase under this clause must be supported by price quotes for the component material or equipment for which a change is being sought; invoices showing amounts actually paid for the component materials or rental equipment; and any other evidence that supports the increase request.
- 4.5.3** Quotes provided to support the price increase request must be the quotes that Vendor actually relied on when submitting its bid and both the quote and the amount ultimately paid must have resulted from an arm's length transaction with an unrelated party.
- 4.5.4** Vendor must also show that the significant price increase would have been incurred if the owner had purchased the material or rental equipment directly from the supplier.
- 4.5.5** Price adjustments will be granted or denied at the sole and absolute discretion of the State.
- 4.5.6** Price adjustments will only be considered annually at the contract expiration/renewal date. Vendor must submit price adjustment requests 60 days prior to the expiration/renewal date to be considered.
- 4.5.7** Vendor documentation for price adjustments shall be submitted to [DOHOperationsProcurement@wv.gov](mailto:DOHOperationsProcurement@wv.gov) for initial review.
- 4.5.8** Price adjustments shall be memorialized by a written Change Order which must be reviewed and approved by the Budget and Procurement Division, and as to form by the Attorney General's Office, to be effective. Adjusted pricing will not take effect until the effective date of such Change Order and cannot be retroactive.

**5. ORDERING AND PAYMENT:**

- 5.1 Ordering:** Vendor shall accept orders through regular mail, facsimile, email, or any other written forms of communication. Vendor shall maintain and keep current its

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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phone numbers, fax number, email address, locations, and ordering/billing/ payment addresses with WVDOH and in wvOASIS. Vendor may, but is not required to, accept online orders through a secure internet ordering portal/website. If Vendor can accept online orders, it shall include in its response a brief description of how Agencies may utilize the online ordering system. Vendor shall ensure that its online ordering system is properly secured prior to processing Agency orders online.

- 5.2 Agency Delivery Order (“ADO”):** District personnel must issue an Agency Delivery Order (ADO) from OASIS for specific quantities of materials based on each project’s requirements and detailing the need and location information of work to be completed per Contract Items, as well as the start and end dates, which will become the agreed upon official start and end dates. The ADO must be created in OASIS and approved to “Final”, prior to placing the order with the vendor. The District is responsible for creating the ADO in OASIS and is required to submit the approved order, in writing, directly to the vendor via mail, email or fax. **Verbal communication with the vendor is not considered an official order.** In the event the vendor denies an order or if there are changes to an ADO, the District must process a change order to the approved ADO issued from OASIS.

Emergencies shall be prominently noted on the ADO. Once complete, the ADO shall be sent to Vendor via fax, email, or mail.

- 5.3 Payment:** Upon completion of the work indicated on the ADO, Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia. The State of West Virginia currently utilizes a Purchasing Card program, administered under contract by a banking institution, as well as Electronic Funds Transfer as methods to process payment for goods and services. The Vendor shall accept the State of West Virginia’s Purchasing Card and Electronic Funds Transfer for payment of orders under this Contract. Electronic Funds Transfer for payment is available through the WV State Auditor’s Office. The Vendor may visit the WV State Auditor’s website ([wvsao.gov](http://wvsao.gov)) for all necessary forms and instructions. Payment method may be dictated at WVDOH’s discretion.

**6. PROJECT ACCEPTANCE, DELIVERY AND RETURN:**

- 6.1 Project Acceptance and Written Verification of Receipt:** Upon receipt of a WVDOH ADO, the Vendor shall advise the WVDOH in writing within five (5) calendar days of their acceptance or refusal of the ADO. As verification of receipt, Vendor must provide written acknowledgement of any ADOs and any Revisions/Modifications thereto sent by WVDOH. Failure to provide the WVDOH with written acknowledgement of any ADOs/Revisions within five (5) days of the Order being sent shall be considered refusal of the ADO. In the event of refusal, the WVDOH at its own discretion shall cancel the ADO and may seek to obtain the goods or services from the next low bid Vendor or proceed with an emergency purchase from the open market.

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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- 6.2 Delivery Time:** Vendor shall deliver standard orders within seven (7) business days after orders are received. Vendor shall ship all orders in accordance with the above schedule and shall not hold orders until a minimum delivery quantity is met.
- 6.3 Late Delivery:** The Agency placing an order under this Contract must be notified in writing if orders will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the delayed order, and/or obtaining the items ordered from another awarded vendor or proceed with an Emergency Purchase from the open market.

The Agency placing an ADO under this Contract must be notified in writing by the Vendor no later than five (5) business days prior to the scheduled start date from the Agency's order. Any failure to notify, acknowledge receipt of WVDOH's written ADOs/ Revisions resulting in delivery delay, or failure to start or complete the project per the WVDOH scheduled due dates may be determined by the WVDOH at its sole discretion as harmful to the Agency and as such, shall result in WVDOH's cancellation of the ADO and application of Liquidated Damages.

Any Agency seeking to obtain items from the open market under this provision must first obtain approval of the West Virginia Division.

- 6.3.1 Liquidated Damages:** If the Vendor's work completion or corrections of deficient work exceeds the ADO completion due date or timeframe, the Vendor shall agree that no extension of contract time will be granted unless Liquidated Damages are applied by the WVDOH in the form of an off-set reduction to the total amount of the Vendor's final invoice. The WVDOH shall calculate Liquidated Damages per project beginning on day one (1) after the WVDOH's specified ADO due date and in accordance with this Section, the Contract's Terms and Conditions, Standard Specs Section 108.7, and the following Standard Specs Section Table 108.7.1 - Schedule of Liquidated Damages, as amended:

**Table 108.7.1**  
**Schedule of Liquidated Damages**

Original Contract Amount		Daily Charges Per Calendar Day
For More Than	To and Including	
\$0	\$500,000	\$350
\$500,000	\$2,000,000	\$650
\$2,000,000	\$10,000,000	\$1,600
\$10,000,000	\$25,000,000	\$3,100
\$25,000,000		\$4,200

- 6.3.2 Force Majeure:** The Vendor is not responsible for, and shall not be penalized for, delays in its delivery of goods and/or services when caused by factors or events outside Vendor's control, including but not limited to acts or omissions of the Agency or third parties, acts of civil or military authority, civil disturbance, war, terrorism, pandemics, explosions, fire, floods, tornadoes, or other natural disasters or acts of God.

**REQUEST FOR QUOTATION**  
**Repair Products for Roads and Bridges**

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- 6.4 Delivery Payment/Risk of Loss:** Standard order delivery shall be F.O.B. destination to the Agency's location. Vendor shall include the cost/discount of standard order delivery charges in its bid pricing and is not permitted to charge the Agency separately for such delivery.

Deliveries made by the vendor shall be comprised only of Contract Items intended for delivery at that location and specified in the pricing pages, contract specifications or WV-39 Blanket Release Order. At no time shall property belonging to the West Virginia Department of Transportation be utilized as a lay-down or storage facility by the vendor, or items left with the intention of being distributed to an alternate location.

- 6.5 Return of Unacceptable Items:** The decision of the WVDOH District Engineer or their designee regarding materials, workmanship, quality etc., shall be final per the Standard Specs Section 105.1, as amended. If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either arrange for the return within five (5) days of being notified that items are unacceptable or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.

- 6.6 Return Due to Agency Error:** Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

**7. VENDOR DEFAULT:**

- 7.1** The following shall be considered a vendor default under this Contract.
- 7.1.1** Failure to provide Contract Items in accordance with the requirements contained herein.
  - 7.1.2** Failure to comply with other specifications and requirements contained herein.
  - 7.1.3** Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.
  - 7.1.4** Failure to remedy deficient performance upon request.



REQUEST FOR QUOTATION  
**Repair Products for Roads and Bridges**

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7.2 The following remedies shall be available to Agency upon default.

7.2.1 Immediate cancellation of the Contract.

7.2.2 Immediate cancellation of one or more release orders issued under this Contract.

7.2.3 Any other remedies available in law or equity.

**8. MISCELLANEOUS:**

8.1 **No Substitutions:** Vendor shall supply only Contract Items submitted in response to the Solicitation unless a contract modification is approved in accordance with the provisions contained in this Contract.

8.2 **Vendor Supply:** Vendor must carry sufficient inventory of the Contract Items being offered to fulfill its obligations under this Contract. By signing its bid, Vendor certifies that it can supply the Contract Items contained in its bid response.

8.3 **Reports:** Vendor shall provide the Agency with quarterly reports, annual summaries, and/or monthly reports as requested by the Agency and/or the West Virginia Purchasing Division showing quantities, total dollar value of the Contract Items purchased, ordered, shipped & invoiced with dates in spreadsheet format as defined by the Agency. Failure to supply such reports may be grounds for cancellation of this Contract.

8.4 **Contract Manager:** During its performance of this Contract, Vendor must designate and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract Manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract Manager and his or her contact information below.

**Contract Manager:** Michael Leahy  
**Telephone Number:** (330) 922-3630  
**Fax Number:** (330) 922-8070  
**Email Address:** dilmaterial@yahoo.com

Vendor shall inform the Agency in writing of any changes to the information provided above within 10 calendar days of such changes. Failure to comply may be grounds for cancellation of this contract.

## GENERAL TERMS AND CONDITIONS:

- 1. CONTRACTUAL AGREEMENT:** Issuance of an Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance by the State of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid, or on the Contract if the Contract is not the result of a bid solicitation, signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.
- 2. DEFINITIONS:** As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.
  - 2.1. "Agency" or "Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.
  - 2.2. "Bid" or "Proposal"** means the vendors submitted response to this solicitation.
  - 2.3. "Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.
  - 2.4. "Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.
  - 2.5. "Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.
  - 2.6. "Award Document"** means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.
  - 2.7. "Solicitation"** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.
  - 2.8. "State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.
  - 2.9. "Vendor" or "Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

**3. CONTRACT TERM; RENEWAL; EXTENSION:** The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

**Term Contract**

**Initial Contract Term:** The Initial Contract Term will be for a period of one (1) year from the effective date \_\_\_\_\_. The Initial Contract Term becomes effective on the effective start date listed on the first page of this Contract, identified as the State of West Virginia contract cover page containing the signatures of the Purchasing Division, Attorney General, and Encumbrance clerk (or another page identified as \_\_\_\_\_), and the Initial Contract Term ends on the effective end date also shown on the first page of this Contract.

**Renewal Term:** This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to three (3) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

**Alternate Renewal Term** – This contract may be renewed for \_\_\_\_\_ successive \_\_\_\_\_ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

**Delivery Order Limitations:** In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

**Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within \_\_\_\_\_ days.

**Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within \_\_\_\_\_ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that:

the contract will continue for \_\_\_\_\_ years;

the contract may be renewed for \_\_\_\_\_ successive \_\_\_\_\_ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's Office (Attorney General approval is as to form only).

**One-Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

**Construction/Project Oversight:** This Contract becomes effective on the effective start date listed on the first page of this Contract, identified as the State of West Virginia contract cover page containing the signatures of the Purchasing Division, Attorney General, and Encumbrance clerk (or another page identified as \_\_\_\_\_), and continues until the project for which the vendor is providing oversight is complete.

**Other:** Contract Term specified in \_\_\_\_\_

**4. AUTHORITY TO PROCEED:** Vendor is authorized to begin performance of this contract on the date of encumbrance listed on the front page of the Award Document unless either the box for "Fixed Period Contract" or "Fixed Period Contract with Renewals" has been checked in Section 3 above. If either "Fixed Period Contract" or "Fixed Period Contract with Renewals" has been checked, Vendor must not begin work until it receives a separate notice to proceed from the State. The notice to proceed will then be incorporated into the Contract via change order to memorialize the official date that work commenced.

**5. QUANTITIES:** The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

**Open End Contract:** Quantities listed in this Solicitation/Award Document are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

**Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

**Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

**One-Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

**Construction:** This Contract is for construction activity more fully defined in the specifications.

**6. EMERGENCY PURCHASES:** The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute a breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One-Time Purchase contract.

**7. REQUIRED DOCUMENTS:** All of the items checked in this section must be provided to the Purchasing Division by the Vendor as specified:

**LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits upon request and in a form acceptable to the State. The request may be prior to or after contract award at the State's sole discretion.

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications regardless of whether or not that requirement is listed above.

**8. INSURANCE:** The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued. Vendor must also provide Agency with immediate notice of any changes in its insurance policies, including but not limited to, policy cancelation, policy reduction, or change in insurers. The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether that insurance requirement is listed in this section.

Vendor must maintain:

**Commercial General Liability Insurance** in at least an amount of: \$1,000,000.00 per occurrence.

**Automobile Liability Insurance** in at least an amount of: \$1,000,000.00 per occurrence.

**Professional/Malpractice/Errors and Omission Insurance** in at least an amount of: \_\_\_\_\_ per occurrence. Notwithstanding the forgoing, Vendor's are not required to list the State as an additional insured for this type of policy.

**Commercial Crime and Third Party Fidelity Insurance** in an amount of: \_\_\_\_\_ per occurrence.

**Cyber Liability Insurance** in an amount of: \_\_\_\_\_ per occurrence.

**Builders Risk Insurance** in an amount equal to 100% of the amount of the Contract.

**Pollution Insurance** in an amount of: \_\_\_\_\_ per occurrence.

**Aircraft Liability** in an amount of: \_\_\_\_\_ per occurrence.

**9. WORKERS' COMPENSATION INSURANCE:** Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

**10. VENUE:** All legal actions for damages brought by Vendor against the State shall be brought in the West Virginia Claims Commission. Other causes of action must be brought in the West Virginia court authorized by statute to exercise jurisdiction over it.

**11. LIQUIDATED DAMAGES:** This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

\_\_\_\_\_ for \_\_\_\_\_.

Liquidated Damages Contained in the Specifications.

Liquidated Damages Are Not Included in this Contract.

**12. ACCEPTANCE:** Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

**13. PRICING:** The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification. Notwithstanding the foregoing, Vendor must extend any publicly advertised sale price to the State and invoice at the lower of the contract price or the publicly advertised sale price.

**14. PAYMENT IN ARREARS:** Payments for goods/services will be made in arrears only upon receipt of a proper invoice, detailing the goods/services provided or receipt of the goods/services, whichever is later. Notwithstanding the foregoing, payments for software maintenance, licenses, or subscriptions may be paid annually in advance.

**15. PAYMENT METHODS:** Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

**16. TAXES:** The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

**17. ADDITIONAL FEES:** Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia, included in the Contract, or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

**18. FUNDING:** This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available. If that occurs, the State may notify the Vendor that an alternative source of funding has been obtained and thereby avoid the automatic termination. Non-appropriation or non-funding shall not be considered an event of default.

**19. CANCELLATION:** The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

**20. TIME:** Time is of the essence regarding all matters of time and performance in this Contract.

**21. APPLICABLE LAW:** This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code, or West Virginia Code of State Rules is void and of no effect.

**22. COMPLIANCE WITH LAWS:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

**SUBCONTRACTOR COMPLIANCE:** Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

**23. ARBITRATION:** Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.



**24. MODIFICATIONS:** This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

**25. WAIVER:** The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

**26. SUBSEQUENT FORMS:** The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

**27. ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments.

**28. WARRANTY:** The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

**29. STATE EMPLOYEES:** State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

**30. PRIVACY, SECURITY, AND CONFIDENTIALITY:** The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/default.html>.

**31. YOUR SUBMISSION IS A PUBLIC DOCUMENT:** Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

**DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.**

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

**32. LICENSING:** In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

**SUBCONTRACTOR COMPLIANCE:** Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

**33. ANTITRUST:** In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

**34. VENDOR NON-CONFLICT:** Neither Vendor nor its representatives are permitted to have any interest, nor shall they acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency.

Revised 11/1/2022

**35. VENDOR RELATIONSHIP:** The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

**36. INDEMNIFICATION:** The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

**37. NO DEBT CERTIFICATION:** In accordance with West Virginia Code §§ 5A-3-10a and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State. By submitting a bid, or entering into a contract with the State, Vendor is affirming that (1) for construction contracts, the Vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, neither the Vendor nor any related party owe a debt as defined above, and neither the Vendor nor any related party are in employer default as defined in the statute cited above unless the debt or employer default is permitted under the statute.

**38. CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

**39. REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at [purchasing.division@wv.gov](mailto:purchasing.division@wv.gov).

**40. BACKGROUND CHECK:** In accordance with W. Va. Code § 15-2D-3, the State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check. Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

**41. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS:** Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process.
- c. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:
  1. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or
  2. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

**42. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL:** In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a “substantial labor surplus area”, as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

**43. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE:** W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least \$1 million, the Vendor must submit to the Agency a disclosure of interested parties prior to beginning work under this Contract. Additionally, the Vendor must submit a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-work interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

**44. PROHIBITION AGAINST USED OR REFURBISHED:** Unless expressly permitted in the solicitation published by the State, Vendor must provide new, unused commodities, and is prohibited from supplying used or refurbished commodities, in fulfilling its responsibilities under this Contract.

**45. VOID CONTRACT CLAUSES:** This Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law.

**46. ISRAEL BOYCOTT:** Bidder understands and agrees that, pursuant to W. Va. Code § 5A-3-63, it is prohibited from engaging in a boycott of Israel during the term of this contract.

**DESIGNATED CONTACT:** Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) Michael Leahy, Manager

(Address) P.O. Box 5293, Akron, OH 44334

(Phone Number) / (Fax Number) (330) 922-3630 / (330) 922-8070

(Email address) djlmaterial@yahoo.com

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

*By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.*

DJL Material & Supply, Inc.

(Company)

  
(Signature of Authorized Representative)

Michael Leahy, Manager

(Printed Name and Title of Authorized Representative) (Date)

(330) 922-3630 / (330) 922-8070

(Phone Number) (Fax Number)

djlmaterial@yahoo.com

(Email Address)

# EXHIBIT 1



## Engineered Performance Features

**QUICK & EASY START-UP**  
With the flip of a toggle switch the Super Shot will be ready to operate in less than an hour. Shut down, at the end of the day, is just as easy.



**HEATED HOSE**  
The low voltage electric heated hose heats material to application temperature within 45 minutes. The hose has the longest working radius in the industry, a 360° swivel, protective sleeve, & a replaceable hose & wand.



**Integrated Operator Control System**  
Controls operate the entire unit and override possible operator error. Integrated control box houses all the gauges, switches, & engine controls.



**Optional Compressor Cover**  
Protects engine from the elements, vandalism, & theft.

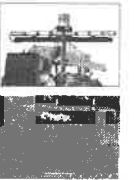


**Efficient Burner**  
Burner is positioned safely within the frame providing protection & ample ground clearance. Time saving electric overnight heater option available.



**Low Profile Gravity Feed**  
Low center of gravity provides easy loading, yet has ample unobstructed ground clearance for safe towing over the most rugged road conditions.

## Engineered Performance Options



- Engine cover
- Gravity Feed
- Arrow Board Kit
- Surge Brakes
- Engine w/ Gauges
- Autolocker
- 50 or 70 CFM Compressor
- Custom Paint
- Hitch Selection
- Electric Plug Selection
- Hitch Extension
- Cab Brake Control
- Break-away Battery w/charger
- Locking Battery Box
- Light Bar
- Overnight Heater
- Fire Extinguisher - 10 or 20 lb.
- Tool Box
- Safety Hooks
- Mud Flaps
- Spare Tire Kit
- Strobe Light

## Engineered Tools Sealing Tips and Material Handling Tools



**Super Shot Drip Stopper**  
Use with Super Shot Super Shot Sealing Tip. Stops sealant drip issue. **PN# 27114 Tip Adapter**  
**PN# 50270 Duckbill Nozzle**  
**PN# 27115 Shroud - Tip Adapter**

**Sealant Applicator**  
Use with Super Shot Miter & E-7 Four Mitters with or w/o Drip Stopper. **PN# 27120 3" Sealant Applicator**  
**PN# 27130 4" Sealant Applicator**

**Crafco Duckbill PN# 50270**  
Use with Super Shot Miter wands to prevent dripping of material.

**Crafco Sealing Foot / Flush**  
Used for random asphalt and concrete cracks. **PN# 27154 Sealing tip/ft assembly 1/4" flush**  
**PN# 27155 Sealing tip/ft assembly 3/8" flush**

**Crafco Sealing Foot / Protruded**  
Used for straight asphalt and concrete joints. **PN# 27159 Sealing tip/ft assembly 1/4" protruding**  
**PN# 27160 Sealing tip/ft assembly 3/8" protruding**

**Crafco Joint Sealing Tip**  
Use for straight asphalt and concrete joints. **PN# 27146 Sealing tip assembly 1/4"**  
**PN# 27147 Sealing tip assembly 3/8"**

**Crafco Round Sealing Tip**  
Multi-purpose random cracks and joints. Use with a squeegee for most applications. **PN# 27170 Sealing tip assembly 1/2"**  
**PN# 27171 Sealing tip assembly 1/2"**

**Crafco Applicator Disk**  
Used for overbanding, great labor saver. **PN# 27162 3" Disk Assembly**  
**PN# 27163 4" Disk Assembly**  
**PN# 27164 6" Disk Assembly**

**Crafco Heavy Duty Squeegee w/ Aluminum Handle PN# 27199**  
Use for leveling crack sealant and where a sealant over band is recommended. **Crafco Replacement Blade PN# 27185 4" x 16" x 3/8"**

**Crafco Heavy Duty Compact Squeegee w/ Aluminum Handle PN# 27245**  
**Crafco Heavy Duty Compact Squeegee w/ Wooden Handle PN# 27245W**  
Use for leveling crack sealant and where a sealant over band is recommended. **Crafco Replacement Blade PN# 27241 2-1/2" x 17" x 3/8"**

**Crafco Pour Pot with Wheels PN# 40200**  
Use to apply a uniform band of sealant to a crack or joint. Wheelbed for ease of use. Gravity feed with shut off lever.

**Crafco Hand Held Pour Pot PN# 40201**  
For application of thin crack sealant to a joint or crack. Gravity feed with shut off lever.

**Crafco Detack** is an economical, biodegradable liquid from Crafco that eliminates sealant tack when sprayed onto freshly applied hot pour sealant.



## Super Shot Melter/Applicators

### Crafco Engineered System



**CRAFCO INC.**  
PRESERVATION PRODUCTS PAVEMENT

Delivering Confidence Through Innovation, Quality and Value Since 1976

PRESERVATION PRODUCTS PAVEMENT **crafco.com**  
1400 W. Detroit St., Chandler, AZ 85226 • Phone: (602) 776-8888 • Fax: (480) 961-8513



**SPECIFICATIONS FOR 47400 SUPERSHOT™  
 125 GALLON DIESEL FUELED MELTER  
 APPLICATOR WITH 100CFM COMPRESSOR;  
 WITH PUMP ON DEMAND FEATURES**

**JANUARY 2022**

The purpose of these specifications is to describe a double-boiler type melter applicator that is specifically designed for and shall be capable of heating and applying all grades of asphalt rubber sealant, fiber modified asphalt sealant and specification joint sealant without any further equipment modification. It may be used for the application of resinous, colored sealant and fillers. This unit shall be the manufacturer's current production model manufactured in the United States of America.

	<u>Comply</u>	<u>Does Not Comply</u>
<b>1. GENERAL SPECIFICATIONS</b>		
A. The machine shall be capable of dispensing sealant material within one hour of start up at a 70° F (21.1° C) ambient temperature.	_____	_____
B. All qualified bidders must have and maintain a complete inventory of replacement parts and have experienced factory-trained service personnel for this equipment.	_____	_____
C. A comprehensive safety manual and operational/maintenance CD shall be supplied with each unit.	_____	_____
D. A factory-trained person shall be made available for initial start-up and training in the operation of the melter.	_____	_____
E. Temperature indicating devices shall have intervals no greater than 1° F (2.8° C) and shall be calibrated as required to assure accuracy.	_____	_____
F. The melter shall have continuous sealant agitation and a mixing system to provide uniform viscosity and temperature of material being applied.	_____	_____
<b>2. REQUIRED SAFETY FEATURES</b>		
A. The unit shall have safety shut-off on the loading door that automatically stops the agitator when the lid is opened. When equipped with a conveyor loading option the safety shut-off will lock out the conveyor operation during loading.	_____	_____

	<u>Comply</u>	<u>Does Not Comply</u>
B. The applicator wand shall be equipped with an automatic shut-off feature that will stop the rotation of the sealant pump, sealant flow, and all line pressure when the handle is released or dropped.	_____	_____
C. The heat transfer oil shall adequately and efficiently bring the sealant material to application temperature without the use of a heat transfer oil circulation pump. This eliminates the potential exposure of personnel to pressurized hot heat transfer oil.	_____	_____
D. The sealant delivery plumbing shall contain no valves which control, inhibit or divert the flow of the sealant between the material tank, sealant pump and wand tip.	_____	_____
E. All components, except as required of the trailer running gear, shall be located above the bottom of the trailer frame side rails. No components including the engine, engine mounts, compressor, burner, burner box, hydraulic oil tank, fuel tank, material tank, etc. shall protrude below the bottom of the frame side rails.	_____	_____
F. The material tank meets all FMCSA requirements for elevated temperature materials by meeting CFR Title 49, Part 173.247.	_____	_____
Other: _____	_____	_____

**3. TOWING FRAME AND JACK**

A. This unit shall be trailer mounted. The longitudinal side frames and tongue members of the trailer shall be on one continuous piece construction composed of hot rolled steel channel having the minimum dimensions of 5 inches (12.70 cm) web, 3/16 inch (.48 cm) thickness with 1.75 inch (4.5 cm) flanges.	_____	_____
B. The configuration of the channel shall be cold formed with the flanges on the outside resulting in a one-piece frame member with no cross welding of or on the flanges to avoid any possibility of flange stress cracking.	_____	_____
C. The tongue shall be equipped with an appropriate heavy-duty ball or pintle hitch and shall be adjustable in height above ground level from a minimum of 14 inches (35.6 cm), to a maximum of 32 inches (81.3 cm), permitting practically level towing with a wide range of towing vehicles. The towing hitch shall be bolted to the hitch plate for easy height adjustment and/or conversion to other type hitches.	_____	_____
D. A screw-post tongue jack shall be furnished. It shall be heavy duty type with a capacity of 5,000 pounds (2,268 kg). It shall be side mounted and swing away for positive road clearance while under tow.	_____	_____
Other: _____	_____	_____

<u>Comply</u>	<u>Does Not Comply</u>
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**4. TRAILER RUNNING GEAR**

- A. The unit shall be equipped with a dual independent rubber torsional suspension each with a safe load capacity of 5,200 pounds (2,359 kg), electric brakes, modular wheels and ST 225/75R15 tubeless tires (Load Range D). Trailers with springs and shackles are unacceptable as they require more maintenance and reduce ground clearance.
- B. The unit shall have dual LED taillights, stoplights and turn signals. Lights shall be ICC approved. A license plate holder shall be attached to the driver's side taillight.
- C. All melter fluid tanks shall be positioned no lower than the deck level and mounted on top of the channel frame members to assure proper ground clearance. Units that have components that extend below the trailer frame are unacceptable.
- D. The unit shall also be equipped with two safety chains not less than 48 inches (121.9 cm) of .38 inch (.97 cm) coil proof chain attached to the tongue with a drilled type clevis pin on the end attached to the frame and screw type clevis pin on the opposite end.
- E. Total shipping weight is approximately 5,320 lbs. (2,413 kg)

Other: \_\_\_\_\_  
 \_\_\_\_\_


**5. HEATING TANK**

- A. The material heating tank shall be a minimum of 37 inches (93.98 cm) in diameter by 28.75 inches (73.02 cm) deep having a minimum capacity of 133.75 gallons (506.3 l) at ambient temperature. Oval or square sided tanks are unacceptable as they allow for uneven agitation resulting in a non-homogenous sealant and uneven heating of sealant.
- B. The tank will have a rear discharge from the pump and a rear plugged outlet. A double boiler type jacket shall create a reservoir that shall hold a minimum of 34.8 gallons (131.7 l) and require no more than 40 gallons (152 l) of heat transfer oil at 70° F (21.1° C). (Note: At 500° F (260° C) the heating oil will expand approximately 18%).
- C. The jacket shall wrap around 100% of the outside area of the circular material tank and bottom and allow for complete circulation of the heated transfer oil.
- D. The tank and jacket shall be made of not less than 3/16 inch (.94 cm) rolled sheet steel.
- E. There shall be one plug to allow the entire heat transfer oil system to be drained.


	<u>Comply</u>	<u>Does Not Comply</u>
F. The heat transfer oil shall be of ISO grade 68.	_____	_____
Other: _____ _____	_____	_____

**6. EXPANSION TANK**

A. A vented expansion tank for heat transfer oil. Overflow down tubes are unacceptable.	_____	_____
Other: _____ _____	_____	_____

**7. HYDRAULIC SYSTEM**

A. The hydraulic system shall incorporate a hydraulic pump to power the agitation, pumping, and compressor system. Belt driven hydraulics is unacceptable.	_____	_____
B. All valves shall be solenoid operated by toggle switch and wand handle switch.	_____	_____
C. The controls will allow for bi-directional operation of the sealant pump and agitator.	_____	_____
D. A flow control valve will be mounted on the rear of the unit to allow the operator to adjust the pump operational speed.	_____	_____
E. All controls shall be mounted at the curb side rear on the trailer for easy access by the operator. Hydraulic controls located at the side or forward portion of the trailer are unacceptable.	_____	_____
F. The minimum 30 gallon (113.6 l) hydraulic tank will be equipped with an internal 10-micron full flow filter. The filter shall be equipped with a restriction indicator to indicate the need for service. A sight gauge level indicator equipped with a thermometer to measure oil temperature will be mounted on the tank and located where it is easily viewed.	_____	_____
G. The unit shall have a self-contained air to oil hydraulic cooler with an electric fan to maintain proper hydraulic oil temperatures.	_____	_____
Other: _____ _____	_____	_____

<u>Comply</u>	<u>Does Not Comply</u>
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**8. TANK INSULATION**

- A. The heating tank shall be insulated with a minimum of 1 inch (2.54 cm) thick high temperature ceramic insulation and covered by a 22 gauge (.07 cm) steel outer wrapper. Fiberglass and rock wool insulation are unacceptable due to their moisture retention properties resulting in a significant loss of their insulating value over an eighteen-month period.

Other: \_\_\_\_\_  
\_\_\_\_\_

_____	_____
_____	_____

**9. LOADING HATCH**

- A. A low profile angled for loading shall be required at the top of the material tank and shall be located on the curbside of the machine for operator safety.
- B. The loading height shall not be less than 56 inches (142.24 cm) for operator safety. Loading Heights below 50 inches (127 cm) may expose the operator to splash hazards and fume exposure when loading and are unacceptable.
- C. The opening shall have a minimum area of 252 square inches (1,625 sq. cm), approximately 14 inches (35.56 cm) by 18 inches (45.72 cm) and shall be hinged to allow placement of a block of sealant onto the lid and closure of lid for easy, anti-splash loading.
- D. The loading door will allow the operation of the equipment, including sealant loading, from curbside. Loading systems that require the operator to step onto the melter are unacceptable.
- E. The loading hatch shall be easily adaptable for the addition of a retrofit powered loading conveyor with anti-splash tower.

Other: \_\_\_\_\_  
\_\_\_\_\_

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

**10. HEATING SYSTEM**

- A. The heat transfer oil is heated by one 12-volt 246,000 BTU high efficiency forced air diesel fired burner directly at the bottom of the heat transfer oil tank
- B. The burner shall fire into an easy access removable burner combustion box. The box will be insulated by a high temperature flexible insulation that is resistant to damage from the vibration and over road travel. Rigid insulation is unacceptable

_____	_____
_____	_____

	<u>Comply</u>	<u>Does Not Comply</u>
C. The burner and combustion box shall be positioned offset from the center of the machine towards the passenger side frame rail. To allow safe and easy access for maintenance and repair, no components shall be positioned between the passenger side frame rail and the burner/combustion box.	_____	_____
D. Total area exposed to the burner shall be a minimum of 5,244 square inches (33,832 square cm). The material tank shall have a minimum of 4,267 square inches (27,529 square cm) of contact with the heat transfer oil. No other mechanical circulation of the heat transfer oil by pump shall be accepted. This provides for a melt rate of 1,064 pounds (482.6 kg) per hour.	_____	_____
E. The burner shall be lit by a constant duty high voltage transformer powering an electric spark ignitor. This ignitor shall work in conjunction with a sensor that detects a lack of burn or ignition and shuts down the fuel supply.	_____	_____
F. The burner fuel system is to be self-priming with a removable in-line filter along with its own feed and return lines to the main fuel tank.	_____	_____
G. The thermostat control is located on the curbside of the machine for operator safety.	_____	_____
Other: _____	_____	_____

**11. INTEGRATED CONTROL SYSTEM**

A. The control box shall provide a fully integrated control system for the engine, heating system, agitation system and application system.	_____	_____
B. The melter applicator shall have a thermostatic control device that will automatically regulate hot oil, material, and hose temperature.	_____	_____
C. The control shall have a digital readout and independent dial control for each heat transfer oil, material and applicator hose temperatures.	_____	_____
D. The thermostat shall control burner ignition for a temperature range from a low of 200° F (93.3° C) up to a high of 425° F (218.3° C) for a wide variety of sealants.	_____	_____
E. The temperature controls shall be in a single weatherproof control box.	_____	_____
F. The controls will automatically turn power on to the agitation system when the material reaches 275°F (135°C).	_____	_____
G. The controls will automatically start the hose heating system when the material temperature reaches 275°F (135°C).	_____	_____



<u>Comply</u>	<u>Does Not Comply</u>
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H. The controls will automatically activate the application (pumping) system when the hose temperature reaches 325°F (162.8°C).

_____	_____
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I. The controls will lock out operation of the agitation system, hose heating system, and application system when the material temperature is below the minimum operation temperature for operator safety and to prevent damage to the operational components.

_____	_____
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J. The burner has an audible 105db alarm that will sound in the event the burner goes into lockout mode. There is a reset switch to reset the burner if it does go into lockout mode.

_____	_____
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K. The controls will run the engine at "warm up" RPM for 30 seconds before it automatically adjusts to a standard engine idle RPM. When the material reaches 275°F (135°C), the engine will automatically idle up to the operational RPM.

_____	_____
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L. If the machine is equipped with an air compressor, in the event the air compressor is turned on before material reaches 275°F (135°C), the RPM will automatically increase in order to provide enough power to run the air compressor.

_____	_____
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Other: \_\_\_\_\_  
\_\_\_\_\_

_____	_____
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**12. DRIVE AND DRIVE CONTROLS**

A. The motive force to the agitator and material pump shall be hydraulic motors driven by a hydraulic pump.

_____	_____
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B. The drive controls governing the rotational speed of the material pump shall be controlled by adjustable hydraulic valves.

_____	_____
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C. The material pump will have infinite speed control and is electrically actuated by a toggle switch on the control panel or a switch on the hand wand.

_____	_____
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Other: \_\_\_\_\_  
\_\_\_\_\_

_____	_____
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**13. AGITATION**

A. The sealant material shall be mixed by a hydraulically driven, full sweep vertical agitator with two opposing horizontal paddles and vertical risers attached to the ends. This feature ensures that material remains in complete suspension and that the hot material stays in the lower area of the tank and does not get splashed or thrown to the upper areas of the tank.

_____	_____
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	<u>Comply</u>	<u>Does Not Comply</u>
B. To ensure proper material agitation and movement of sealant blocks, the distance between the vertical riser and tank sidewall shall not exceed 3" at any point.	_____	_____
C. Agitator shall be factory preset and not adjustable at 30 RPM	_____	_____
D. The agitation system shall be chain driven from the hydraulic motor to the agitator.	_____	_____
E. The surface area of the agitator paddles shall be a minimum of 319 square inches (2,058.06 square cm). Surface areas of less than 100 square inches (903.22 square cm) are unacceptable.	_____	_____
F. The agitator rotates in both directions.	_____	_____
G. For additional safety the agitator will shut off automatically when the loading hatch is opened.	_____	_____
Other: _____	_____	_____

**14. BI-DIRECTIONAL VARIABLE SPEED PUMPING UNIT**

A. A hardened steel gear pump is located in the center of the material tank attached to the bottom of the tank.	_____	_____
B. The pump inlet shall be elevated 1.5" (3.81cm) off the bottom of the tank to provide a sump designed to retain and prevent foreign debris from infiltrating and damaging the pump, hose and wand.	_____	_____
C. Pumping of material is controlled by a switch on the hand wand and output is controlled hydraulically.	_____	_____
D. The pump and agitator drive shaft stands vertically attached to two motors on the top surface of the tank.	_____	_____
E. One motor rotates an axial tube having radial mixing blades at the chamber bottom.	_____	_____
F. The second motor drives a coaxial shaft running through the tube to the pump.	_____	_____
G. Sealant pumping shall be on demand. The pump shall only operate when the hand trigger switch is engaged.	_____	_____
H. When pumping stops, all line pressure and sealant flow shall stop.	_____	_____
I. When the hand wand trigger switch is disengaged, the pump and sealant flow shall stop and all line pressure shall be removed.	_____	_____
J. No external plumbing for recirculation back into the tank is acceptable.	_____	_____

<u>Comply</u>	<u>Does Not Comply</u>
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K. No internal or external valves shall be used in the pumping and sealant delivery system.

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L. The pump shall be capable of delivering sealant at a rate that exceeds the melt rate of the unit.

--	--

Other: \_\_\_\_\_

**15. ACTIVE PUMP PROTECTION**

A. The pump shall be completely encircled by a protective screen.

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B. The screen shall not allow anything larger than 1/2 inch (1.27 cm) in size to pass from the sealant tank into the pump suction port.

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C. The screen shall continuously rotate 360° around the pump whenever the sealant agitator is engaged.

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D. The active screen will protect the pump from foreign object damage and will self-clean as it rotates around the sealant pump and suction port.

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Other: \_\_\_\_\_

**16. SEALANT HOSE AND APPLICATOR WAND**

A. Both the hose and wand are heated by 24 VAC voltage electric current and are temperature regulated.

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B. Both the hose and wand will be serviceable (designed to be factory rebuilt). The manufacturer must have an established re-build program to service these components.

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C. The combination length between the hose and wand shall not be less than 22 feet (6.70 m).

--	--

D. Due to weight and safety considerations, an oil-jacketed hose is unacceptable.

--	--

E. The hose shall be specifically manufactured for handling liquid asphalt products up to 500° F (260° C) at 500 psi (34.47 bar) working pressure.

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F. Hose shall not be less than 18 feet (5.48 m) in length.

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	<u>Comply</u>	<u>Does Not Comply</u>
G. For maximum operator safety it shall be made of 3/4 inch (1.91 cm) inside diameter PTFE Teflon® inner core and reinforced with a stainless-steel outer braid. This braid serves a dual purpose; it provides a protective covering for the inner core and allows the hose to carry pressure. It shall also be insulated and have a cover to prevent damage to the hose or allow hot material from leaking out. Further, it shall have an abrasive sleeve to protect the operator from heat.	_____	_____
H. Total diameter of the hose shall be not greater than 2 ¼ inch (5.72 cm). The total weight of the hose shall not exceed 20 pounds (9.07 kg).	_____	_____
I. The hose and wand are to be wrapped and heated with a minimum of three electrical wires with terminal ends. The wires will be capable of heating the hose to 400°F (204° C) in less than 45 minutes and have variable temperature control capability.	_____	_____
J. The hand wand shall not be less than 4 feet (1.22 m) in length.	_____	_____
K. The hand wand shall be constructed of steel with sufficient strength to withstand normal day-to-day operation.	_____	_____
L. Material flow is controlled by a trigger switch.	_____	_____
M. For greater operator mobility, the connection between the wand and hose shall be through a 360° swivel.	_____	_____
N. There shall be no obstruction or valves between the material pump and the wand end.	_____	_____
O. The applicator wand shall have a self-closing silicone valve at the delivery point of the sealant delivery. This valve will automatically close when sealant application pressure stops and shall not require the operator to manually close any valves.	_____	_____
P. The hose is supported by a 68" boom (1.73 m), which swivels side to side on dual pillow block bearings. This action is controlled by an adjustable braking system for un-even road surfaces.	_____	_____
Q. The boom is equipped with a pivoting strut, which lowers as the operator moves away from the unit and rises as the operator moves closer to the unit. This keeps the hose from contacting the ground.	_____	_____
R. The boom is equipped with two hose hangers that pivot and twist with any hose movement that may occur during normal operation.	_____	_____
S. The boom is centered at the rear of the machine.	_____	_____
Other: _____	_____	_____

Comply      Does Not Comply

**17. ENGINE**

- A. The unit shall be equipped with a diesel engine complying with the following specifications:  
 Electric Start  
 Three Cylinder 42.5 HP (31.69 kw) @ 2850 RPM  
 Stage 5 Emissions  
 3.54" (90 mm) Stroke  
 95.2 Cubic Inch (1.56 l) Displacement  
 Full Flow Oil Filter  
 3.38" (86 mm) Bore  
 19.2 to 1 Compression Ratio  
 Water Cooled  
 Dual Speed Control  
 Engine Shutdown Package (low oil pressure & high temperature)  
 Digital Engine Controller

\_\_\_\_\_

- A. Digital engine controller shall have a gauge package that includes battery voltage, hour meter, engine RPM, engine temp, and engine load. It shall also have an Auto Start function which preheats and starts engine.

\_\_\_\_\_

- B. The engine will start and run at 1000 RPM for 30 seconds, then the RPM will increase to medium RPM. When the material temperature reaches 275°F (135°C) or the compressor toggle switch is turned "ON" the RPM will increase to high RPM which is full throttle.

\_\_\_\_\_

Other: \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_

**18. FUEL CAPACITY**

- A. The melter shall have a 30 gallon (113.6 l) diesel fuel tank for operation of the entire unit.
- B. The unit will be capable of operating for a minimum of 12 hours on one tank of fuel.
- C. The tank shall be equipped with full length sight gauges for fuel level indication protected in a steel cover.
- D. The fuel tank meets all FMCSA requirements for non-side-mounted fuel tanks by meeting CFR Title 49, Part 393.67.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Other: \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_

**19. AIR COMPRESSOR**

- A. The melter shall be equipped with a 100 cfm @ 125 PSI (2832 l/m @ 8.62 Bar) rotary vane air compressor.
- B. The compressor shall be driven hydraulically. Belt drive compressors are non-conforming.

\_\_\_\_\_

\_\_\_\_\_

	<u>Comply</u>	<u>Does Not Comply</u>
C. Air pressure shall be controlled by a continual intake valve modulation, which adjusts air flow to increase or decrease depending on user demand. The maximum pressure relief is set to 105 PSI (7.24 Bar).	_____	_____
D. The compressor has an integral toroidal cooler to maintain proper oil temperature.	_____	_____
E. There shall be a high temperature shut down.	_____	_____
F. 50 foot of 3/4" (19mm) air hose with Chicago quick couplers on each end and a storage rack shall be supplied along with a cold air lance.	_____	_____
G. For greater operator mobility, the connection between the cold air lance and air hose shall be through a 360° swivel.	_____	_____
H. Equipped with an air safety shut off valve. In the event of a hose rupture, this valve will significantly reduce the air flow to prevent injuries from a failing hose.	_____	_____
Other: _____ _____	_____	_____

**20. PAINT**

A. All painted surfaces shall be coated with Axalta two-part epoxy paint applied by Axalta certified painters.	_____	_____
Other: _____ _____	_____	_____

**21. TRAINING**

A. An authorized, factory representative will be made available for a full day of training at a facility designated by the bidding agency.	_____	_____
B. At this training session a complete operational, mechanical and safety overview will occur.	_____	_____
C. Both safety and operational manuals will be viewed and discussed with all concerned personnel.	_____	_____
D. Additionally, the representative will be available at that time for "on the job" safety and field training.	_____	_____
Other: _____ _____	_____	_____

	<u>Comply</u>	<u>Does Not Comply</u>
<b>22. SAFETY AND TRAINING MANUALS</b>		
A. A written Safety Manual will be provided to the bidding agency.	_____	_____
<b>23. PARTS</b>		
A. Bidders must show proof that a large stock of parts for the model of equipment upon which they are bidding is maintained at their facility.	_____	_____
<b>24. AWARD</b>		
A. Equipment is for use by the Highway Department and must meet the requirements of that agency as interpreted by the Highway Commissioner.	_____	_____
B. Prior to award, the Purchasing Agency may require a visit to the supplier's facility to assure supplier has plant capacity to manufacturer and deliver equipment on time as required.	_____	_____
C. If it is determined that the supplier cannot supply as requested, this is just cause for cancellation.	_____	_____
<b>25. WARRANTY</b>		
A. The manufacturer shall warranty the equipment for two years or as otherwise noted in the manufacturer's standard warranty policy.	_____	_____
<b>26. QUALIFICATIONS OF BIDDERS</b>		
A. No bid will be considered unless the bidder can meet the following conditions:	_____	_____
B. Bidder must have a parts/service location and keeps a sufficient stock of parts on hand at all times.	_____	_____
C. The equipment offered is the stock model chassis that meets the requirements of the specifications without material changes or modifications.	_____	_____
D. The model is regularly advertised and sold by the manufacturer.	_____	_____
E. The bidder has been engaged in the sale and support of this make and model of equipment for at least twenty-four months.	_____	_____

**OPTIONS REQUIRED (X if to be included)**

(Customer to insert quantity for each option required)

- 2 5/16 inch Ball Hitch
- 2 1/2 inch Pintle Hitch
- 3 inch Pintle Hitch
- Sealant Tip Adapter
- V-shaped Squeegee (Qty. \_\_\_)
- 3 inch Applicator Disk
- 1/2 inch Round Sealing Tip
- Extra Electric Hose
- Hot Air Lance
- Lockable Battery Cover
- Extra Hydraulic Filter
- Auto Loader
- Lockable Engine Cover
- Fire Extinguisher Mounted on the Trailer Frame
- Various Safety and Work Light kits, see brochure for more info
- Gravity Feed
- Propane Tank Kit
- Tool Box
- Overnight heater
- Custom Paint
- Hitch Extension, 18"
- Hitch Extension, 28"
- Hitch Extension, 39"
- Water Separator Kit for the 3/4" Cold Air Lance
- Self Retracting Hose Reel Kit with 3/4" Air Hose
- Stainless Steel Self Retracting Hose Reel Kit with 3/4" Air Hose
- Shot Timer Kit
- Foot Pedal Kit

**APPROVED EQUAL**

The approved make and model for this specification is a Crafc0 SS125DC 100 CFM. Bidders offering to supply equipment other than the approved make and model must supply a detailed description of the equipment being offered. Bidders offering to supply equipment other than the approved make and model shall also supply a list of references who have successfully heated, mixed and applied Crafc0 sealants through the equipment being offered. For purposes of comparison a separate list of all deviations to this specification must be attached to your bid document.

Prior to bid award an on-site demonstration of the equipment offered may be requested. All bidders offering other than the approved model listed will be required to provide an on-site demonstration at the agency's location within 7 days of request to verify that their unit complies with all specification requirements before their bid will be considered. Failure to carry out the provisions noted herein is deemed sufficient reason to reject the bidder's proposal.



# EXHIBIT 2

# Patcher

*PolyPatch and TechCrete Melter*



**CRAFCO**<sup>TM</sup>  
AN **ERGON** COMPANY **INC**

*"Pavement Preservation Products"*

**CRAFCO™**  
INC

# PATCHER



Available in one ton and two ton capacity.



**FEATURES:**

- Diesel powered
- Digital temp controls
- Swivel chute
- Easy clean out
- Safety shut off lid
- Curb side controls
- Double boiler
- Multi material use design

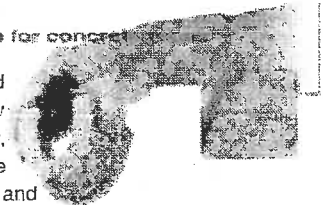
Specifically designed to melt and prepare PolyPatch and TechCrete pavement patching materials for application.

The diesel Crafcro Patcher II is a double boiler that is digitally controlled to assure that material temperatures are held within specification ranges at all times. A swivel material delivery chute makes placing material fast and easy. To clean out, load the machine with dry aggregate - run agitator and empty - it's that easy. All machines are equipped with a safety shutoff on the lid to prevent injury during operation. Available in a one ton (Patcher I) and two ton (Patcher II).

For more information on this equipment or TechCrete and PolyPatch patching materials, contact your authorized Crafcro representative.

## TECHCRETE the superior solution for concrete

Crafcro TechCrete is the long-term solution for distressed concrete pavement preservation. Spalled concrete caused by fatigue, freeze/thaw cycles, warping stress, ingress of water, or substrate problems can lead to costly reconstruction. Due to its flexibility, high tensile strength, ability to bridge joints and high compressive resistance, TechCrete creates a long lasting concrete repair. TechCrete repair system has excellent adhesion and has a high friction surface ideally suited for Thin Bond Repair (TBR), multi corner slab repair, joint intersection repairs and recessed applications.



## POLYPATCH / MASTIC ONE the cost effective, permanent repair for distressed concrete and asphalt pavements

Crafcro PolyPatch has been specifically designed for cracks too large for crack sealing and distressed surfaces that are too small for re-paving. It is a versatile hot-applied, pourable, self-adhesive polymer modified asphalt binder containing selected aggregate to ensure good load bearing and skid resistant characteristics. Available in several grades for various applications. PolyPatch is effectively used to level high manhole risers, drop inlets, bridge deck approaches, elevation discrepancies, utility cuts and more. For detailed product properties refer to the Crafcro PolyPatch Product Data Sheet and Installation Instructions or call your local Crafcro Distributor. Mastic One has the same great properties of PolyPatch only with a standard weight aggregate.



For more information on Crafcro products contact your local Crafcro Distributor or call:

**CRAFCO™**  
INC

[www.crafcro.com](http://www.crafcro.com)

800-528-8242

420 N. Roosevelt Ave., Chandler, Arizona 85226 • Phone 1-602-276-0406 / Fax: 1-480-961-0513

Your local Crafcro Representative:

# EXHIBIT 3

# Patcher II™

## Hot Mastic Sealant Melters



### Crafcro Innovation Makes Installing Mastic Sealant Easy

**The Crafcro Patcher II is engineered with a focus on quality;** from superior design and construction methods to the latest technologies to heat mastics. The Patcher has continuous agitation, is fast heating and has calibrated temperatures that comply to all requirements in the ASTM Mastic Specification.

#### Features and Benefits

- Oil-jacketed melter specifically designed to handle the complexities of melting and maintaining molten mastic sealants containing polymer-modified asphalt or polymer-modified resins plus fibers, fillers and aggregate.
- Features digital controls to assure that mastic temperatures are held within specifications at all times
- Has angled and staggered agitation blades which provide superior material agitation and aggregate suspension for a consistent material blend
- 6:1 gear box delivers high torque to eliminate agitation stall when using high-density material
- Automatic shut-off on the lid to prevent injuries during operation
- Fast and Easy to use

#### Designed to melt and prepare hot mastic sealant like:

- Crafcro Mastic One®
- Crafcro TechCrete™
- Crafcro Matrix 501/502® Asphaltic Plug Bridge Joint System
- Deery® Level & Go Repair Mastic®
- Deery® Asphaltic Plug Bridge Joint System®
- And others

## Patcher II



Digital controls for temperature accuracy



Dual lids allow for simultaneous loading and cleaning of the bucket



Angled agitation blades to blend and sustain aggregate suspension



Diesel-powered engine



Fuel-efficient and easy-accessible burner

### Designed with Your Safety in Mind

The Patcher II is equipped with a safety interlock system on the loading door that disables the mixer hydraulic system when the lid is open. The loading lid height is engineered to reduce back strain when lifting the lid to add sealant. It also keeps the operator out of the emissions and away from any potential direct splash hazards. The Patcher II digital control box is located face height for ergonomics and curbside for safety and the burner is easily accessible for enhanced safety.

### Ease of Use

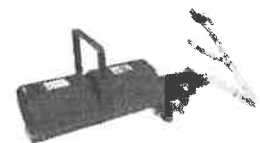
The 6:1 gear box delivers more high torque to both heat and mix the material and keep the aggregate suspended in the binder, providing an evenly mixed mastic sealant solution. The large lever makes the gate easy to operate and the weighted gate defaults to a shut position, keeping material and heat in the Patcher II. The rear chute provides a smooth, even dispersing of mastic sealant.

### Fast Heat-Up Time

A large burner, extensive heating surface area and precision thermostatic controls allow more heat to get into the material. Depending on the specific mastic, the Patcher II can melt 1,500 lbs (680 kg) per hour. That 200 gal (757 l) of mastic sealant will achieve 380°F (193°C) temperature and be ready to pour in 2 hours<sup>1</sup>. The Patcher II is the fastest mastic sealant melter available!



Optional drag box



Optional heated swivel chute

### PATCHER II (Trailer Mount)

Engine/Diesel	19hp Isuzu
Burner	369,000 BTU
Suspension	Dual, independent torsional system
GVWR	9,900 lbs. (~1/2 ton truck)

### Productivity

Melt Rate	1,500 lbs./hr. (680 kg/hr)
Max Melting Capacity/Day	12,000 lbs. <sup>2</sup>

### Capacity

Material Vat	200 gal. (757 l)
Heat Transfer Oil	35 gal. (132 l)
Diesel Fuel	26 gal. (98 l)

### Dimensions

Dry Weight	5,300 lbs. (2,404 kg)
Length	183 in. (465 cm)
Width	78 in. (198 cm)
Height	77 in. (195 cm)
Loading Height	60 in. (153 cm)
Chute Height	20 in. (51 cm)

1. This is at an ambient temperature of 80°F (26.67°C), 2. Based on 8 hour day

### Features

- Diesel-powered
- Digital temperature controls
- Auto-prime feature
- Individual fuel systems for each burner
- Easy clean-out
- Safety shut-off lid
- Curb-side controls
- Side burner with tool holder

### Options

- Fire extinguisher
- Drag Box
- Heat lance
- Heated Swivel Chute
- Hitches
- Safety lights
- Work lights
- And more...

### Warranty Information

Crafco, Inc. warrants parts and machinery purchased through Crafco or one of its affiliated distributors for two years from the invoice date. Wear items are not covered under the Crafco, Inc. limited warranty.



**LABORATORY REPORT**  
**MATRIX 501**  
**(Part No. 33345)**

Lot Number: T9190

<u>Test Parameter</u>	<u>Method</u>	<u>Specification</u>	<u>Result</u>
Cone Penetration at 77°F, mm	ASTM D5329	7.5 maximum	43
Cone Penetration at 0°F, 200 g, 60 seconds, mm	ASTM D5329	1.0 minimum	24
Softening Point, °F	ASTM D36	182 minimum	201
Resilience, %	ASTM D5329	40 – 70	58
Ductility at 77°F, mm	ASTM D113	400 minimum	700
Flexibility at -10°F, 90 degrees, 10 seconds, ¼" mandrel on plate	ASTM D5329	Pass	Pass
Asphalt Compatibility	ASTM D5329	Pass	Pass
Flow, 140°F, 5 h, mm	ASTM D5329	3 maximum	0
Tensile Adhesion, %	ASTM D5329	700 minimum	1070
Bond, 100% extension at 20 °F, 3 cycles	ASTM D5329	Pass	Pass

Aggregate is Double Washed, dried and bagged:

Sieve Size	Specification, % Passing	% Passing
½"	100	100
3/8"	80 – 100	93
No.10	0 – 15	7
No.16	0 – 3	1

Respectfully Submitted,

CRAFCO, INC.

Ian Lowry  
Pavement Material Manager



**LABORATORY REPORT**  
**MATRIX 501 ADHESIVE**  
**(Part No. 33346)**

Lot Number:           T9190          

<u>Test Parameter</u>	<u>Method</u>	<u>Specification</u>	<u>Result</u>
Cone Penetration at 77°F, mm	ASTM D5329	7.5 maximum	43
Cone Penetration at 0°F, 200 g, 60 seconds, mm	ASTM D5329	1.0 minimum	24
Softening Point, °F	ASTM D36	182 minimum	201
Resilience, %	ASTM D5329	40 – 70	58
Ductility at 77°F, mm	ASTM D113	400 minimum	700
Flexibility at -10°F, 90 degrees, 10 seconds, 1/4" mandrel on plate	ASTM D5329	Pass	Pass
Asphalt Compatibility	ASTM D5329	Pass	Pass
Flow, 140°F, 5 h, mm	ASTM D5329	3 maximum	0
Tensile Adhesion, %	ASTM D5329	700 minimum	1070
Bond, 100% extension at 20 °F, 3 cycles	ASTM D5329	Pass	Pass

Respectfully Submitted,

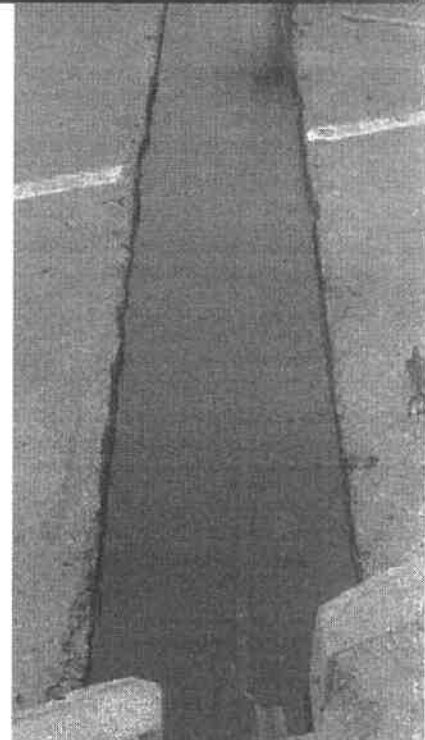
CRAFCO, INC.

Ian Lowry  
Pavement Material Manager



# Matrix 501

Bridge Joint in a Box



Matrix 501 Joint System

*All you need for a better joint*

#### FEATURES

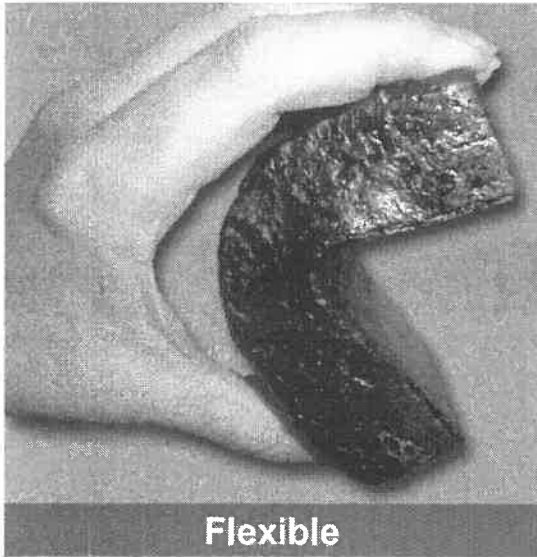
- Easy to Install
- Smooth Ride
- Watertight
- Maintainable
- Pre-measured Consistency

**CRAFCO**<sup>®</sup> INC  
PRESERVATION PRODUCTS PAVEMENT

Delivering Confidence Through Innovation, Quality and Value Since 1976

## Matrix 501 Joint System

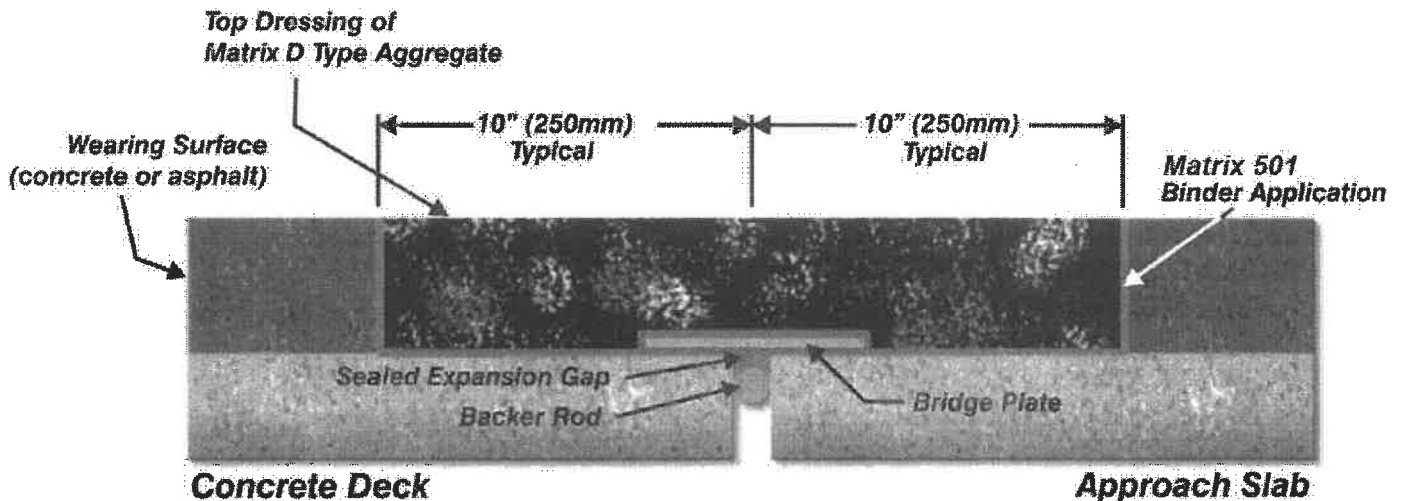
# A Better Asphaltic Plug Joint for Low Movement Structures



The Crafcro Matrix 501 Asphaltic Plug Bridge Joint System is a pre-measured, pre-packaged, hot-applied bridge expansion joint system primarily composed of uniquely formulated polymer-modified asphalt binder combined in one box with the exact ratio of select aggregate. Matrix 501 Joint eliminates measuring, proportioning and field mixing required with traditional plug joint systems and provides a watertight, smooth riding joint that can accommodate up to  $\pm 1$  inch (25mm) of annual joint movement.

The factory blended material is heated and installed in blockouts that are typically from 2 to 8 inches (5 to 20 cm) deep and 20 to 24 inches (51 to 61 cm) wide in either asphalt concrete or Portland cement concrete bridge deck surfaces. Simply apply and level the material and then allow to cool. No compaction is required. Matrix 501 can be used for expansion, fixed-end, and pressure-relief joints, in both new construction or rehabilitation projects.

It can be installed on skews up to 45 degrees and can be used for joint gaps up to 6 inches (15cm). Matrix 501 is low cost, quick-and-easy to install and maintain compared to anchored-joint systems and standard field-blended plug joints. Matrix 501 Joint meets the requirements of ASTM D6297, Standard Specification for Asphaltic Plug Joints for Bridges.



**Call your local distributor to place your order or request a demonstration!**



6165 W. Detroit St. • Chandler AZ 85226  
 1-800-528-8242 • (602) 276-0406 • FAX (480) 961-0513  
 www.crafco.com

## MATRIX 501 ASPHALTIC PLUG BRIDGE JOINT SYSTEM

DECEMBER 2019

### READ BEFORE USING THIS PRODUCT

**GENERAL** The CrafcO Matrix 501 Asphaltic Plug Bridge Joint System is a pre-measured, pre-packaged hot-applied bridge expansion joint system primarily composed of uniquely formulated polymer modified asphalt binder combined in one box with the exact ratio of select aggregate. The CrafcO Matrix 501 Joint eliminates field measuring, proportioning and mixing required with traditional plug joint systems and provides a watertight, smooth riding joint that can accommodate up to ±1 inch (25 mm) of annual joint movement at the time of installation. The factory blended material is heated and installed in blockouts that are from 2 to 8 inches (5 to 20 cm) deep and 20 to 24 inches (51 to 61cm) wide in either asphalt concrete or portland cement concrete bridge deck surfaces. The density of the blended Matrix 501 is 119 lb./ft<sup>3</sup> (1.9 Mg/m<sup>3</sup>). Simply apply and level the material and then allow to cool. No compaction is required. The CrafcO Matrix 501 Joint can be used for expansion, fixed end, and pressure relief joints, in both new construction or rehabilitation projects. The CrafcO Matrix 501 Joint can be installed on skewes up to 45 degrees and can be used for joint gaps up to 6 inches (15 cm). CrafcO Matrix 501 joints are low cost, quick, and easy to install and maintain compared to anchored joint systems and standard field blended plug joints. The CrafcO Matrix 501 Joint meets the requirements of ASTM D6297, Standard Specification for Asphaltic Plug Joints for Bridges; detailed Installation Instructions for Matrix 501 available at www.crafco.com. VOC = 0 g/l

**COMPONENTS** The Matrix 501 Asphaltic Plug Bridge Joint System is composed of Matrix 501 Mastic, Matrix 501 Adhesive, D Surface Dressing aggregate, backer rod, bridging plates and locating pins. Details and specifications for these components follow.

#### MATRIX 501 MASTIC, Part No. 33345

Matrix 501 Mastic is a single component blend of a specially formulated polymer modified asphalt binder and aggregate. The mastic is designed to be workable at application temperatures and resistant to segregation and binder flow on bridge surfaces that are sloped, crowned or super elevated. Matrix 501 Mastic requires no compaction and will form a bonded, flexible, extensible, compressible and traffic resistant joint system. The polymer modified asphalt binder in Matrix 501 Mastic meets the requirements of Table 1 ASTM D6297 as follows:

#### Test

Softening Point (ASTM D36)  
 Tensile Adhesion (ASTM D5329)  
 Ductility, 25°C (77°F) (ASTM D1113)  
 Cone Penetration, 25°C (77°F) (ASTM D5329)  
 Low Temperature Cone Penetration, -18°C (0°F) 200g, 60s (ASTM D6297, sec 9.1)  
 Flow 60°C (140°F), 5 h (ASTM D5329)  
 Resilience, 25°C (77°F) (ASTM D5329)  
 Asphalt Compatibility (ASTM D5329)  
 Recommended Installation Temperature  
 Maximum Heating Temperature  
 Bond, 100% extension, 12.5 mm, 3 cycles (ASTM D 5329)  
 Flexibility (ASTM D5329)  
 10°F)

#### ASTM D6297 Limits

83°C min  
 700% min  
 400 mm min  
 75 unit max  
 10 unit min  
 3.0 mm max  
 40 – 70%  
 Pass  
 380°F (193°C)  
 400°F (204°C)  
 -7°C (20°F)  
 -23°C (-

Additional properties of the polymer modified binder are as follows.

#### Test

Brookfield Viscosity, 400°F (204°C) (ASTM D4402)  
 Unit Weight at 60°F (15°C)

#### Requirements

4000 cp max.  
 9.3 lbs/gal (1.12 kg/l)

Aggregate in Matrix 501 Mastic is a specially selected hard, durable igneous rock that is screened to a specific gradation. Aggregate is double washed, dried, and bagged, and then combined with binder in one container. Aggregate content of Matrix 501 Mastic is 73 +/- 5%. Gradation of the aggregate in Matrix 501 Mastic is as follows:

Screen Size	Percent Passing
1/2-Inch	100
3/8-Inch	80 – 100
No 10	0 – 15
No 16	0 – 3

**PACKAGING** Product is supplied in cardboard boxes. The package is labeled in accordance with OSHA, GHS, and specification requirements; is sold by net weight; is interlock stacked on 48 x 40 in. (122 x 102 cm) 4-way pallets; can be stored outside; and is covered with a

weather resistant pallet covers and 2 layers of UV protected stretch wrap.

- o BOX packaging consists of cardboard boxes containing 40 lb. (18.1 kg) of product with 60 boxes per pallet, weighing approximately 2400 lb. (1088 kg). Boxes contain a quick melting release film for easy removal and are taped closed, without any staples.

**MATRIX 501 ADHESIVE Part No. 33346**

Matrix 501 Adhesive consists of the specially formulated polymer modified asphalt designed to coat the blockout area and provide adhesion. Matrix 501 Adhesive meets the properties of Table 1 in ASTM D 6297.

**PACKAGING** Product is supplied in cardboard boxes. The package is labeled in accordance with OSHA, GHS, and specification requirements; is sold by net weight; is interlock stacked on 48 x 40 in. (122 x102 cm) 4-way pallets; can be stored outside; and is covered with a weather resistant pallet cover and 2 layers of UV protected stretch wrap.

- o BOX packaging consists of cardboard boxes containing 30 lb. (13.6 kg) of product with 75 boxes per pallet, weighing approximately 2250 lb. (1020 kg). Boxes contain a quick melting release film for easy removal and are taped closed, without any staples.

**GRAY SURFACING AGGREGATE, Part No. 33375SA**

Specially selected igneous aggregate that is screened to a specific gradation, double washed, dried and packaged in 50 lb (22.7 kg) bags. Gray Surfacing Aggregate is a fine gradation used to surface the completed joint. Gradation requirements are as follows.

Screen Size	GRAY SURFACING AGGREGATE	% Passing
¼		100
No 4		50 – 90
No 8		10 – 45
No 16		0 – 10

**BRIDGING PLATES**

Steel Bridging Plates are used to span the expansion gap, to function as a bond breaker and to support traffic loads. Bridging plates for expansion gaps up to 3 inches (7.6 cm) wide are ¼ inch (6.4mm) thick, 8 inches (20 cm) wide and between 36 and 60 inches (0.9 to 1.5 m) long. For expansion gaps from 3 to 6 inches (7.6 to 15 cm) wide, plates that are 3/8 inch (10 mm) thick, 12 inches (30 cm) wide and between 36 and 60 inches (0.9 to 1.5m) long shall be used. Plates are to have 3/16 inch (4.8mm) diameter holes along the centerline spaced at 1 ft (30cm) intervals for placing locating pins to aid in centering the plate over the joint gap. Plates are cut during installation to required lengths to cover the entire length of the joint gap.

**LOCATING PINS**

16D galvanized common nails are placed through the holes in the bridging plates and down into the expansion gap opening to center the plate in the joint.

**BACKER ROD, Part No. 34609**

A closed cell heat resistant backer rod used to provide back up in the expansion gap. Backer rod is 2 inch (5cm) diameter, supplied in 6 ft (1.8m) lengths and meets requirements of ASTM D5249, “Standard Specification for Backer Material for Use with Cold and Hot Applied Joint Sealants in Portland Cement Concrete and Asphalt Joints, Type 1”. If required for narrow or wide expansion gaps, other diameters can be used.

**TYPICAL INSTALLATION** Figure 1 shows a typical installation of the Matrix 501 Asphaltic Plug Bridge Joint System. Locations for each of the components are shown.

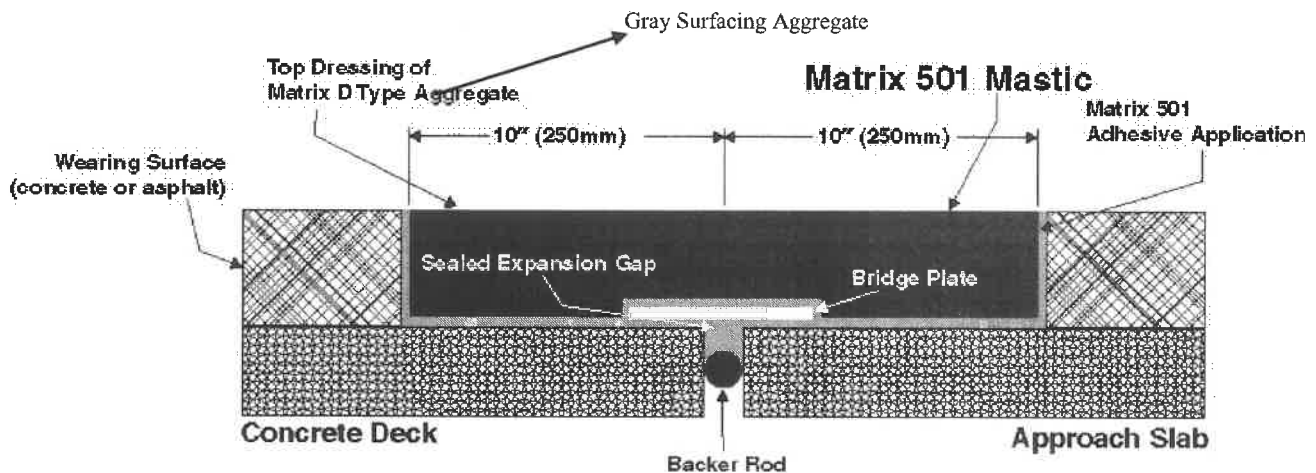


Figure 1. Typical Matrix 501 Asphaltic Plug Bridge Joint System Installation

For complete detailed installation procedures, refer to the "Installation Instructions for Matrix 501 Asphaltic Plug Bridge Joint System".

**WARRANTY** CRAFCO, Inc. warrants that CRAFCO products meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation an installation are beyond our control as are the use and application of the products; therefore, CrafcO shall not be responsible for improperly applied or misused products. Remedies against CrafcO, Inc., as agreed to by CrafcO, are limited to replacing nonconforming product or refund (full or partial) of purchase price from CrafcO, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by CrafcO, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow CrafcO recommendations for product installation.**





# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Crafcoc Mastic and Matrix Products  
**Other means of identification** None.  
**Recommended use** Pavement Patching and Repair  
**Recommended restrictions** None known.  
**Manufacturer/Importer/Supplier/Distributor information**  
**Manufacturer:** Crafcoc, Inc.  
**Address:** 6165 West Detroit St.  
Chandler, AZ 85226 USA  
**Contact Name:** Crafcoc Materials Engineering  
**Telephone:** 602-276-0406  
**E-mail:** sales@crafco.com  
**CHEMTREC:** 800-424-9300 (North America)  
+ 1-703-527-3887 (International)

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Not classified.  
**Environmental hazards** Not classified.  
**OSHA defined hazards** Not classified.

\*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

### Label elements

**Hazard symbol** None.  
**Signal word** Not applicable.  
**Hazard statement** Not applicable.  
**Precautionary statement**  
**Prevention** Not applicable.  
**Response** Not applicable.  
**Storage** Not applicable.  
**Disposal** Not applicable.  
**Hazard(s) not otherwise classified (HNOC)** None known.  
**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC		64742-52-5	0 - 75
QUARTZ		14808-60-7	0 - 75
ASPHALT		8052-42-4	10 - 40
CALCIUM CARBONATE		471-34-1	0 - 10
Other components below reportable levels			26.06

## 4. First-aid measures

**Inhalation** If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. Get medical attention, if needed.

<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly wash (or discard) clothing and shoes before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	In case of ingestion, the decision of whether or not to induce vomiting should be made by the attending physician. Certain pre-existing conditions may make workers particularly susceptible to the effects of this chemical: asthma, allergies, impaired pulmonary function.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Discard any shoes or clothing items that cannot be decontaminated.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ). Addition of water or foam to the fire may cause frothing.
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear full protective clothing including self contained breathing apparatus. Structural firefighters protective clothing will only provide limited protection.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. In the event of fire, cool tanks with water spray. By fire, toxic gases may be formed (CO <sub>x</sub> , NO <sub>x</sub> ). Keep run-off water out of sewers and water sources. Dike for water control.
<b>Specific methods</b>	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Ventilate closed spaces before entering them. Do not touch or walk through spilled material.
<b>Methods and materials for containment and cleaning up</b>	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Dike far ahead of spill for later disposal. Following product recovery, flush area with water.  Never return spills in original containers for re-use.
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Runoff or release to sewer, waterway or ground is forbidden.

## 7. Handling and storage

<b>Precautions for safe handling</b>	The product is non-combustible. If heated, irritating vapors may be formed. Do not use in area without adequate ventilation. Wash hands thoroughly after handling. Wash hands after handling. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in a well-ventilated place. Keep the container tightly closed and dry. Store in a closed container away from incompatible materials. Keep out of the reach of children.



## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
CALCIUM CARBONATE (CAS 471-34-1)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	PEL	5 mg/m <sup>3</sup>	Mist.
QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m <sup>3</sup>	Respirable dust.

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m <sup>3</sup>	Respirable.
		2.4 mppcf	Respirable.

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m <sup>3</sup>	Inhalable fume.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m <sup>3</sup>	Respirable fraction.

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	Ceiling	5 mg/m <sup>3</sup>	Fume.
CALCIUM CARBONATE (CAS 471-34-1)	TWA	5 mg/m <sup>3</sup>	Respirable.
		10 mg/m <sup>3</sup>	Total
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	Ceiling	1800 mg/m <sup>3</sup>	
QUARTZ (CAS 14808-60-7)	STEL	10 mg/m <sup>3</sup>	Mist.
		350 mg/m <sup>3</sup>	
		TWA	0.05 mg/m <sup>3</sup>

#### Biological limit values

No biological exposure limits noted for the ingredient(s).

#### Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). Wear chemical goggles; face shield (if handling molten material).

##### Skin protection

###### Hand protection

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

###### Other

Wear suitable protective clothing and eye/face protection. Use of an impervious apron is recommended.

##### Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal hazards** During product use, there is a risk of thermal burns.  
**General hygiene considerations** When using do not smoke. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Appearance** Solid.  
**Physical state** Solid.  
**Form** Solid.  
**Color** Black. Dark brown  
**Odor** Product is a black, semi-solid with a burnt tar odor.  
**Odor threshold** Not available.  
**pH** Not available.  
**Melting point/freezing point** 150 - 250 °F (65.56 - 121.11 °C) ASTM D36 Softening Point  
**Initial boiling point and boiling range** > 800 °F (> 426.67 °C)  
**Flash point** > 400.0 °F (> 204.4 °C)  
**Evaporation rate** Not available.  
**Flammability (solid, gas)** Not available.  
**Upper/lower flammability or explosive limits**  
**Flammability limit - lower (%)** Not available.  
**Flammability limit - upper (%)** Not available.  
**Explosive limit - lower (%)** Not available.  
**Explosive limit - upper (%)** Not available.  
**Vapor pressure** 4.07 hPa estimated  
**Vapor density** Not available.  
**Relative density** Not available.  
**Solubility(ies)**  
**Solubility (water)** Not available.  
**Partition coefficient (n-octanol/water)** Not available.  
**Auto-ignition temperature** > 700 °F (> 371.11 °C)  
**Decomposition temperature** Not available.  
**Viscosity** Not available.  
**Other information**  
**Density** Not Available  
**Percent volatile** 0 %  
**Specific gravity** 1 - 2.2

## 10. Stability and reactivity

**Reactivity** Not Reactive  
**Chemical stability** Material is stable under normal conditions.  
**Possibility of hazardous reactions** Hazardous polymerization does not occur.  
**Conditions to avoid** Strong oxidizing agents.  
**Incompatible materials** Incompatible with oxidizing agents.  
**Hazardous decomposition products** Upon decomposition, product emits acrid dense smoke with carbon dioxide, carbon monoxide, trace oxides of nitrogen and sulfur, and water.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system.
<b>Skin contact</b>	Irritating to skin.
<b>Eye contact</b>	Causes eye irritation. Molten material will produce thermal burns.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	6450 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Defats the skin. Causes irritation.

**Serious eye damage/eye irritation** Irritating to eyes.

#### Respiratory or skin sensitization

**Respiratory sensitization** Not available.

**Skin sensitization** Irritating to skin.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

#### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

**Reproductive toxicity** Contains no ingredient listed as toxic to reproduction

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

**Chronic effects** Prolonged inhalation may be harmful. May cause eczema-like skin disorders (dermatitis)

## 12. Ecological information

**Ecotoxicity** This product has no known eco-toxicological effects. Not expected to be harmful to aquatic organisms.

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> ) > 56000 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** Not available.  
**Bioaccumulative potential** Not available.  
**Mobility in soil** Not available.  
**Other adverse effects** Not available.

### 13. Disposal considerations

**Disposal instructions** Dispose of contents/container in accordance with local/regional/national/international regulations. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.  
**Hazardous waste code** Not applicable.  
**Waste from residues / unused products** Dispose of in accordance with local regulations.  
**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

### 14. Transport information

#### DOT

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

**General information** Not regulated as dangerous goods.

**Further information** If the product is shipped at temperatures below 212°F (100°C), it is not regulated for transport by ground, air or vessel. If shipped above 212 deg F: "UN3257, Elevated Temperature Liquid, n.o.s. (Asphalt mixture), 9, PG III"

### 15. Regulatory information

**US federal regulations** All components are on the U.S. EPA TSCA Inventory List.

#### **TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

#### **CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

#### **SARA 304 Emergency release notification**

Not regulated.

#### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

QUARTZ (CAS 14808-60-7)

Cancer  
lung effects  
immune system effects  
kidney effects

#### **Superfund Amendments and Reauthorization Act of 1986 (SARA)**

##### **SARA 302 Extremely hazardous substance**

Not listed.

##### **Classified hazard categories**

Specific target organ toxicity (single or repeated exposure)

##### **SARA 313 (TRI reporting)**

Not regulated.

#### **Other federal regulations**

##### **Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

##### **Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**California Proposition 65****California Proposition 65 - CRT: Listed date/Carcinogenic substance**

ASPHALT (CAS 8052-42-4)	Listed: January 1, 1990
QUARTZ (CAS 14808-60-7)	Listed: October 1, 1988

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

ASPHALT (CAS 8052-42-4)	
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	
QUARTZ (CAS 14808-60-7)	

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision**

<b>Issue date</b>	05-11-2020
<b>Version #</b>	01
<b>Further information</b>	HMIS® is a registered trade and service mark of the NPCA.
<b>NFPA ratings</b>	Health: 0 Flammability: 0 Instability: 0

<b>References</b>	ACGIH EPA: AQUIRE database US. IARC Monographs on Occupational Exposures to Chemical Agents HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
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<b>Disclaimer</b>	The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
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## Revision information

Product and Company Identification: Alternate Trade Names  
First-aid measures: Skin contact  
Fire-fighting measures: Specific hazards arising from the chemical  
Handling and storage: Conditions for safe storage, including any incompatibilities  
Exposure controls/personal protection: Appropriate engineering controls  
Physical & Chemical Properties: Multiple Properties  
Stability and reactivity: Reactivity  
Toxicological information: Carcinogenicity  
Transport information: Further information  
HazReg Data: International Inventories  
GHS: Classification



**LABORATORY REPORT**  
**MASTIC ONE**  
**(Part No. 33339)**

Lot Number: T9108  
Date of Test: 7/26/2023  
Date of Report: 8/30/2023

Property	Test Result	Specification Limit
Cone Penetration, 77°F, ASTM D5329	20	60 max
Cone Penetration, 122°F, ASTM D5329	90	120 max
Softening Point, ASTM D36	215	200°F min
Flexibility, 1", 180°, 10 sec, ASTM D3111	Pass	Pass at 32°F
Abrasion Resistance, ASTM C131	26	35% max
Flexibility, 32°F, PTM 3	Pass	Pass
Adhesion, 77 °F, ASTM D5329	58	25 PSI min
Specific Gravity	1.8	1.7 – 2.0
Minimum Application Temperature		375°F
Maximum Application Temperature		400°F

Test results indicate that the Crafco Mastic One conforms to the requirements of the Crafco Product Data Sheet Specification limits.

Respectfully Submitted

CRAFECO, INC.

Ian Lowry  
Pavement Material Manager

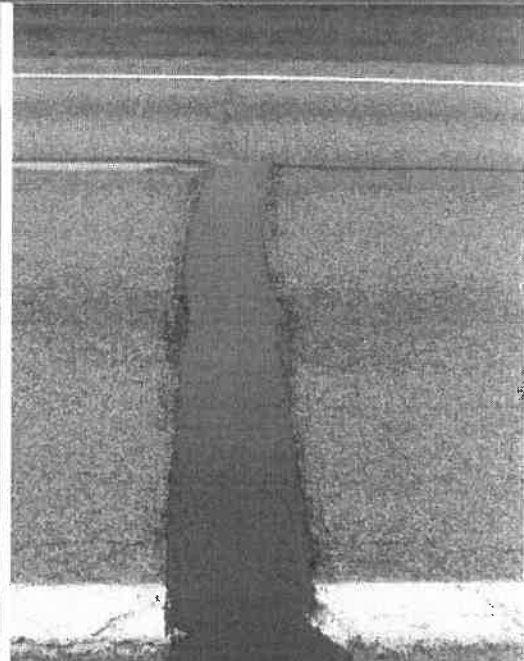
# Mastic One®



**Repairing Deteriorated  
Longitudinal Joints**



**Leveling Depressed  
Thermal Cracks**



**Filling Wide  
Cracks and Joints**

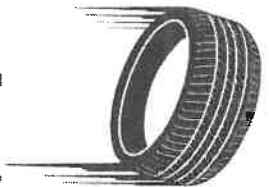
**Mastic One®** — Polymer-modified asphalt, aggregate filled, pavement repair mastic

## Features

- Meets ASTM Specification D8260 Type I and Type II — A standard specification for hot-applied, aggregate-filled, polymer-modified asphalt pavement repair mastic, used for repairing distresses in asphalt pavements and hydraulic concrete pavements
- Flexible sealant properties that continue to adhere to the pavement when the pavement moves as a result of temperature change or traffic
- Durable sealant properties that contain specially designed and treated aggregate to perform long-term (5+ years performance)
- Waterproof sealant properties that eliminate infiltration of water, chemicals, sand, debris into sub-base
- Exceptional adhesion sealant properties that bond to Asphalt Cement Concrete & Portland Cement Concrete pavements
- Engineered design in premeasured package for consistency and maximum performance; no field blending means better consistency, better performance and reduces errors and labor
- Easy installation and no compaction needed
- Reduced crew and equipment compared to using hot mix asphalt

**Uneven pavement on roads and highways pose a danger if left untreated.**

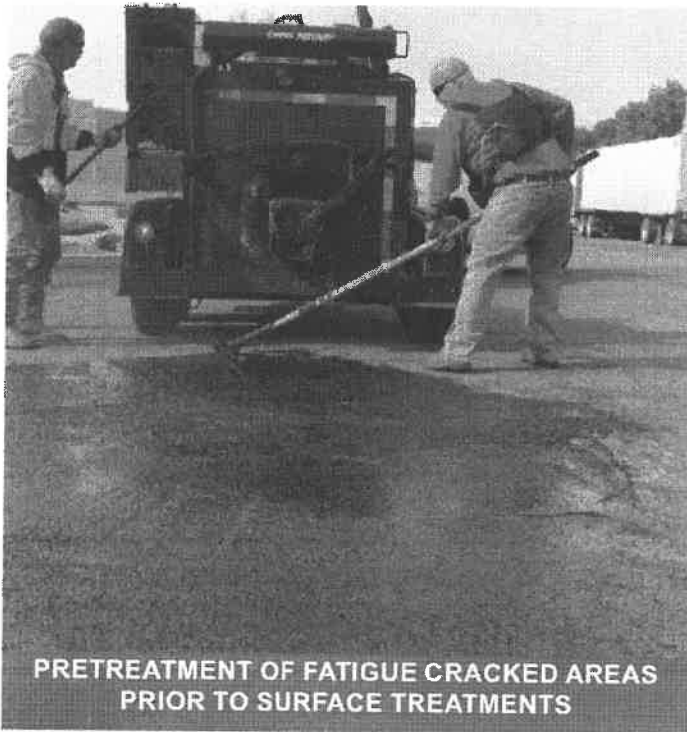
When wide cracks and distresses are the cause, there's only one solution that will provide a long-lasting, level repair.



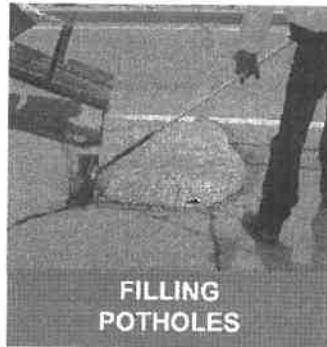
Using **Mastic One®** to repair those wide cracks and distresses, levels the uneven pavement surface, ensuring a smooth ride for vehicles.



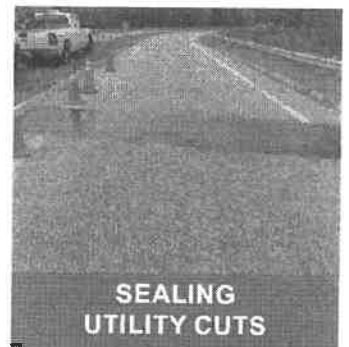
Mastic One®



PRETREATMENT OF FATIGUE CRACKED AREAS  
PRIOR TO SURFACE TREATMENTS



FILLING  
POTHOLES



SEALING  
UTILITY CUTS



SKIN PATCH  
REPAIRS



LEVELING  
MANHOLE COVERS

## MASTIC ONE®

**Mastic One®** is a hot-applied, pourable, aggregate filled, black color, self-adhesive, pavement repair mastic used for preserving, maintaining and repairing asphalt, Portland Cement Concrete pavement and bridge deck surfaces. Composed of highly modified polymer asphalt, Mastic One® is designed for large cracks and distressed surface areas too small for re-paving. Meets ASTM Specification D8260 Type I.

**Mastic One® Type 2** is ideally suited for cooler climates; may not be suitable for some applications where pavement temperatures exceed 158° F. Meets ASTM Specification D8260 Type II.

### Ideally used for:

- Repairing deteriorated longitudinal joints
- Leveling depressed thermal cracks
- Filling wide cracks and joints
- Pretreatment of fatigue cracked areas prior to surface treatments
- Filling potholes
- Sealing utility cuts
- Skin patch repairs
- Leveling manhole covers
- Leveling bridge deck approaches
- Filling spalls, popouts, and corner breaks



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[www.crafco.com](http://www.crafco.com)

**READ BEFORE USING THIS PRODUCT**

**GENERAL** Mastic One is a hot-applied, pourable, aggregate filled, black color, polymer modified asphalt pavement repair mastic. Mastic One complies with ASTM D8260 Type I. Mastic One is used for sealing, filling and repairing many distresses in both asphalt concrete and portland cement concrete pavements and bridge deck surfaces that are larger than those typically repaired by crack or joint sealing, but smaller than repairs requiring remove and replace patching procedures. Typical uses include sealing, filling and leveling of wide transverse or longitudinal cracks and joints, filling potholes and utility cuts, localized skin patch repairs, repairs prior to surface treatments, and leveling bridge approaches or faulted areas. When properly applied, Mastic One forms a well-bonded, flexible, durable, traffic resistant repair. To use, Mastic One is placed into an appropriate melter (Crafco Patcher units), mixed and heated until application temperature is reached, poured into the prepared repair area and then leveled. Mastic One is formulated to provide neat feathered edge installation. Mastic One is then ready for traffic when it has cooled and solidified. VOC = 0 g/l.

**PROPERTIES** Properties of the binder, aggregate and blended and heated Mastic One according to ASTM D8260 are as follows:

<u>Property</u>	<u>Requirement</u>
<b>POLYMER MODIFIED BINDER</b>	
Cone Penetration, 77°F (25°C) (ASTM D5329)	60 max
Cone Penetration, 122°F (50°C) (ASTM D5329)	120 max
Softening Point, (ASTM D36)	200°F (93°C) min
Flexibility, 1" (25.4 mm), 180°, 10 sec) (ASTM D3111 modified)	Pass at 32°F (0°C)
<b>AGGREGATE</b>	
Abrasion Resistance (ASTM C131)	35% max
<b>BLENDED PRODUCT</b>	
Flexibility, 32°F (0°C) (ASTM D5329)	Pass
Adhesion, 77°F (25°C) (ASTM D5329)	25 PSI (172 KPA) min
Specific Gravity	1.7 -2.0
Minimum Application Temperature	375°F (190°C) *
Maximum Application Temperature	400°F (204°C)
<b>Test</b>	
Mastic Resilience (ASTM (8260)	50% minimum
Effects of Rapid Deformation (ASTM D2794) (-7°C)	3 passing specimens no chipping, cracking or separation 8 N-m
Crack Bridging (ASTM C1305 modified) (-7°C)	Pass 3 cycles
Mastic Stability (ASTM D8260) (70°C)	40.0 mm maximum

\*Refer to installation instructions if working on sloped pavements or repairing larger defects

**INSTALLATION** The density of Mastic One is 116 pcf (+/- 3%) and the weight per gallon is 15.5 lbs./gal (1.86 kg/l) at 60°F (15.5°C). Prior to use, the user must read and follow Installation Instructions for Mastic One to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are available at [www.crafco.com](http://www.crafco.com) and provided with each pallet of Mastic One.

**PACKAGING** Mastic One is supplied in either cardboard boxes, or in meltable, boxless PLEXI-melt packaging. Each package contains premeasured polymer modified binder and aggregate. Both package types are labeled in accordance with OSHA, GHS, and specification requirements; are sold by net weight; are interlock stacked on 48 x 40 in. (122 x 102 cm) 4-way pallets; can be stored outside; and are covered with a weather resistant pallet cover and 2 layers of UV protected stretch wrap.

- o **BOX** packaging consists of cardboard boxes containing approximately 40 lb. (18.1 kg) of product with 60 boxes per pallet, weighing approximately 2400 lb. (1088 kg). Boxes contain a quick melting release film for easy removal and are taped closed, without any staples.
- o **PLEXI-melt** packaging consists of 30 lb. (13.6 kg) blocks of product with 70 packages per pallet, weighing 2100 lb. (952 kg). To use, the pallet wrap is removed, and individual blocks are placed in the melter. There are no cardboard boxes or other cardboard components to open, empty, handle, or dispose of. PLEXI-melt packaging quickly melts into the product without affecting specification conformance.

**WARRANTY** CRAFCO, Inc. warrants that CRAFCO products meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing or filling are beyond our control as are the use and application of the products; therefore, Crafco shall not be responsible for improperly applied or misused products. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafco recommendations for product installation.**



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Crafco Mastic and Matrix Products  
**Other means of identification** None.  
**Recommended use** Pavement Patching and Repair  
**Recommended restrictions** None known.  
**Manufacturer/Importer/Supplier/Distributor information**  
**Manufacturer:** Crafco, Inc.  
**Address:** 6165 West Detroit St.  
Chandler, AZ 85226 USA  
**Contact Name:** Crafco Materials Engineering  
**Telephone:** 602-276-0406  
**E-mail:** sales@crafco.com  
**CHEMTREC:** 800-424-9300 (North America)  
+ 1-703-527-3887 (International)

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Not classified.  
**Environmental hazards** Not classified.  
**OSHA defined hazards** Not classified.

\*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

### Label elements

**Hazard symbol** None.  
**Signal word** Not applicable.  
**Hazard statement** Not applicable.  
**Precautionary statement**  
**Prevention** Not applicable.  
**Response** Not applicable.  
**Storage** Not applicable.  
**Disposal** Not applicable.  
**Hazard(s) not otherwise classified (HNOC)** None known.  
**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC		64742-52-5	0 - 75
QUARTZ		14808-60-7	0 - 75
ASPHALT		8052-42-4	10 - 40
CALCIUM CARBONATE		471-34-1	0 - 10
Other components below reportable levels			26.06

## 4. First-aid measures

**Inhalation** If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. Get medical attention, if needed.

<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly wash (or discard) clothing and shoes before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	In case of ingestion, the decision of whether or not to induce vomiting should be made by the attending physician. Certain pre-existing conditions may make workers particularly susceptible to the effects of this chemical: asthma, allergies, impaired pulmonary function.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Discard any shoes or clothing items that cannot be decontaminated.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ). Addition of water or foam to the fire may cause frothing.
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear full protective clothing including self contained breathing apparatus. Structural firefighters protective clothing will only provide limited protection.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. In the event of fire, cool tanks with water spray. By fire, toxic gases may be formed (CO <sub>x</sub> , NO <sub>x</sub> ). Keep run-off water out of sewers and water sources. Dike for water control.
<b>Specific methods</b>	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Ventilate closed spaces before entering them. Do not touch or walk through spilled material.
<b>Methods and materials for containment and cleaning up</b>	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Dike far ahead of spill for later disposal. Following product recovery, flush area with water.
<b>Environmental precautions</b>	Never return spills in original containers for re-use. Prevent further leakage or spillage if safe to do so. Runoff or release to sewer, waterway or ground is forbidden.

## 7. Handling and storage

<b>Precautions for safe handling</b>	The product is non-combustible. If heated, irritating vapors may be formed. Do not use in area: without adequate ventilation. Wash hands thoroughly after handling. Wash hands after handling. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in a well-ventilated place. Keep the container tightly closed and dry. Store in a closed container away from incompatible materials. Keep out of the reach of children.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
CALCIUM CARBONATE (CAS 471-34-1)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	PEL	5 mg/m <sup>3</sup>	Mist.
QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m <sup>3</sup>	Respirable dust.

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m <sup>3</sup>	Respirable.
		2.4 mppcf	Respirable.

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m <sup>3</sup>	Inhalable fume.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m <sup>3</sup>	Respirable fraction.

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	Ceiling	5 mg/m <sup>3</sup>	Fume.
CALCIUM CARBONATE (CAS 471-34-1)	TWA	5 mg/m <sup>3</sup>	Respirable.
		10 mg/m <sup>3</sup>	Total
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	Ceiling	1800 mg/m <sup>3</sup>	
QUARTZ (CAS 14808-60-7)	TWA	10 mg/m <sup>3</sup>	Mist.
		350 mg/m <sup>3</sup>	
		0.05 mg/m <sup>3</sup>	Respirable dust.

#### Biological limit values

No biological exposure limits noted for the ingredient(s).

#### Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). Wear chemical goggles; face shield (if handling molten material).

##### Skin protection

##### Hand protection

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

##### Other

Wear suitable protective clothing and eye/face protection. Use of an impervious apron is recommended.

##### Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal hazards** During product use, there is a risk of thermal burns.

**General hygiene considerations** When using do not smoke. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties**

**Appearance** Solid.

**Physical state** Solid.

**Form** Solid.

**Color** Black. Dark brown

**Odor** Product is a black, semi-solid with a burnt tar odor.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** 150 - 250 °F (65.56 - 121.11 °C) ASTM D36 Softening Point

**Initial boiling point and boiling range** > 800 °F (> 426.67 °C)

**Flash point** > 400.0 °F (> 204.4 °C)

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** 4.07 hPa estimated

**Vapor density** Not available.

**Relative density** Not available.

**Solubility(ies)**

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** > 700 °F (> 371.11 °C)

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Other information**

**Density** Not Available

**Percent volatile** 0 %

**Specific gravity** 1 - 2.2

**10. Stability and reactivity**

**Reactivity** Not Reactive

**Chemical stability** Material is stable under normal conditions.

**Possibility of hazardous reactions** Hazardous polymerization does not occur.

**Conditions to avoid** Strong oxidizing agents.

**Incompatible materials** Incompatible with oxidizing agents.

**Hazardous decomposition products** Upon decomposition, product emits acrid dense smoke with carbon dioxide, carbon monoxide, trace oxides of nitrogen and sulfur, and water.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system.
<b>Skin contact</b>	Irritating to skin.
<b>Eye contact</b>	Causes eye irritation. Molten material will produce thermal burns.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	6450 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Defats the skin. Causes irritation.

**Serious eye damage/eye irritation** Irritating to eyes.

#### Respiratory or skin sensitization

**Respiratory sensitization** Not available.

**Skin sensitization** Irritating to skin.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

#### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

**Reproductive toxicity** Contains no ingredient listed as toxic to reproduction

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

**Chronic effects** Prolonged inhalation may be harmful. May cause eczema-like skin disorders (dermatitis)

## 12. Ecological information

**Ecotoxicity** This product has no known eco-toxicological effects. Not expected to be harmful to aquatic organisms.

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> ) > 56000 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** Not available.  
**Bioaccumulative potential** Not available.  
**Mobility in soil** Not available.  
**Other adverse effects** Not available.

### 13. Disposal considerations

**Disposal instructions** Dispose of contents/container in accordance with local/regional/national/international regulations. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.  
**Hazardous waste code** Not applicable.  
**Waste from residues / unused products** Dispose of in accordance with local regulations.  
**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

### 14. Transport information

#### DOT

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

#### General information

Not regulated as dangerous goods.

#### Further information

If the product is shipped at temperatures below 212°F (100°C), it is not regulated for transport by ground, air or vessel. If shipped above 212 deg F: "UN3257, Elevated Temperature Liquid, n.o.s. (Asphalt mixture), 9, PG III"

### 15. Regulatory information

**US federal regulations** All components are on the U.S. EPA TSCA Inventory List.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

#### SARA 304 Emergency release notification

Not regulated.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

QUARTZ (CAS 14808-60-7)

Cancer  
lung effects  
immune system effects  
kidney effects

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

##### SARA 302 Extremely hazardous substance

Not listed.

##### Classified hazard categories

Specific target organ toxicity (single or repeated exposure)

##### SARA 313 (TRI reporting)

Not regulated.

#### Other federal regulations

##### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

##### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

##### Safe Drinking Water Act (SDWA)

Not regulated.



**US state regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**California Proposition 65****California Proposition 65 - CRT: Listed date/Carcinogenic substance**

ASPHALT (CAS 8052-42-4) Listed: January 1, 1990

QUARTZ (CAS 14808-60-7) Listed: October 1, 1988

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

ASPHALT (CAS 8052-42-4)

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)

QUARTZ (CAS 14808-60-7)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision****Issue date** 05-11-2020**Version #** 01**Further information** HMIS® is a registered trade and service mark of the NPCA.**NFPA ratings**  
Health: 0  
Flammability: 0  
Instability: 0**References**  
ACGIH  
EPA: AQUIRE database  
US. IARC Monographs on Occupational Exposures to Chemical Agents  
HSDB® - Hazardous Substances Data Bank  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices**Disclaimer**  
The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Revision information**

Product and Company Identification: Alternate Trade Names  
First-aid measures: Skin contact  
Fire-fighting measures: Specific hazards arising from the chemical  
Handling and storage: Conditions for safe storage, including any incompatibilities  
Exposure controls/personal protection: Appropriate engineering controls  
Physical & Chemical Properties: Multiple Properties  
Stability and reactivity: Reactivity  
Toxicological information: Carcinogenicity  
Transport information: Further information  
HazReg Data: International Inventories  
GHS: Classification



**LABORATORY REPORT**  
**MASTIC ONE TYPE 2**  
(Part No. 33340)

Lot Number: D3272  
Date of Test: 4/5/2023  
Date of Report: 8/28/2023

<b>Property</b>	<b>Test Result</b>	<b>Specification Limit</b>
Cone Penetration, 77°F, ASTM D5329	<b>43</b>	80 max
Needle Penetration, 122 °F ASTM D5	<b>108</b>	140 max
Softening Point, ASTM D36	<b>206</b>	190°F min
Flexibility, 1", 90°, 2 sec, ASTM D3111 modified	<b>Pass</b>	Pass at 0°F
Abrasion Resistance, ASTM C131	<b>26</b>	35% max
Flexibility, 0°F, PTM 3	<b>Pass</b>	Pass
Adhesion, 63°F, PTM4	<b>30</b>	25 PSI min
Specific Gravity	<b>1.9</b>	1.7 – 2.0
Minimum Application Temperature		375°F
Maximum Application Temperature		400°F

Test results indicate that the Crafco Mastic One Type 2 conforms to the requirements of the Crafco Product Data Sheet Specification limits.

Respectfully Submitted

CRAFCO, INC.

Ian Lowry  
Pavement Material Manager

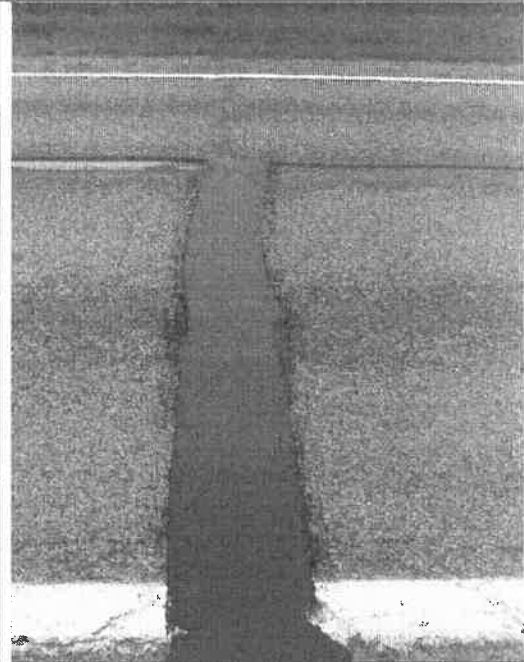
# Mastic One®



**Repairing Deteriorated  
Longitudinal Joints**



**Leveling Depressed  
Thermal Cracks**



**Filling Wide  
Cracks and Joints**

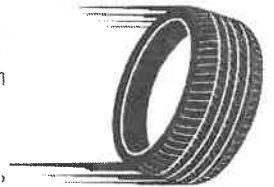
**Mastic One®** — Polymer-modified asphalt, aggregate filled, pavement repair mastic

## Features

- Meets ASTM Specification D8260 Type I and Type II — A standard specification for hot-applied, aggregate-filled, polymer-modified asphalt pavement repair mastic, used for repairing distresses in asphalt pavements and hydraulic concrete pavements
- Flexible sealant properties that continue to adhere to the pavement when the pavement moves as a result of temperature change or traffic
- Durable sealant properties that contain specially designed and treated aggregate to perform long-term (5+ years performance)
- Waterproof sealant properties that eliminate infiltration of water, chemicals, sand, debris into sub-base
- Exceptional adhesion sealant properties that bond to Asphalt Cement Concrete & Portland Cement Concrete pavements
- Engineered design in premeasured package for consistency and maximum performance; no field blending means better consistency, better performance and reduces errors and labor
- Easy installation and no compaction needed
- Reduced crew and equipment compared to using hot mix asphalt

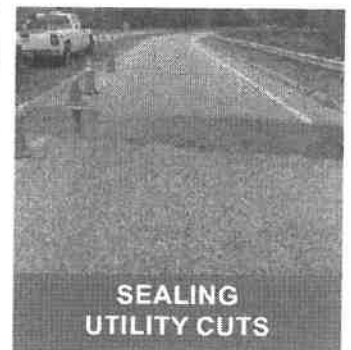
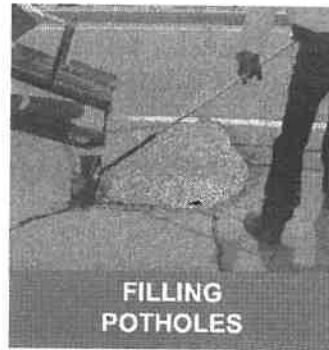
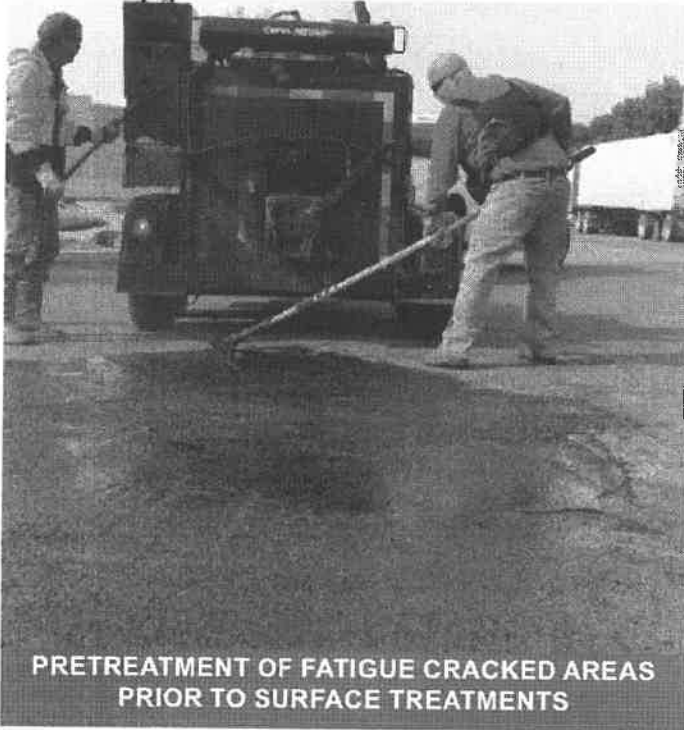
**Uneven pavement on roads and highways pose a danger if left untreated.**

When wide cracks and distresses are the cause, there's only one solution that will provide a long-lasting, level repair.



Using **Mastic One®** to repair those wide cracks and distresses, levels the uneven pavement surface, ensuring a smooth ride for vehicles.

## Mastic One®



## MASTIC ONE®

**Mastic One®** is a hot-applied, pourable, aggregate filled, black color, self-adhesive, pavement repair mastic used for preserving, maintaining and repairing asphalt, Portland Cement Concrete pavement and bridge deck surfaces. Composed of highly modified polymer asphalt, Mastic One® is designed for large cracks and distressed surface areas too small for re-paving. Meets ASTM Specification D8260 Type I.

**Mastic One® Type 2** is ideally suited for cooler climates; may not be suitable for some applications where pavement temperatures exceed 158° F. Meets ASTM Specification D8260 Type II.

### Ideally used for:

- Repairing deteriorated longitudinal joints
- Leveling depressed thermal cracks
- Filling wide cracks and joints
- Pretreatment of fatigue cracked areas prior to surface treatments
- Filling potholes
- Sealing utility cuts
- Skin patch repairs
- Leveling manhole covers
- Leveling bridge deck approaches
- Filling spalls, popouts, and corner breaks



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phone: +1 (800) 528-8242 • email: sales@crafcO.com • web: crafcO.com

**READ BEFORE USING THIS PRODUCT**

**GENERAL** Mastic One Type 2 is a hot applied, pourable, aggregate filled, black color, polymer modified asphalt pavement repair mastic. Mastic One Type 2 is used for sealing, filling and repairing many distresses in both asphalt concrete and portland cement concrete pavements and bridge deck surfaces that are larger than those typically repaired by crack or joint sealing, but smaller than repairs requiring remove and replace patching procedures. Mastic One Type 2 is best suited for use in areas that experience thermal movement such as wide transverse cracking. Other uses are sealing, filling and leveling of longitudinal cracks and joints, filling potholes and utility cuts, localized skin patch repairs, repairs prior to surface treatments, and leveling bridge approaches or faulted areas. Mastic One Type 2 may not be suitable for some applications where pavement temperatures exceed 158°F. When properly applied, Mastic One Type 2 forms a well bonded, flexible, durable, traffic resistant repair. To use, Mastic One Type 2 is placed into an appropriate melter (Crafco Patcher II), mixed and heated until application temperature is reached, poured into the prepared repair area and then leveled. Mastic One Type 2 is formulated to provide neat feathered edge installation. Mastic One Type 2 is then ready for traffic when it has cooled and solidified. VOC = 0 g/l.

**PROPERTIES** Properties of the binder, aggregate and appropriately blended and heated Mastic One Type 2 according to ASTM D8260 are as follows:

<u>Property</u>	<u>Requirement</u>
<b>POLYMER MODIFIED BINDER</b>	
Cone Penetration, 77°F (25°C) (ASTM D5329)	80 max
Cone Penetration, 122°F (50°C) (ASTM D5329)	140 max
Softening Point, (ASTM D36)	190°F (88°C) min
Flexibility, 1" (25.4 mm), 90°, 2 sec) (ASTM D3111 modified)	Pass at 0°F (-18°C)
<b>AGGREGATE</b>	
Abrasion Resistance (ASTM C131)	35% max
<b>BLENDED PRODUCT</b>	
Flexibility, 0°F (-18°C) (PTM3)	Pass
Adhesion, 63°F (17°C) (PTM4)	25 PSI (172 KPA) min
Specific Gravity	1.7 -2.0
Minimum Application Temperature	375°F (190°C)
Maximum Application Temperature	400°F (204°C)
<b><u>Test</u></b>	
Mastic Resilience (ASTM (8260)	<b><u>ASTM D8260 Type 2 Specification Limits</u></b> 50% minimum
Effects of Rapid Deformation (ASTM D2794) (-18°C)	3 passing specimens no chipping, cracking or separation 8 N-m
Crack Bridging (ASTM C1305 modified) (-18°C)	Pass 3 cycles
Mastic Stability (ASTM D8260) (60°C)	40.0 mm maximum

Note: Due to unique properties of Mastic One Type 2, modified test procedures are required. Test methods PTM 3, 4 are available from Crafco

**INSTALLATION** The density of Mastic One Type 2 is 116 pcf (+/- 3%) and the weight per gallon is 15.5 lbs./gal (1.86 kg/l) at 60°F (15.5°C). Prior to use, the user must read and follow Installation Instructions for Mastic One to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are available at www.crafco.com and provided with each pallet of Mastic One.

**PACKAGING** Mastic One Type 2 is supplied in either cardboard boxes, or in meltable, box less PLEXI-melt packaging. Each package contains premeasured polymer modified binder and aggregate. Both package types are labeled in accordance with OSHA, GHS, and specification requirements; are sold by net weight; are interlock stacked on 48 x 40 in. (122 x 102 cm) 4-way pallets; can be stored outside; and are covered with a weather resistant pallet cover and 2 layers of UV protected stretch wrap.

- o **BOX** packaging consists of cardboard boxes containing approximately 40 lb. (18.1 kg) of product with 60 boxes per pallet, weighing approximately 2400 lb. (1088 kg). Boxes contain a quick melting release film for easy removal and are taped closed, without any staples.
- o **PLEXI-melt** packaging consists of 30 lb. (13.6 kg) blocks of product with 70 packages per pallet, weighing 2100 lb. (952 kg). To use, the pallet wrap is removed, and individual blocks are placed in the melter. There are no cardboard boxes or other cardboard components to open, empty, handle, or dispose of. PLEXI-melt packaging quickly melts into the product without affecting specification conformance.

**WARRANTY** CRAFCO, Inc. warrants that CRAFCO products meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing or filling are beyond our control as are the use and application of the products; therefore, Crafco shall not be responsible for improperly applied or misused products. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafco recommendations for product installation.**



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Crafcoc Mastic and Matrix Products  
**Other means of identification** None.  
**Recommended use** Pavement Patching and Repair  
**Recommended restrictions** None known.  
**Manufacturer/Importer/Supplier/Distributor information**  
**Manufacturer:** Crafcoc, Inc.  
**Address:** 6165 West Detroit St.  
Chandler, AZ 85226 USA  
**Contact Name:** Crafcoc Materials Engineering  
**Telephone:** 602-276-0406  
**E-mail:** sales@crafcoc.com  
**CHEMTREC:** 800-424-9300 (North America)  
+ 1-703-527-3887 (International)

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Not classified.  
**Environmental hazards** Not classified.  
**OSHA defined hazards** Not classified.

\*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

### Label elements

**Hazard symbol** None.  
**Signal word** Not applicable.  
**Hazard statement** Not applicable.  
**Precautionary statement**  
**Prevention** Not applicable.  
**Response** Not applicable.  
**Storage** Not applicable.  
**Disposal** Not applicable.  
**Hazard(s) not otherwise classified (HNOC)** None known.  
**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC		64742-52-5	0 - 75
QUARTZ		14808-60-7	0 - 75
ASPHALT		8052-42-4	10 - 40
CALCIUM CARBONATE		471-34-1	0 - 10
Other components below reportable levels			26.06

## 4. First-aid measures

### Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. Get medical attention, if needed.

<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly wash (or discard) clothing and shoes before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	In case of ingestion, the decision of whether or not to induce vomiting should be made by the attending physician. Certain pre-existing conditions may make workers particularly susceptible to the effects of this chemical: asthma, allergies, impaired pulmonary function.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Discard any shoes or clothing items that cannot be decontaminated.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ). Addition of water or foam to the fire may cause frothing.
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear full protective clothing including self contained breathing apparatus. Structural firefighters protective clothing will only provide limited protection.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. In the event of fire, cool tanks with water spray. By fire, toxic gases may be formed (CO <sub>x</sub> , NO <sub>x</sub> ). Keep run-off water out of sewers and water sources. Dike for water control.
<b>Specific methods</b>	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Ventilate closed spaces before entering them. Do not touch or walk through spilled material.
<b>Methods and materials for containment and cleaning up</b>	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Dike far ahead of spill for later disposal. Following product recovery, flush area with water.  Never return spills in original containers for re-use.
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Runoff or release to sewer, waterway or ground is forbidden.

## 7. Handling and storage

<b>Precautions for safe handling</b>	The product is non-combustible. If heated, irritating vapors may be formed. Do not use in area: without adequate ventilation. Wash hands thoroughly after handling. Wash hands after handling. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in a well-ventilated place. Keep the container tightly closed and dry. Store in a closed container away from incompatible materials. Keep out of the reach of children.



## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
CALCIUM CARBONATE (CAS 471-34-1)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	PEL	5 mg/m <sup>3</sup>	Mist.
QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m <sup>3</sup>	Respirable dust.

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m <sup>3</sup>	Respirable.
		2.4 mppcf	Respirable.

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m <sup>3</sup>	Inhalable fume.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m <sup>3</sup>	Respirable fraction.

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	Ceiling	5 mg/m <sup>3</sup>	Fume.
CALCIUM CARBONATE (CAS 471-34-1)	TWA	5 mg/m <sup>3</sup>	Respirable.
		10 mg/m <sup>3</sup>	Total
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	Ceiling	1800 mg/m <sup>3</sup>	
QUARTZ (CAS 14808-60-7)	STEL	10 mg/m <sup>3</sup>	Mist.
		350 mg/m <sup>3</sup>	
QUARTZ (CAS 14808-60-7)	TWA	0.05 mg/m <sup>3</sup>	Respirable dust.

#### Biological limit values

No biological exposure limits noted for the ingredient(s).

#### Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). Wear chemical goggles; face shield (if handling molten material).

##### Skin protection

##### Hand protection

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

##### Other

Wear suitable protective clothing and eye/face protection. Use of an impervious apron is recommended.

##### Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal hazards** During product use, there is a risk of thermal burns.  
**General hygiene considerations** When using do not smoke. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Appearance** Solid.  
**Physical state** Solid.  
**Form** Solid.  
**Color** Black. Dark brown  
**Odor** Product is a black, semi-solid with a burnt tar odor.  
**Odor threshold** Not available.  
**pH** Not available.  
**Melting point/freezing point** 150 - 250 °F (65.56 - 121.11 °C) ASTM D36 Softening Point  
**Initial boiling point and boiling range** > 800 °F (> 426.67 °C)  
**Flash point** > 400.0 °F (> 204.4 °C)  
**Evaporation rate** Not available.  
**Flammability (solid, gas)** Not available.  
**Upper/lower flammability or explosive limits**  
**Flammability limit - lower (%)** Not available.  
**Flammability limit - upper (%)** Not available.  
**Explosive limit - lower (%)** Not available.  
**Explosive limit - upper (%)** Not available.  
**Vapor pressure** 4.07 hPa estimated  
**Vapor density** Not available.  
**Relative density** Not available.  
**Solubility(ies)**  
**Solubility (water)** Not available.  
**Partition coefficient (n-octanol/water)** Not available.  
**Auto-ignition temperature** > 700 °F (> 371.11 °C)  
**Decomposition temperature** Not available.  
**Viscosity** Not available.  
**Other information**  
**Density** Not Available  
**Percent volatile** 0 %  
**Specific gravity** 1 - 2.2

## 10. Stability and reactivity

**Reactivity** Not Reactive  
**Chemical stability** Material is stable under normal conditions.  
**Possibility of hazardous reactions** Hazardous polymerization does not occur.  
**Conditions to avoid** Strong oxidizing agents.  
**Incompatible materials** Incompatible with oxidizing agents.  
**Hazardous decomposition products** Upon decomposition, product emits acrid dense smoke with carbon dioxide, carbon monoxide, trace oxides of nitrogen and sulfur, and water.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system.
<b>Skin contact</b>	Irritating to skin.
<b>Eye contact</b>	Causes eye irritation. Molten material will produce thermal burns.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	6450 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Defats the skin. Causes irritation.

**Serious eye damage/eye irritation** Irritating to eyes.

#### Respiratory or skin sensitization

**Respiratory sensitization** Not available.

**Skin sensitization** Irritating to skin.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

#### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

**Reproductive toxicity** Contains no ingredient listed as toxic to reproduction

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

**Chronic effects** Prolonged inhalation may be harmful. May cause eczema-like skin disorders (dermatitis)

## 12. Ecological information

**Ecotoxicity** This product has no known eco-toxicological effects. Not expected to be harmful to aquatic organisms.

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> ) > 56000 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** Not available.  
**Bioaccumulative potential** Not available.  
**Mobility in soil** Not available.  
**Other adverse effects** Not available.

### 13. Disposal considerations

**Disposal instructions** Dispose of contents/container in accordance with local/regional/national/international regulations. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.  
**Hazardous waste code** Not applicable.  
**Waste from residues / unused products** Dispose of in accordance with local regulations.  
**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

### 14. Transport information

#### DOT

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

**General information** Not regulated as dangerous goods.

**Further information** If the product is shipped at temperatures below 212°F (100°C), it is not regulated for transport by ground, air or vessel. If shipped above 212 deg F: "UN3257, Elevated Temperature Liquid, n.o.s. (Asphalt mixture), 9, PG III"

### 15. Regulatory information

**US federal regulations** All components are on the U.S. EPA TSCA Inventory List.

#### **TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

#### **CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

#### **SARA 304 Emergency release notification**

Not regulated.

#### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

QUARTZ (CAS 14808-60-7)

Cancer  
lung effects  
immune system effects  
kidney effects

#### **Superfund Amendments and Reauthorization Act of 1986 (SARA)**

##### **SARA 302 Extremely hazardous substance**

Not listed.

##### **Classified hazard categories**

Specific target organ toxicity (single or repeated exposure)

##### **SARA 313 (TRI reporting)**

Not regulated.

#### **Other federal regulations**

##### **Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

##### **Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**California Proposition 65****California Proposition 65 - CRT: Listed date/Carcinogenic substance**

ASPHALT (CAS 8052-42-4)

Listed: January 1, 1990

QUARTZ (CAS 14808-60-7)

Listed: October 1, 1988

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

ASPHALT (CAS 8052-42-4)

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)

QUARTZ (CAS 14808-60-7)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision****Issue date** 05-11-2020**Version #** 01**Further information** HMIS® is a registered trade and service mark of the NPCA.**NFPA ratings**  
Health: 0  
Flammability: 0  
Instability: 0**References**  
ACGIH  
EPA: AQUIRE database  
US. IARC Monographs on Occupational Exposures to Chemical Agents  
HSDB® - Hazardous Substances Data Bank  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices**Disclaimer**  
The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Revision information**

Product and Company Identification: Alternate Trade Names  
First-aid measures: Skin contact  
Fire-fighting measures: Specific hazards arising from the chemical  
Handling and storage: Conditions for safe storage, including any incompatibilities  
Exposure controls/personal protection: Appropriate engineering controls  
Physical & Chemical Properties: Multiple Properties  
Stability and reactivity: Reactivity  
Toxicological information: Carcinogenicity  
Transport information: Further information  
HazReg Data: International Inventories  
GHS: Classification



**LABORATORY REPORT**  
**ROADSAVER 221 SEALANT**  
(Part No. 34221)

Lot Number: P0414  
Date of Test: 8/21/2023  
Date of Report: 8/30/2023

Specification: ASTM D 6690 Type I & II  
AASHTO M 324 Type I & II

<b>Property</b>	<b>Test Result</b>	<b>Specification Limit</b>
Cone Penetration	77	90 max.
Flow	1	3mm max.
Softening Point	198	176°F min.
Resilience	72	60% min.
Bond, -20°F, 50% ext.	Pass	Pass 3 cycles
Asphalt Compatibility	Pass	Compatible
Minimum Application Temperature		380°F
Maximum Heating Temperature		400°F

Test results indicate that the RoadSaver 221 sealant conforms to the requirements of ASTM D 6690 Type I and Type II, AASHTO M 324 Type I and Type II (formerly ASTM D1190, ASTM D 3405, AASHTO M 173 and AASHTO M 301) specifications.

Respectfully Submitted

CRAFCO, INC.

Mark Lively

Sealant Product Engineer

# Hot Applied Crack & Joint Sealant

## Sealant Selection



**Most cost-effective method  
of pavement preservation**

Many years of research have confirmed that crack treatments are the most cost-effective method of pavement preservation. Other methods of preservation are effective, but only one is the most cost-effective, "crack sealing". Many agencies recommend the Crafcro system as a cost-effective way to prolong the life of asphalt pavement. Study after study has proven that when cracks are sealed at the proper time, two to four years of added pavement life can be expected before other treatments are required. Other methods used for pavement preservation are effective and needed in many situations, but are more costly than crack sealing.

Many studies have shown that for every \$1.00 spent on crack sealing, \$4.00 or more is saved in rehabilitation cost. With other treatments, costs are several times more per square yard. Therefore, "when budgets are tight, the time to seal is right".

Cracking in asphalt and concrete pavement will occur. Pavement design and maintenance engineers have had to contend with this,

leaving maintenance departments bearing most of the burden of dealing with cracks. Pavement cracks are inevitable, and without proper maintenance and repair, will lead to accelerated cracking or potholes, further impairing the life and serviceability of the pavement.

The problem of pavement cracking is handled in many ways, ranging from pavement maintenance surface treatments such as seal coating, road slurry, and chip seal, to hot rubberized crack sealing, and ultimately complete pavement rehabilitation such as resurfacing. A common option utilized by city or state maintenance departments is the Crafcro System. For many years crack sealing has been done, usually on a routine basis. However, only in the last two decades has it been recognized as a preventive maintenance tool. Crack filling the Crafcro way, with proper high performance fillers, will effectively "glue" the pavement together and stop potholes.

**CRAFCO** INC  
PRESERVATION PRODUCTS PAVEMENT

Delivering Confidence Through Innovation, Quality and Value Since 1976





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+1 (602) 276-0406 • +1 (800) 528-8242 • FAX +1 (480) 961-0513  
[www.crafco.com](http://www.crafco.com)

DECEMBER 2022

**READ BEFORE USING THIS PRODUCT**

**GENERAL**

Crafco RoadSaver 221 sealant is a hot-applied asphalt-based product used to seal and fill cracks and joints in asphalt or Portland cement concrete pavements in hot to cold climates. RoadSaver 221 is supplied in solid form which when melted and properly applied forms a resilient, adhesive, and flexible compound that resists cracking in the winter and is resistant to flow and pick-up at summer temperatures. RoadSaver 221 is used in highways, streets, and airfield pavements and is applied to pavement cracks and joints using either pressure feed Melter applicators or pour pots. At application temperature RoadSaver 221 is a free flowing, self-leveling product. RoadSaver 221 is a widely used, excellent performing sealant that has been a quality Crafco product for over 30 years. VOC = 0 g/l.

**SPECIFICATION CONFORMANCE**

RoadSaver 221 meets all requirements of ASTM D6690 (AASHTO M324), Type II, "Joint and Crack Sealants, Hot-Applied, for Concrete and Asphalt Pavements", (formerly ASTM D3405 and AASHTO M301). It also exceeds requirements of ASTM D6690 (AASHTO M324), Type I, (formerly ASTM D1190, AASHTO M173), and Federal Specification SS-S-164.

<u>Test</u>	<u>ASTM D6690 (AASHTO M324) Type II Spec. Limits</u>
Cone Penetration	90 max.
Softening Point	176 °F (80 °C) min.
Resilience	60% min.
Bond, -20 °F (-29 °C), 50% ext.	Pass 3 cycles
Asphalt Compatibility	Compatible
Minimum Application Temperature	380 °F (193 °C)
Maximum Heating Temperature	400 °F (204 °C)

**INSTALLATION**

The unit weight of Crafco RoadSaver 221 is 10.5 lbs. per gallon (1.26 kg/L) at 60 °F (15.5 °C). Prior to use, the user must read and follow Installation Instructions for Hot-Applied RoadSaver, PolyFlex, Parking Lot and Asphalt Rubber Products to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are provided with each pallet of product.

**PACKAGING**

Product is supplied in either cardboard boxes, or in meltable boxless packaging. Both package types are labeled in accordance with OSHA, GHS, and specification requirements; are sold by net weight; are interlock stacked on 48 x 40 in. (122 x 102 cm) 4-way pallets; can be stored outside; and are covered with a weather resistant pallet cover and 2 layers of UV protected stretch wrap.

- **BOX** packaging consists of cardboard boxes containing 30 lbs. (13.6 kg) of product with 75 boxes per pallet, weighing approximately 2250 lbs. (1020 kg). Boxes contain a quick melting release film for easy removal and are taped closed, without any staples.
- **Meltable** packaging consists of approximately 30 lbs. (13.6 kg) completely meltable packages that are interlocked stacked on pallets. To use, the pallet wrap is removed, and individual blocks are placed in the Melter. There are no individual cardboard boxes to open, empty, handle, or dispose of. Meltable packaging quickly melts into the product without affecting specification conformance. Meltable packaged sealant products are sold by the pallet only and individual packages are not intended for sale. For more details on meltable packaging go to <https://crafco.com/materials-documentation/>

**WARRANTY**

CRAFCO, Inc. warrants that CRAFCO products meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing or filling are beyond our control as are the use and application of the products; therefore, Crafco shall not be responsible for improperly applied or misused products. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafco recommendations for product installation.**



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Roadsaver, Polyflex, Parking Lot, Asphalt Rubber, Asphalt Cement, DF, Superflex, Matrix Binder, Loop Detector, Joint Adhesive, Polyfiber, Fiber Asphalt, Marker Adhesive, Quikstix, Asphalt Adhesive, PCF 100, High Slope, QWIKSEAL, QWIKDOT, Joint Binder

**Other means of identification** None.

**Recommended use** Pavement Crack and Joint Sealing and Preservation

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer:** CrafcO, Inc.

**Address:** 6165 West Detroit St.  
Chandler, AZ 85226 USA

**Contact Name:** CrafcO Materials Engineering

**Telephone:** 602-276-0406

**E-mail:** sales@crafco.com

**CHEMTREC:** 800-424-9300 (North America)  
+ 1-703-527-3887 (International)

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Not classified.

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

\*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

### Label elements

**Hazard symbol** None.

**Signal word** Not applicable.

**Hazard statement** Not applicable.

**Precautionary statement**

**Prevention** Not applicable.

**Response** Not applicable.

**Storage** Not applicable.

**Disposal** Not applicable.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
ASPHALT		8052-42-4	20 - 100
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC		64742-52-5	0 - 40
Other components below reportable levels			49.39

## 4. First-aid measures

**Inhalation** If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention, if needed. Call a physician if symptoms develop or persist.

<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly wash (or discard) clothing and shoes before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	In case of ingestion, the decision of whether or not to induce vomiting should be made by the attending physician. Certain pre-existing conditions may make workers particularly susceptible to the effects of this chemical: asthma, allergies, impaired pulmonary function.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Discard any shoes or clothing items that cannot be decontaminated.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ). Addition of water or foam to the fire may cause frothing.
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases. Development of hazardous combustion gases or vapours possible in the event of a fire. The following may develop: Acrolein.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear full protective clothing including self contained breathing apparatus. Structural firefighters protective clothing will only provide limited protection.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. In the event of fire, cool tanks with water spray. By fire, toxic gases may be formed (CO <sub>x</sub> , NO <sub>x</sub> ). Keep run-off water out of sewers and water sources. Dike for water control.
<b>Specific methods</b>	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Ventilate closed spaces before entering them. Do not touch or walk through spilled material.
<b>Methods and materials for containment and cleaning up</b>	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Dike far ahead of spill for later disposal. Following product recovery, flush area with water.
<b>Environmental precautions</b>	Never return spills in original containers for re-use. Prevent further leakage or spillage if safe to do so. Runoff or release to sewer, waterway or ground is forbidden.

## 7. Handling and storage

<b>Precautions for safe handling</b>	The product is non-combustible. If heated, irritating vapors may be formed. Do not use in area: without adequate ventilation. Wash hands thoroughly after handling. Wash hands after handling. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a well-ventilated place. Keep the container tightly closed and dry. Store in a closed container away from incompatible materials. Keep out of the reach of children.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	PEL	5 mg/m <sup>3</sup>	Mist.

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m <sup>3</sup>	Inhalable fume.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	Ceiling	5 mg/m <sup>3</sup>	Fume.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	Ceiling	1800 mg/m <sup>3</sup>	
	STEL	10 mg/m <sup>3</sup>	Mist.
	TWA	350 mg/m <sup>3</sup>	

#### Biological limit values

No biological exposure limits noted for the ingredient(s).

#### Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). Wear chemical goggles; face shield (if handling molten material).

##### Skin protection

##### Hand protection

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

##### Other

Wear suitable protective clothing and eye/face protection. Use of an impervious apron is recommended.

##### Respiratory protection

If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

##### Thermal hazards

During product use, there is a risk of thermal burns.

#### General hygiene considerations

When using do not smoke. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

#### Appearance

Solid.

#### Physical state

Solid.

#### Form

Solid.

#### Color

Black. Dark brown

#### Odor

Product is a black, semi-solid with a burnt tar odor.

#### Odor threshold

Not available.

#### pH

Not available.

#### Melting point/freezing point

150 - 250 °F (65.56 - 121.11 °C) ASTM D36 Softening Point

**Initial boiling point and boiling range** > 800 °F (> 426.67 °C)

**Flash point** > 400.0 °F (> 204.4 °C)

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** Not available.

**Vapor density** Not available.

**Relative density** Not available.

**Solubility(ies)**

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** > 700 °F (> 371.11 °C)

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Other information**

**Density** Not Available

**Percent volatile** 0 %

**Specific gravity** 1 - 1.9

**10. Stability and reactivity**

**Reactivity** Not Reactive

**Chemical stability** Material is stable under normal conditions.

**Possibility of hazardous reactions** Hazardous polymerization does not occur.

**Conditions to avoid** Strong oxidizing agents.

**Incompatible materials** Incompatible with oxidizing agents.

**Hazardous decomposition products** Upon decomposition, product emits acrid dense smoke with carbon dioxide, carbon monoxide, trace oxides of nitrogen and sulfur, and water.

**11. Toxicological information**

**Information on likely routes of exposure**

**Inhalation** May be harmful if inhaled. However, this product does not currently meet the criteria for classification.

**Skin contact** Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis

**Eye contact** May be irritating to eyes.

**Ingestion** May cause gastrointestinal discomfort if swallowed. Do not induce vomiting. Vomiting may increase risk of product aspiration.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

**Information on toxicological effects**

**Acute toxicity** Not classified.

**Skin corrosion/irritation** Not classified. May cause defatting of the skin, but is neither an irritant nor a sensitizer.

**Serious eye damage/eye irritation** Not classified.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not classified.

**Skin sensitization** Not classified.

**Germ cell mutagenicity** Non-mutagenic based on Modified Ames Assay.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**  
Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**  
Not regulated.

**US. National Toxicology Program (NTP) Report on Carcinogens**  
Not listed.

**Reproductive toxicity** Contains no ingredient listed as toxic to reproduction

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not classified.

**Chronic effects** Prolonged or repeated contact may cause drying, cracking, or irritation of the skin

**12. Ecological information**

**Ecotoxicity** This product has no known eco-toxicological effects. Not expected to be harmful to aquatic organisms.

**Persistence and degradability** Not available.

**Bioaccumulative potential** Not available.

**Mobility in soil** Not available.

**Other adverse effects** Not available.

**13. Disposal considerations**

**Disposal instructions** Dispose of contents/container in accordance with local/regional/national/international regulations. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.

**Hazardous waste code** Not applicable.

**Waste from residues / unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

**14. Transport information**

**DOT**  
Not regulated as dangerous goods.

**IATA**  
Not regulated as dangerous goods.

**IMDG**  
Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

**General information** Not regulated as dangerous goods.

**Further information** If the product is shipped at temperatures below 212°F (100°C), it is not regulated for transport by ground, air or vessel. If shipped above 212 deg F: "UN3257, Elevated Temperature Liquid, n.o.s. (Asphalt mixture), 9, PG III"

**15. Regulatory information**

**US federal regulations** All components are on the U.S. EPA TSCA Inventory List.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312**

No

**Hazardous chemical****SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)**

Not regulated.

**US state regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision****Issue date** 06-24-2019**Revision date** 05-15-2020**Version #** 03**Further information** HMIS® is a registered trade and service mark of the NPCA.**NFPA ratings**  
Health: 0  
Flammability: 1  
Instability: 0



**References**

ACGIH  
EPA: AQUIRE database  
US. IARC Monographs on Occupational Exposures to Chemical Agents  
HSDB® - Hazardous Substances Data Bank  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Revision information**

Physical & Chemical Properties: Multiple Properties



**PRODUCT DATA SHEET**

**TECHCRETE™-R / TECHCRETE™-TBR**

PART NO. 34952 (Type R)  
PART NO. 34953 (Type TBR)

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+1 (602) 276-0406 • +1 (800) 528-8242 • FAX +1 (480) 961-0513  
www.crafco.com

AUGUST 2022

**READ BEFORE USING THIS PRODUCT**

**GENERAL**

TechCrete is gray in color, aesthetically suitable in all concrete pavements, and is used in sealing wide cracks and joints, and repairing a large variety of pavement distresses in Portland Cement Concrete Pavement and Asphalt Concrete Pavement. Pavement distresses appropriate for TechCrete include but are not limited to: A) Cracking (corner breaks, longitudinal and transverse cracking), B) Joint Deficiencies (spalling of longitudinal and transverse joints), C) Surface Defects (map cracking and scaling, pop-outs), and D) Miscellaneous distresses (blowups, faulting of transverse joints and cracks, lane-to-shoulder drop-off, lane-to-shoulder separation, and patch/patch deterioration). TechCrete is used in highway, street, road, parking lot, bridge decks, airport taxiways and runways, and other pavement surfaces. The unique design features of TechCrete produce an impervious, impact-resistant; load-bearing, flexible repair that withstands vehicle traffic, aircraft, movement and climatic conditions.  
VOC = 0 g/l.

TechCrete-R ("TC-R") and TechCrete-TBR ("TC-TBR") are hot-applied, flexible mastic sealant compounds made of polymer-modified synthetic resin containing fibers, fillers, fines and high quality aggregate. TC-R and TC-TBR are supplied in powder / granular form in meltable bags. To use, bags of TC-R or TC-TBR are placed in an approved Melter (Crafco Patcher I or II) where it is mixed and heated to the required installation temperature range. Heated TC-R or TC-TBR is then poured into the prepared pavement section and leveled as described in the Installation Instructions. The repair is then covered with Gray Surfacing Aggregate (Crafco Part No. 33375SA) or a surfacing aggregate specified in the project plan and approved by Crafco. The repair is allowed to cool and solidify prior to opening to traffic.

Read all information prior to using TC-R or TC-TBR: 1) Product Data Sheet, 2) Safety Data Sheet, 3) Installation Instructions, and 4) Patcher Equipment Safety Manual.

TechCrete is supplied as TechCrete-R and TechCrete-TBR.

Product	Recommended Use
<p><b>TechCrete-R ("TC-R") Part Number 34952</b></p> <p>Contains ideal pre-measured, pre-mixed combination of proprietary binder and fine aggregate designed to provide all the benefits of TechCrete.</p> <p>TC-R contains smaller aggregate than TC-TBR and is used in shallow repairs where neat edge feathering is required.</p>	<p><b>Wide Cracks and Joints</b></p> <p>TC-R is designed to treat wide cracks and joints with a minimum width of 1.5 inches (38 mm) and up to 4 inches (100 mm) wide and up to full-depth repairs.</p> <p><b>Surface Defects and Miscellaneous Distresses</b></p> <p>TC-R is designed for treating most other distresses as partial-depth repairs less than to 0.75 inch (20 mm) deep.</p>
<p><b>TechCrete-TBR ("TC-TBR") Part Number 34953</b></p> <p>Contains ideal pre-measured, pre-mixed combination of proprietary binder and aggregate designed to provide all the benefits of TechCrete.</p> <p>TC-TBR contains larger aggregate than TC-R and is used in larger and deeper repairs- a minimum of 1.5-inch depth (38 mm) is required to install</p>	<p><b>Wide Cracks and Joints</b></p> <p>TC-TBR is designed to treat wide cracks and joints greater than or equal to 2 inches (50 mm) wide and up to full-depth repairs.</p> <p><b>Surface Defects and Miscellaneous Distresses</b></p> <p>TC-TBR is designed for treating most other distresses as partial-depth repairs from 0.75 to 8 inches (20 to 200 mm) deep, recognizing that the minimum application depth is 1.5 inches (38 mm).</p> <p>For deeper repairs, while not required, TechCrete-R &amp; TBR can be bulked with additional aggregate - contact your Crafco representative.</p>

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## SPECIFICATION CONFORMANCE

Specification limits for TC-R and TC-TBR are as follows:

<u>PARAMETER</u>	<u>TechCrete-R</u>	<u>TechCrete-TBR</u>
Color	Gray	Gray
Form	Powder	Powder
Bulk Specific Gravity, g/cc @ 25 °C (ASTM D2726 Modified)	1.85-2.05 g/cc	1.93-2.18 g/cc
Binder Content (ASTM D6307 Method A), %	15 – 25	15 – 25
Aggregate Passing the 0.625 inch (ASTM D5444), % Retained on the No. 16, % Passing the No. 4 Sieve, %	-- -- 85 minimum	100 minimum 55 minimum --
Flow (ASTM D5329 Modified), 5 h 140 °F (60 °C), mm	5 maximum	5 maximum
Tensile Test (Briquette) (AASHTO T140 Modified TTM5) at 20 °F (-7 °C), 3 specimens, pounds.	100-250 (445 – 1112 N) at least 2 out of 3 fail between grips	50 – 220 (222 – 979 N), at least 2 out of 3 fail between grips
Tensile Adhesion, (ASTM D5329 Modified), psi (kPa)	12 psi (83 kPa) minimum, 0.15 inches (4 mm) minimum elongation	12 psi (83 kPa) minimum, 0.5 inches (12 mm) minimum elongation
Impact Testing (ASTM D2794, 2-inch (50 mm) diameter, 1 inch (25 mm) thick specimen, 0.625-inch (16 mm) impact dart	No cracking, chipping, or separation at 6 ft·lb (8.1 N·m) at 20 °F (-7 °C)	No cracking, chipping, or separation at 6 ft·lb (8.1 N·m) at 20 °F (-7 °C)
Flexibility, Lab Standard Conditions (ASTM D3111)	No Cracking or Loss of Aggregate Adhesion	No Cracking or Loss of Aggregate Adhesion
Minimum Application Temperature	330 °F (166 °C)	330 °F (166 °C)
Maximum Heating Temperature	400 °F (204 °C)	400 °F (204 °C)
Shelf Life	2 years	2 years

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## INSTALLATION

Prior to use, the user must read and follow Installation Instructions for TC-R or TC-TBR to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are provided with each shipment.

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## PACKAGING

TC-R and TC-TBR are packaged in meltable bags each containing approximately 35 +/- 2 lbs. (15.8 +/- 1 kg) of product. Bags are stacked and stretch wrapped on pallets containing approximately 2700 lbs. (1225 kg). Pallets are weighed and the product is sold by net weight. Each 35 bag of TechCrete R fills a void ~ 0.27-0.39 cubic feet (0.008-0.011 m<sup>3</sup>). Each pallet of TechCrete R fills a void ~ 21-30 cubic feet (0.59- 0.85 m<sup>3</sup>). The amount of material used to fill the void will vary depending on amount of structural aggregate used. Each 35 lbs. bag of TC-TBR fills a void ~ 0.28 cu ft (0.008 cu m). Each TC-TBR pallet fills a void ~21 cu ft (0.59 cu m).

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## WARRANTY

CRAFCO, Inc. warrants that CRAFCO products meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing or filling are beyond our control as are the use and application of the products; therefore, Crafcoc shall not be responsible for improperly applied or misused products. Remedies against Crafcoc, Inc., as agreed to by Crafcoc, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafcoc, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafcoc, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafcoc recommendations for product installation.**



**LABORATORY REPORT**  
**TECHCRETE R STANDARD**  
(Part No. 34952)

Lot Number:           T9282          

<u>PROPERTY</u>	<u>TEST RESULTS</u>	<u>SPECIFICATION</u>
		<u>LIMITS</u>
Techcrete Flow, TTM18	<b>0</b>	5mm Max
Techcrete Flexibility, TTM2	<b>Pass</b>	Pass
Techcrete Specific Gravity, TTM10	<b>2.03</b>	

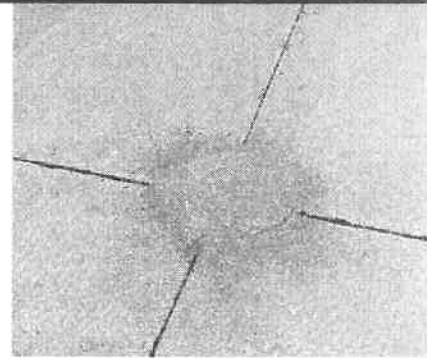
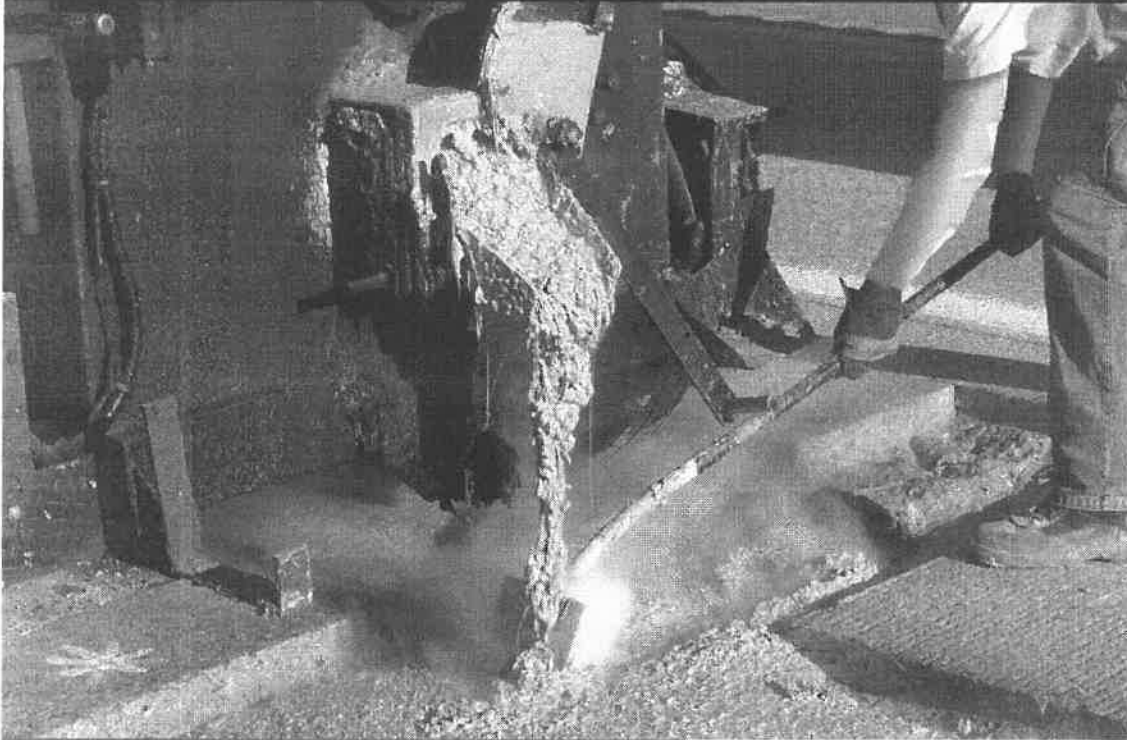
Respectfully Submitted,

CRAFCO, INC.

Ian Lowry  
Pavement Material Manager

# TechCrete™

The Flexible Solution for Concrete Repair



## Concrete Repair Products

*TechCrete is a hot-applied repair mastic sealant, aesthetically suitable in all concrete pavements, and is used in sealing wide cracks and joints, and repairing a large variety of pavement distresses*

**For repair in a large variety of pavement distresses such as:**

- Cracking (Corner breaks, longitudinal and transverse cracking)
- Joint deficiencies (Spalling of longitudinal and transverse joints)
- Surface defects (Map cracking and scaling, pop-outs)
- Miscellaneous deterioration (Blowups, faulting of transverse joints and cracks, lane-to-shoulder dropoff, lane-to-shoulder separation, and patch/patch deterioration)
- Bridge deck potholes and surface spalling

**CRAFCO**®  
INC  
PRESERVATION PRODUCTS PAVEMENT

Delivering Confidence Through Innovation, Quality and Value Since 1976

## Benefits of using TechCrete



### Resists cracking, delamination and spalling

TechCrete is made of a hot-applied polymer modified resin with unsurpassed adhesion so it resists delamination and cracking, does not shrink, and remains flexible during the expansion and contraction of the adjacent concrete surface in weather extremes.

### Flexible

Rigid repair materials like cement, phosphate and epoxy products can prematurely fail because they are brittle, and their rigidity and different rates of expansion and contraction from the pavement can destroy the concrete surrounding the patch. TechCrete is flexible, strong and adheres to the pavement and so it moves with the pavement as it expands and contracts.



*Mineta San Jose International Airport - Before Photo*

### Supports heavy loads

Epoxy and cementitious materials can shatter under heavy loads and high impact, especially in very cold conditions. TechCrete has flexibility and high compression resistance to resist the impact of heavy truck traffic and airplanes (i.e. 747s) in extreme weather conditions.

### Long-lasting repair with proven service greater than 10 years

Unlike other products that require regular maintenance, TechCrete provides a maintenance-free, long-lasting repair, saving time and money.

### Improves ride quality

The flexible, heavy load-bearing characteristics of TechCrete provides a smooth ride for all vehicles saving money with less vehicular damage.



*Mineta San Jose International Airport - After Photo*

### Provides a high friction surface to ensure driver safety

Safety is a priority for everyone, and TechCrete with appropriate surfacing aggregate provides a high-friction surface that promotes driver safety and reduces accidents.

### Easily installed and generally is opened to traffic within an hour

TechCrete meltable bags are placed into the Patcher to melt providing a controlled, precision mixture for consistently superb monolithic results. Then TechCrete is poured into the distress, leveled and cooled generally within one hour. Using TechCrete reduces costs associated with incorrect product mixtures, installation errors and reduces the need to complete the project twice.

**Waterproofs PCC pavement and resists commonly used chemicals that destroy pavement** such as silicone grease and de-icing agents like ethylene glycol, sodium chloride, trisodium phosphate and potassium acetate.

**Choosing the best TechCrete  
for your pavement repairs**

PRODUCT	RECOMMENDED USE
<p><b>TechCrete-R (“TC-R”) Part Number 34952</b></p> <p>Contains ideal pre-measured, pre-mixed combination of proprietary binder and fine aggregate designed to provide all the benefits of TechCrete.</p> <p>TC-R contains smaller aggregate than TC-TBR and is used in shallow repairs where edge feathering is required.</p>	<p><b>Wide Cracks and Joints</b></p> <p>TC-R is designed to treat wide cracks and joints with a minimum width of 1.5 inches (38 mm) and up to 4 inches (100 mm) wide and up to full-depth repairs.</p> <p><b>Surface Defects and Miscellaneous Distresses</b></p> <p>TC-R is designed for treating most other distresses (spalls) as partial-depth repairs less than 0.75 inches (20 mm) deep.</p>
<p><b>TechCrete-TBR (“TC-TBR”) Part Number 34953</b></p> <p>Contains ideal pre-measured, pre-mixed combination of proprietary binder and aggregate designed to provide all the benefits of TechCrete.</p> <p>TC-TBR contains larger aggregate than TC-R and is used in wider and deeper repairs - a minimum depth of 1.5 inches (38 mm) is required to install TC-TBR.</p>	<p><b>Wide Cracks and Joints</b></p> <p>TC-TBR is designed to treat wide cracks and joints greater than or equal to 2 inches (50 mm) wide and up to full-depth repairs.</p> <p><b>Surface Defects and Miscellaneous Distresses</b></p> <p>TC-TBR is designed for treating most other distresses as partial-depth repairs from 0.75 to 8 inches (20 to 200 mm) deep, recognizing that the minimum application depth is 1.5 inches (38 mm).</p> <p>For deeper repairs, while not required, TechCrete (both TC-R and TC-TBR) can be bulked with additional aggregate. Contact your Crafcro Representative for specific details.</p>

**TechCrete in the Field**

From coast to coast, in all types of climates and traffic conditions, TechCrete has been recognized as the flexible, superior repair material for repairing concrete highways, runways, and bridge deck surfaces.



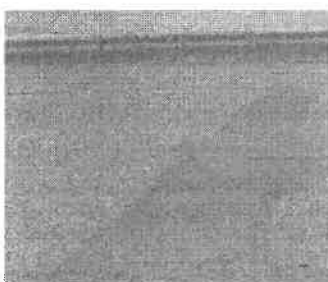
Before

**“The performance of Crafcro’s TechCrete on this and other Interstate segments has been outstanding. In my opinion the flexible partial depth repair materials are more durable than the rigid repair materials. Flexible repair materials should and will always be an option for use in our quest to preserve and extend concrete pavement life.”**

*Dave Holmgren*

*P.E. Utah Department of Transportation*

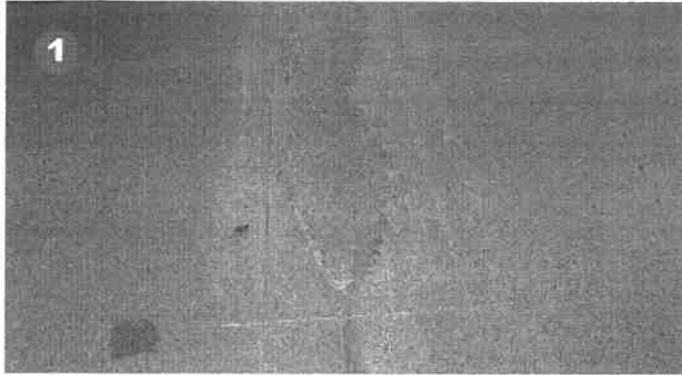
*Region One Pavement Engineer*



After

I-15 MP 329-340 in Weber County, UT

## How to use TechCrete



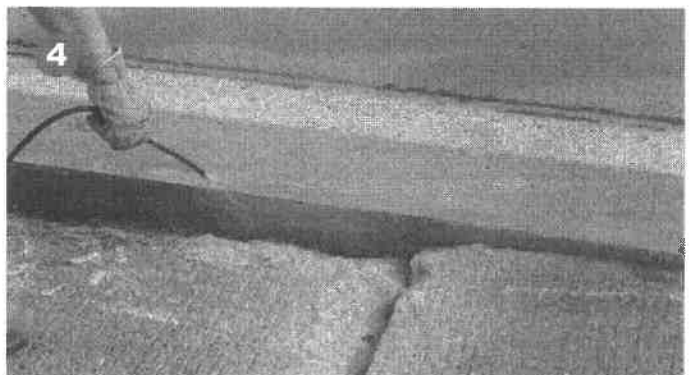
Clearly mark out the distressed area that needs to be treated.



Remove the defective pavement. This may involve saw-cutting, jackhammering, or milling to reach stable pavements.



Remove loose debris from the area. Clean and dry the area using a Crafcro Hot Air Lance.



Immediately prime the entire repair area, including sides and bottom surfaces, with TechCrete Primer, without puddling the primer.



Heat and mix TechCrete in a Crafcro Patcher, as per the directions in the TechCrete Installation Instructions. Pour melted TechCrete into the repair area.



Apply surfacing aggregate to the top layer of TechCrete after it has cooled according to the Installation Instructions.

**NOTE:** To ensure best results, be sure to follow all the detailed steps of the TechCrete Installation Instructions. You can obtain these from the Crafcro website or from your Crafcro representative.





# SAFETY DATA SHEET

## 1. Identification

**Product identifier** CrafcO Techcrete Products  
**Other means of identification** None.  
**Recommended use** Pavement Patching  
**Recommended restrictions** None known.  
**Manufacturer/Importer/Supplier/Distributor information**  
**Manufacturer:** CrafcO, Inc.  
**Address:** 6165 West Detroit St.  
 Chandler, AZ 85226 USA  
**Contact Name:** CrafcO Materials Engineering  
**Telephone:** 602-276-0406  
**E-mail:** sales@crafcO.com  
**CHEMTREC:** 800-424-9300 (North America)  
 + 1-703-527-3887 (International)

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Not classified.  
**Environmental hazards** Not classified.  
**OSHA defined hazards** Not classified.

\*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

### Label elements

**Hazard symbol** None.  
**Signal word** Not applicable.  
**Hazard statement** Not applicable.  
**Precautionary statement**  
**Prevention** Not applicable.  
**Response** Not applicable.  
**Storage** Not applicable.  
**Disposal** Not applicable.  
**Hazard(s) not otherwise classified (HNOC)** None known.  
**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
FELDSPAR		68476-25-5	20 - 40
CALCIUM CARBONATE		471-34-1	5 - 15
PETROLEUM HYDROCARBON RESIN		64742-16-1	5 - 15
QUARTZ		14808-60-7	5 - 15
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC		64742-52-5	< 5
PORTLAND CEMENT		65997-15-1	< 2

## 4. First-aid measures

<b>Inhalation</b>	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention, if needed.
<b>Skin contact</b>	Remove contaminated clothing. Wash off with soap and plenty of water. Get medical attention if irritation develops and persists. Wash clothing separately before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	Symptoms may be delayed.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Wash contaminated clothing before re-use.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water spray, foam, dry powder or carbon dioxide.
<b>Unsuitable extinguishing media</b>	Straight Streams of Water
<b>Specific hazards arising from the chemical</b>	Irritating and toxic gases or fumes may be released during a fire.
<b>Special protective equipment and precautions for firefighters</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
<b>Fire fighting equipment/instructions</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Avoid inhalation of vapor, fumes, dust and/or mist from the spilled material.
<b>Methods and materials for containment and cleaning up</b>	Never return spills in original containers for re-use. Collect in marked containers and deliver to approved depot.
<b>Environmental precautions</b>	Do not contaminate water.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in a well-ventilated place. Keep container tightly closed. Store in a closed container away from incompatible materials. Never allow product to get in contact with water during storage. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children. Use care in handling/storage.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
CALCIUM CARBONATE (CAS 471-34-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value	Form
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
PORTLAND CEMENT (CAS 65997-15-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.

**US. OSHA Table Z-3 (29 CFR 1910.1000)**

Components	Type	Value	Form
PORTLAND CEMENT (CAS 65997-15-1)	TWA	50 mppcf	
QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.
PORTLAND CEMENT (CAS 65997-15-1)	TWA	1 mg/m3	Respirable fraction.
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value	Form
CALCIUM CARBONATE (CAS 471-34-1)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
	TWA	350 mg/m3	
PORTLAND CEMENT (CAS 65997-15-1)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
QUARTZ (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Wear safety glasses; chemical goggles (if splashing is possible).

**Skin protection**

**Hand protection**

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

**Other**

Do not get this material in contact with skin. Chemical resistant gloves.

**Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal hazards** Not available.

**General hygiene considerations** Do not get in eyes. When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Appearance** Granular.

**Physical state** Solid.

**Form** Solid.

**Color** Grey.

**Odor** Not significant.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** 225 °F (107.22 °C)

**Initial boiling point and boiling range** Not determined

**Flash point** > 445.0 °F (> 229.4 °C)

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** < 1 mm Hg

**Vapor density** Not available.

**Relative density** Not available.

**Solubility(ies)**

**Solubility (water)** Insoluble

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not determined

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Other information**

**Specific gravity** 1.7 - 2

## 10. Stability and reactivity

**Reactivity** Not Reactive

**Chemical stability** Stable under normal temperature conditions.

**Possibility of hazardous reactions** Not available.

**Conditions to avoid** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors

**Incompatible materials** Oxidizing materials.

**Hazardous decomposition products** Irritants. Toxic gas.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system.
<b>Skin contact</b>	Causes mild skin irritation.
<b>Eye contact</b>	May be irritating to eyes.
<b>Ingestion</b>	May cause discomfort if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

**Acute toxicity** Not classified.

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	6450 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Not classified.

**Serious eye damage/eye irritation** Not classified.

### Respiratory or skin sensitization

**Respiratory sensitization** Not available.

**Skin sensitization** Irritating to skin.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

### IARC Monographs. Overall Evaluation of Carcinogenicity

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	3 Not classifiable as to carcinogenicity to humans.
QUARTZ (CAS 14808-60-7)	1 Carcinogenic to humans.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

QUARTZ (CAS 14808-60-7)	Cancer
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### US. National Toxicology Program (NTP) Report on Carcinogens

QUARTZ (CAS 14808-60-7)	Known To Be Human Carcinogen.
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**Reproductive toxicity** Contains no ingredient listed as toxic to reproduction

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

**Chronic effects** Crystalline silica, as respirable dust particles, has caused pulmonary fibrosis in laboratory animals and humans.

## 12. Ecological information

**Ecotoxicity** Not expected to be harmful to aquatic organisms.

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> ) > 56000 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** Not available.  
**Bioaccumulative potential** Not available.  
**Mobility in soil** Not available.  
**Other adverse effects** Not available.

### 13. Disposal considerations

**Disposal instructions** Dispose of contents/container in accordance with local/regional/national/international regulations. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.  
**Hazardous waste code** Not applicable.  
**Waste from residues / unused products** Dispose of in accordance with local regulations.  
**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

### 14. Transport information

**DOT**  
Not regulated as dangerous goods.  
**IATA**  
Not regulated as dangerous goods.  
**IMDG**  
Not regulated as dangerous goods.  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

### 15. Regulatory information

**US federal regulations** CERCLA/SARA Hazardous Substances - Not applicable.  
**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**  
Not regulated.  
**CERCLA Hazardous Substance List (40 CFR 302.4)**  
Not listed.  
**SARA 304 Emergency release notification**  
Not regulated.  
**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**  
 QUARTZ (CAS 14808-60-7) Cancer  
 lung effects  
 immune system effects  
 kidney effects  
**Superfund Amendments and Reauthorization Act of 1986 (SARA)**  
**SARA 302 Extremely hazardous substance**  
Not listed.  
**SARA 311/312 Hazardous chemical** No  
**SARA 313 (TRI reporting)**  
Not regulated.  
**Other federal regulations**  
**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**  
Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.**US state regulations** WARNING: This product contains a chemical known to the State of California to cause cancer.**California Proposition 65****US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

QUARTZ (CAS 14808-60-7)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
 A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision****Issue date** 12-11-2014**Revision date** 05-08-2020**Version #** 04**Further information** HMIS® is a registered trade and service mark of the NPCA.**NFPA ratings**  
Health: 1  
Flammability: 0  
Instability: 0**References**  
ACGIH  
EPA: AQUIRE database  
NLM: Hazardous Substances Data Base  
US. IARC Monographs on Occupational Exposures to Chemical Agents  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices**Disclaimer**  
The information provided in this Safety Data Sheet is correct to the best of our knowledge information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**Revision information**  
Physical & Chemical Properties: Multiple Properties  
GHS: Classification

6165 W Detroit St. • Chandler AZ 85226  
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 www.crafco.com

**READ BEFORE USING THIS PRODUCT**

**GENERAL** TechCrete is gray in color, aesthetically suitable in all concrete pavements, and is used in sealing wide cracks and joints, and repairing a large variety of pavement distresses in Portland Cement Concrete Pavement and Asphalt Concrete Pavement. Pavement distresses appropriate for TechCrete include but are not limited to: A) Cracking (Corner breaks, Longitudinal and transverse cracking), B) Joint Deficiencies (Spalling of longitudinal and transverse joints), C) Surface Defects (Map cracking and scaling, Popouts), and D) Miscellaneous distresses (Blowups, Faulting of transverse joints and cracks, Lane-to-shoulder dropoff, Lane-to-shoulder separation, and Patch/Patch deterioration). TechCrete is used in highway, street, road, parking lot, bridge decks, airport taxiways and runways, and other pavement surfaces. The unique design features of TechCrete produce an impervious, impact-resistant, load-bearing, flexible repair that withstands vehicle traffic, aircraft, movement and climatic conditions. VOC = 0 g/l.

TechCrete – FIBRE MASTIC is a hot-applied, flexible mastic sealant compound made of polymer-modified synthetic resin containing chopped fiberglass, fillers, fines, high quality aggregate and 0.5-1.0% steel fiber. TechCrete is supplied in powder / granular form in meltable bags. To use, bags of TechCrete are placed in an approved melter (Crafco Patcher I or II) where it is mixed and heated to the required installation temperature range. TechCrete–FIBRE MASTIC is then poured into the prepared pavement section with structural aggregate (Part No. 33033) as described in the Installation Instructions. The repair is then covered with a specific surfacing aggregate (Crafco Part No. 33374) or a surfacing aggregate specified in the project plan and approved by Crafco. The repair is allowed to cool and solidify prior to opening to traffic.

Read all information prior to using TechCrete – FIBRE MASTIC: 1) Product Data Sheet, 2) Safety Data Sheet, 3) Installation Instructions, 4) Grinding Instructions, and 5) Patcher Equipment Safety Manual.

Product	Recommended Use
<p><b>TechCrete-FIBRE MASTIC</b></p> <p>Contains ideal pre-measured, pre-mixed combination of proprietary binder and fine aggregate plus 0.5-1% steel fibers.</p> <p>TechCrete-FIBRE MASTIC <u>without structural aggregate</u> can be used in shallow repairs where neat edge feathering is required.</p>	<p><b>Wide Cracks and Joints</b></p> <p>TechCrete-FIBRE MASTIC <u>without structural aggregate</u> is designed for treating wide cracks and joints with a minimum joint of 1.5 inches (38 mm) wide and up to 4 inches (100 mm) wide and up to full-depth repairs.</p> <p>TechCrete-FIBRE MASTIC <u>with structural aggregate</u> is designed for treating wide cracks and joints greater than or equal to 2 inches (50 mm) wide and greater than or equal to 2 inches (50 mm) depth up to full-depth repairs.</p> <p><b>Surface Defects and Miscellaneous Distresses</b></p> <p>TechCrete-FIBRE MASTIC is designed for treating most other distresses as partial-depth repairs from 0.75 to 8 inches (20 to 200 mm) deep, recognizing that the minimum application depth is 2 inches (50 mm).</p> <p>TechCrete-FIBRE MASTIC is designed to increase productivity in repairing deep distresses. The addition of bulking stone reduces the number of lifts required for deep distresses and will cool deep distresses quicker improving time to traffic use. However, TechCrete-FIBRE MASTIC does require field mixing and blending that increases the potential for variability and application errors that may reduce effectiveness compared to TechCrete TBR.</p>



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**SPECIFICATION CONFORMANCE** Specification limits for TechCrete-FIBRE MASTIC when tested according to TxDOT Special Specification 7622 and CrafcO specification are as follows:

<u>Parameter</u>	<u>TechCrete – Fibre Mastic</u>
Color	Gray
Specific Gravity (CrafcO TTM-10)	1.8 – 2.0 g/cc
Cone Flow, 3 hrs. @ 158°F (70°C)(Tex-549-C)	4% Maximum
Tensile Strain to Failure, (TEX-548-C) Peak Load	50 pound Minimum
0.75 inches, 2.0 inches/minute (TEX-548-C) Strain	35% Minimum
Aggregate Settlement, (TEX-551-C)	2.3mm (3%)
Resilience, (TEX-547-C)	50% Minimum
Flexibility, (TEX-550-C)	No cracking at bend
Minimum Application Temperature	330°F (166°C)
Maximum Heating Temperature	360°F (182°C)
Shelf Life	2 Years

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**INSTALLATION** Prior to use, the user must read and follow Installation Instructions for TechCrete-FIBRE MASTIC to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are provided with each shipment.

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**PACKAGING** TechCrete – FIBRE MASTIC is packaged in meltable bags each containing approximately 35 +/- 2 pounds (15.8 +/- 1 kg) of product. Bags are stacked and stretch wrapped on pallets containing approximately 2700 pounds (1225 kg). Pallets are weighed and the product is sold by net weight. Each 35 bag fills a void ~ 0.27-0.39 cubic feet (0.008-0.011 m3). Each pallet fills a void ~ 21-30 cubic feet (0.59-0.85 m3). The amount of material used to fill the void will vary depending on amount of structural aggregate used. Pallets and unopened bags of TechCrete – FIBRE MASTIC are resistant to weather and moisture and can be stored outside.

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**WARRANTY** CRAFCO, Inc. warrants that CRAFCO products meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing or filling are beyond our control as are the use and application of the products; therefore, CrafcO shall not be responsible for improperly applied or misused products. Remedies against CrafcO, Inc., as agreed to by CrafcO, are limited to replacing nonconforming product or refund (full or partial) of purchase price from CrafcO, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by CrafcO, Inc. whichever is earlier. There shall be no other warranties expressed or implied. For optimum performance, follow CrafcO recommendations for product installation.



**LABORATORY REPORT**  
**TECHCRETE TBR STANDARD**  
(Part No. 34953)

Lot Number:           T9284          

<u>PROPERTY</u>	<u>TEST RESULTS</u>	<u>SPECIFICATION</u>
		<u>LIMITS</u>
Techcrete Flow mm, TTM-18	<u>0mm</u>	<u>5mm Max</u>
Techcrete Flexibility, TTM2	<u>Pass</u>	<u>Pass</u>
Techcrete Specific Gravity, TTM10	<u>2.07</u>	<u>2.13-1.93</u>

Respectfully Submitted,

CRAFCO, INC.

Ian Lowry  
Pavement Material Manager



**LABORATORY REPORT**  
**TECHCRETE TBR STANDARD**  
(Part No. 34953)

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Respectfully Submitted,

CRAFCO, INC.

Ian Lowry  
Pavement Material Manager



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Crafco Techcrete Products  
**Other means of identification** None.  
**Recommended use** Pavement Patching  
**Recommended restrictions** None known.  
**Manufacturer/Importer/Supplier/Distributor information**  
**Manufacturer:** Crafco, Inc.  
**Address:** 6165 West Detroit St.  
Chandler, AZ 85226 USA  
**Contact Name:** Crafco Materials Engineering  
**Telephone:** 602-276-0406  
**E-mail:** sales@crafco.com  
**CHEMTREC:** 800-424-9300 (North America)  
+ 1-703-527-3887 (International)

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Not classified.  
**Environmental hazards** Not classified.  
**OSHA defined hazards** Not classified.

\*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

### Label elements

**Hazard symbol** None.  
**Signal word** Not applicable.  
**Hazard statement** Not applicable.  
**Precautionary statement**  
**Prevention** Not applicable.  
**Response** Not applicable.  
**Storage** Not applicable.  
**Disposal** Not applicable.  
**Hazard(s) not otherwise classified (HNOC)** None known.  
**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
FELDSPAR		68476-25-5	20 - 40
CALCIUM CARBONATE		471-34-1	5 - 15
PETROLEUM HYDROCARBON RESIN		64742-16-1	5 - 15
QUARTZ		14808-60-7	5 - 15
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC		64742-52-5	< 5
PORTLAND CEMENT		65997-15-1	< 2

## 4. First-aid measures

<b>Inhalation</b>	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention, if needed.
<b>Skin contact</b>	Remove contaminated clothing. Wash off with soap and plenty of water. Get medical attention if irritation develops and persists. Wash clothing separately before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	Symptoms may be delayed.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Wash contaminated clothing before re-use.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water spray, foam, dry powder or carbon dioxide.
<b>Unsuitable extinguishing media</b>	Straight Streams of Water
<b>Specific hazards arising from the chemical</b>	Irritating and toxic gases or fumes may be released during a fire.
<b>Special protective equipment and precautions for firefighters</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
<b>Fire fighting equipment/instructions</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Avoid inhalation of vapor, fumes, dust and/or mist from the spilled material.
<b>Methods and materials for containment and cleaning up</b>	Never return spills in original containers for re-use. Collect in marked containers and deliver to approved depot.
<b>Environmental precautions</b>	Do not contaminate water.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in a well-ventilated place. Keep container tightly closed. Store in a closed container away from incompatible materials. Never allow product to get in contact with water during storage. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children. Use care in handling/storage.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
CALCIUM CARBONATE (CAS 471-34-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value	Form
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	PEL	5 mg/m <sup>3</sup>	Mist.
PORTLAND CEMENT (CAS 65997-15-1)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m <sup>3</sup>	Respirable dust.

**US. OSHA Table Z-3 (29 CFR 1910.1000)**

Components	Type	Value	Form
PORTLAND CEMENT (CAS 65997-15-1)	TWA	50 mppcf	
QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m <sup>3</sup>	Respirable.
		2.4 mppcf	Respirable.

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.
PORTLAND CEMENT (CAS 65997-15-1)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m <sup>3</sup>	Respirable fraction.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value	Form
CALCIUM CARBONATE (CAS 471-34-1)	TWA	5 mg/m <sup>3</sup>	Respirable.
		10 mg/m <sup>3</sup>	Total
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	Ceiling	1800 mg/m <sup>3</sup>	
	STEL	10 mg/m <sup>3</sup>	Mist.
	TWA	350 mg/m <sup>3</sup>	
PORTLAND CEMENT (CAS 65997-15-1)	TWA	5 mg/m <sup>3</sup>	Respirable.
		10 mg/m <sup>3</sup>	Total
QUARTZ (CAS 14808-60-7)	TWA	0.05 mg/m <sup>3</sup>	Respirable dust.

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses; chemical goggles (if splashing is possible).

**Skin protection****Hand protection**

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

**Other**

Do not get this material in contact with skin. Chemical resistant gloves.

**Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal hazards** Not available.

**General hygiene considerations** Do not get in eyes. When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Appearance** Granular.

**Physical state** Solid.

**Form** Solid.

**Color** Grey.

**Odor** Not significant.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** 225 °F (107.22 °C)

**Initial boiling point and boiling range** Not determined

**Flash point** > 445.0 °F (> 229.4 °C)

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** < 1 mm Hg

**Vapor density** Not available.

**Relative density** Not available.

**Solubility(ies)**

**Solubility (water)** Insoluble

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not determined

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Other information**

**Specific gravity** 1.7 - 2

## 10. Stability and reactivity

**Reactivity** Not Reactive

**Chemical stability** Stable under normal temperature conditions.

**Possibility of hazardous reactions** Not available.

**Conditions to avoid** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors

**Incompatible materials** Oxidizing materials.

**Hazardous decomposition products** Irritants. Toxic gas.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system.
<b>Skin contact</b>	Causes mild skin irritation.
<b>Eye contact</b>	May be irritating to eyes.
<b>Ingestion</b>	May cause discomfort if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

**Acute toxicity** Not classified.

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	6450 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Not classified.

**Serious eye damage/eye irritation** Not classified.

### Respiratory or skin sensitization

**Respiratory sensitization** Not available.

**Skin sensitization** Irritating to skin.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

### IARC Monographs. Overall Evaluation of Carcinogenicity

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY 3 Not classifiable as to carcinogenicity to humans.

NAPHTHENIC (CAS 64742-52-5)

QUARTZ (CAS 14808-60-7) 1 Carcinogenic to humans.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

QUARTZ (CAS 14808-60-7) Cancer

### US. National Toxicology Program (NTP) Report on Carcinogens

QUARTZ (CAS 14808-60-7) Known To Be Human Carcinogen.

**Reproductive toxicity** Contains no ingredient listed as toxic to reproduction

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

**Chronic effects** Crystalline silica, as respirable dust particles, has caused pulmonary fibrosis in laboratory animals and humans.

## 12. Ecological information

**Ecotoxicity** Not expected to be harmful to aquatic organisms.



Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> ) > 56000 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** Not available.  
**Bioaccumulative potential** Not available.  
**Mobility in soil** Not available.  
**Other adverse effects** Not available.

### 13. Disposal considerations

**Disposal instructions** Dispose of contents/container in accordance with local/regional/national/international regulations. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.  
**Hazardous waste code** Not applicable.  
**Waste from residues / unused products** Dispose of in accordance with local regulations.  
**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

### 14. Transport information

#### DOT

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

### 15. Regulatory information

**US federal regulations** CERCLA/SARA Hazardous Substances - Not applicable.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

#### SARA 304 Emergency release notification

Not regulated.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

QUARTZ (CAS 14808-60-7)

Cancer  
lung effects  
immune system effects  
kidney effects

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

##### SARA 302 Extremely hazardous substance

Not listed.

##### SARA 311/312

No

##### Hazardous chemical

##### SARA 313 (TRI reporting)

Not regulated.

#### Other federal regulations

##### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.**US state regulations** WARNING: This product contains a chemical known to the State of California to cause cancer.**California Proposition 65****US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

QUARTZ (CAS 14808-60-7)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision****Issue date** 12-11-2014**Revision date** 05-08-2020**Version #** 04**Further information** HMIS® is a registered trade and service mark of the NPCA.**NFPA ratings**  
Health: 1  
Flammability: 0  
Instability: 0**References**  
ACGIH  
EPA: AQUIRE database  
NLM: Hazardous Substances Data Base  
US. IARC Monographs on Occupational Exposures to Chemical Agents  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices**Disclaimer**  
The information provided in this Safety Data Sheet is correct to the best of our knowledge information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**Revision information**  
Physical & Chemical Properties: Multiple Properties  
GHS: Classification

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+1 (602) 276-0406 • +1 (800) 528-8242 • FAX +1 (480) 961-0513  
www.crafco.com

Product shall be supplied in 30 lb. (13.6 kg) completely meltable packages that are interlock stacked on pallets containing 2100 lb. (952 kg) of product. The individual packages and palletized unit shall not contain any cardboard components to open, empty, handle, or dispose of. Packages shall be labeled in accordance with OSHA, GHS and ASTM requirements. The packages and palletized unit shall be water and weather resistant and shall be able to be stored outside.

The individual packages of product shall be encased in a high-strength, low-density, protective covering that quickly melts into the product at normal use temperatures without affecting product installation characteristics or specification conformance.

The protective covering shall not weigh more than 0.50% of the product weight and shall have the following properties:

Thickness (ASTM D1777, 7.15 psi, 0.625 in. dia. presser)	0.004-0.008 in. (0.10-0.20 mm)
Puncture Resistance (ASTM E 154)	75 lb. (334N) minimum
Tensile Strength (ASTM D5035, cut strip, 2 in. /min)	20 lb. /in. (35N/cm) minimum
Density (ASTM D792)	0.50 g/cc maximum



**LABORATORY REPORT**  
**TECHCRETE TBR STANDARD**  
(Part No. 34953)

Lot Number:           T9284          

<u>PROPERTY</u>	<u>TEST RESULTS</u>	<u>SPECIFICATION</u>
Techcrete Flow mm, TTM-18	<u>0mm</u>	<u>5mm Max</u>
Techcrete Flexibility, TTM2	<u>Pass</u>	<u>Pass</u>
Techcrete Specific Gravity, TTM10	<u>2.07</u>	<u>2.13-1.93</u>

Respectfully Submitted,

CRAFCO, INC.

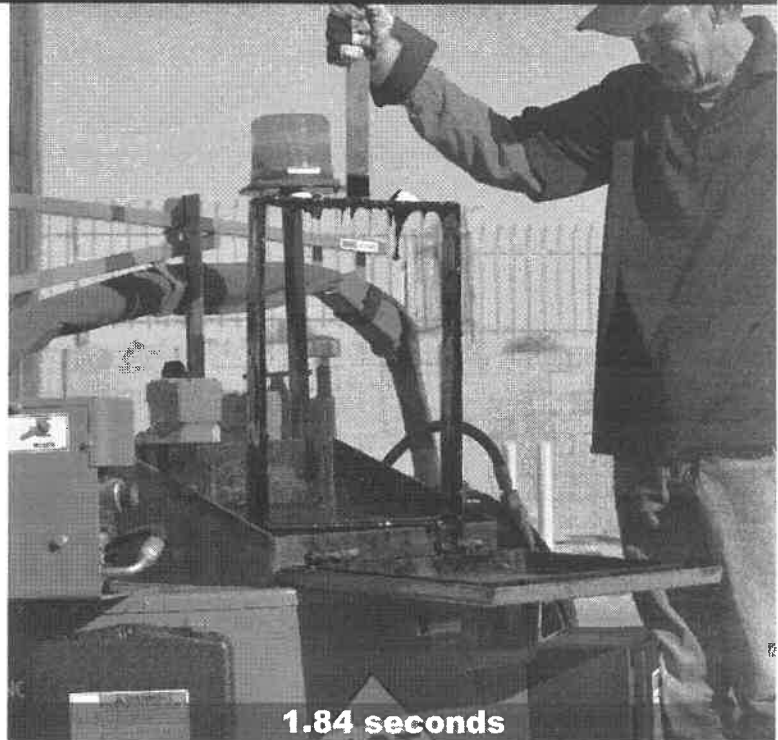
Ian Lowry  
Pavement Material Manager

# PLEXI-melt™

## Fast Melting Packaging!



0.0 seconds



1.84 seconds

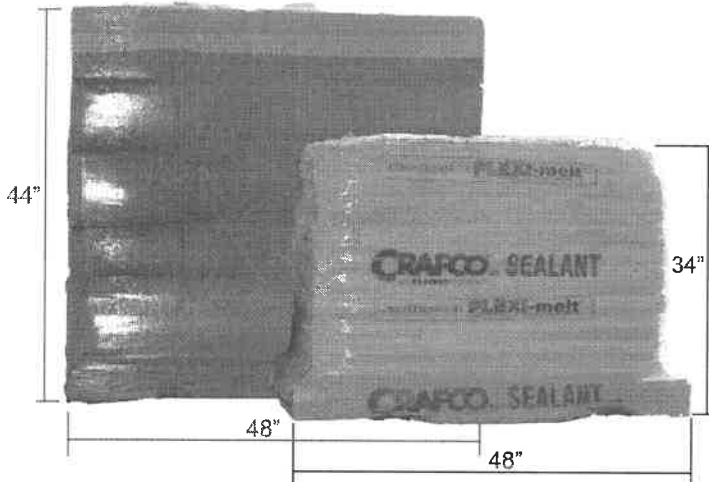
### Meltable Packaging for Mastic & Sealant Products

#### Benefits of PLEXI-melt

PLEXI-melt is an innovative high strength, low density, protective packaging used to contain CrafcO hot-applied sealants and mastics that quickly and thoroughly melts into the material at normal operating temperatures without affecting product installation characteristics or specification performance.

- PLEXI-melt eliminates the need for traditional cardboard boxes or metal containers!
- Saves Money! The need for an extra crew member is eliminated!
- Shape of PLEXI-melt block melts 58% faster than traditional containers of mastic/sealant material
- Easy to handle! Simply add PLEXI-melt block directly into the melter
- Fast melting packaging is made from an extremely lightweight yet durable material
- Does NOT affect mastic/sealant specification
- Promotes Safety. Each PLEXI-melt package is labeled with OSHA and GHS requirements

## Benefits of using PLEXI-melt



### More convenient to transport & store

Whether you are transporting a pallet or individual blocks, PLEXI-melt's low profile package makes it easier and safer for you to transport material to your job site(s).

- A full 10" shorter, a pallet of PLEXI-melt has a low profile and is easy to store
- PLEXI-melt packaging is both sun and water-resistant allowing it to be stored up to one year outdoors



Truck bed after traditional boxed sealant

Empty truck bed after PLEXI-melt

### Easy to Use

PLEXI-melt patented designed packaging allows users to drop the whole package into the melter, moving directly from the pallet to the melter, eliminating the time and labor needed to open cardboard boxes or metal containers, and remove the sealant/mastic. The PLEXI-melt packaging melts completely, preventing messy clogs and potential down time.

- No cardboard or metal contamination
- Environmentally friendly - waste is eliminated

### Block sizes work with all melters

It's ideal for all Crafcro direct-fire or oil-jacketed melters and there's no need to purchase additional upgrades or equipment.

### Does not affect the sealant

PLEXI-melt uses the smallest amount of meltable packaging available (less than 0.50% of total package weight). At Crafcro, we formulate our high-quality material so that customer specifications are met or exceeded.



Packaging Details: Block weight 30 lbs. each • 70 blocks per pallet  
Pallet weight 2,100 lbs. net • Dimensions 12"W x 18"L x 3"H



**PRODUCT DATA SHEET**

**MASTIC ONE**

**PART NO. 33339**

March 2020

6165 W Detroit St. • Chandler AZ 85226  
 +1 (602) 276-0406 • +1 (800) 528-8242 • FAX +1 (480) 961-0513  
 www.crafco.com

**READ BEFORE USING THIS PRODUCT**

**GENERAL** Mastic One is a hot-applied, pourable, aggregate filled, black color, polymer modified asphalt pavement repair mastic. Mastic One complies with ASTM D8260 Type I. Mastic One is used for sealing, filling and repairing many distresses in both asphalt concrete and portland cement concrete pavements and bridge deck surfaces that are larger than those typically repaired by crack or joint sealing, but smaller than repairs requiring remove and replace patching procedures. Typical uses include sealing, filling and leveling of wide transverse or longitudinal cracks and joints, filling potholes and utility cuts, localized skin patch repairs, repairs prior to surface treatments, and leveling bridge approaches or faulted areas. When properly applied, Mastic One forms a well-bonded, flexible, durable, traffic resistant repair. To use, Mastic One is placed into an appropriate melter (Crafco Patcher units), mixed and heated until application temperature is reached, poured into the prepared repair area and then leveled. Mastic One is formulated to provide neat feathered edge installation. Mastic One is then ready for traffic when it has cooled and solidified. VOC = 0 g/l.

**PROPERTIES** Properties of the binder, aggregate and blended and heated Mastic One according to ASTM D8260 are as follows:

<u>Property</u>	<u>Requirement</u>
<b>POLYMER MODIFIED BINDER</b>	
Cone Penetration, 77°F (25°C) (ASTM D5329)	60 max
Cone Penetration, 122°F (50°C) (ASTM D5329)	120 max
Softening Point, (ASTM D36)	200°F (93°C) min
Flexibility, 1" (25.4 mm), 180°, 10 sec (ASTM D3111 modified)	Pass at 32°F (0°C)
<b>AGGREGATE</b>	
Abrasion Resistance (ASTM C131)	35% max
<b>BLENDED PRODUCT</b>	
Flexibility, 32°F (0°C) (ASTM D5329)	Pass
Adhesion, 77°F (25°C) (ASTM D5329)	25 PSI (172 KPA) min
Specific Gravity	1.7 -2.0
Minimum Application Temperature	375°F (190°C) *
Maximum Application Temperature	400°F (204°C)
<b>Test</b>	
Mastic Resilience (ASTM (8260)	50% minimum
Effects of Rapid Deformation (ASTM D2794) (-7°C)	3 passing specimens no chipping, cracking or separation 8 N-m
Crack Bridging (ASTM C1305 modified) (-7°C)	Pass 3 cycles
Mastic Stability (ASTM D8260) (70°C)	40.0 mm maximum

\*Refer to installation instructions if working on sloped pavements or repairing larger defects

**INSTALLATION** The density of Mastic One is 116 pcf (+/- 3%) and the weight per gallon is 15.5 lbs./gal (1.86 kg/l) at 60°F (15.5°C). Prior to use, the user must read and follow Installation Instructions for Mastic One to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are available at www.crafco.com and provided with each pallet of Mastic One.

**PACKAGING** Mastic One is supplied in either cardboard boxes, or in meltable, boxless PLEXI-melt packaging. Each package contains premeasured polymer modified binder and aggregate. Both package types are labeled in accordance with OSHA, GHS, and specification requirements; are sold by net weight; are interlock stacked on 48 x 40 in. (122 x102 cm) 4-way pallets; can be stored outside; and are covered with a weather resistant pallet cover and 2 layers of UV protected stretch wrap.

- o **BOX** packaging consists of cardboard boxes containing approximately 40 lb. (18.1 kg) of product with 60 boxes per pallet, weighing approximately 2400 lb. (1088 kg). Boxes contain a quick melting release film for easy removal and are taped closed, without any staples.
- o **PLEXI-melt** packaging consists of 30 lb. (13.6 kg) blocks of product with 70 packages per pallet, weighing 2100 lb. (952 kg). To use, the pallet wrap is removed, and individual blocks are placed in the melter. There are no cardboard boxes or other cardboard components to open, empty, handle, or dispose of. PLEXI-melt packaging quickly melts into the product without affecting specification conformance.

**WARRANTY** Crafco, Inc. warrants that Crafco products meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing or filling are beyond our control as are the use and application of the products; therefore, Crafco shall not be responsible for improperly applied or misused products. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafco recommendations for product installation.**



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Crafcoc Mastic and Matrix Products  
**Other means of identification** None.  
**Recommended use** Pavement Patching and Repair  
**Recommended restrictions** None known.  
**Manufacturer/Importer/Supplier/Distributor information**  
**Manufacturer:** Crafcoc, Inc.  
**Address:** 6165 West Detroit St.  
Chandler, AZ 85226 USA  
**Contact Name:** Crafcoc Materials Engineering  
**Telephone:** 602-276-0406  
**E-mail:** sales@crafco.com  
**CHEMTREC:** 800-424-9300 (North America)  
+ 1-703-527-3887 (International)

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Not classified.  
**Environmental hazards** Not classified.  
**OSHA defined hazards** Not classified.

\*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

### Label elements

**Hazard symbol** None.  
**Signal word** Not applicable.  
**Hazard statement** Not applicable.  
**Precautionary statement**  
**Prevention** Not applicable.  
**Response** Not applicable.  
**Storage** Not applicable.  
**Disposal** Not applicable.  
**Hazard(s) not otherwise classified (HNOC)** None known.  
**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC		64742-52-5	0 - 75
QUARTZ		14808-60-7	0 - 75
ASPHALT		8052-42-4	10 - 40
CALCIUM CARBONATE		471-34-1	0 - 10
Other components below reportable levels			26.06

## 4. First-aid measures

**Inhalation** If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. Get medical attention, if needed.



<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly wash (or discard) clothing and shoes before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	In case of ingestion, the decision of whether or not to induce vomiting should be made by the attending physician. Certain pre-existing conditions may make workers particularly susceptible to the effects of this chemical: asthma, allergies, impaired pulmonary function.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Discard any shoes or clothing items that cannot be decontaminated.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ). Addition of water or foam to the fire may cause frothing.
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear full protective clothing including self contained breathing apparatus. Structural firefighters protective clothing will only provide limited protection.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. In the event of fire, cool tanks with water spray. By fire, toxic gases may be formed (CO <sub>x</sub> , NO <sub>x</sub> ). Keep run-off water out of sewers and water sources. Dike for water control.
<b>Specific methods</b>	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Ventilate closed spaces before entering them. Do not touch or walk through spilled material.
<b>Methods and materials for containment and cleaning up</b>	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Dike far ahead of spill for later disposal. Following product recovery, flush area with water.  Never return spills in original containers for re-use.
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Runoff or release to sewer, waterway or ground is forbidden.

## 7. Handling and storage

<b>Precautions for safe handling</b>	The product is non-combustible. If heated, irritating vapors may be formed. Do not use in area without adequate ventilation. Wash hands thoroughly after handling. Wash hands after handling. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in a well-ventilated place. Keep the container tightly closed and dry. Store in a closed container away from incompatible materials. Keep out of the reach of children.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
CALCIUM CARBONATE (CAS 471-34-1)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	PEL	5 mg/m <sup>3</sup>	Mist.
QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m <sup>3</sup>	Respirable dust.

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m <sup>3</sup>	Respirable.
		2.4 mppcf	Respirable.

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m <sup>3</sup>	Inhalable fume.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m <sup>3</sup>	Respirable fraction.

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form	
ASPHALT (CAS 8052-42-4)	Ceiling	5 mg/m <sup>3</sup>	Fume.	
CALCIUM CARBONATE (CAS 471-34-1)	TWA	5 mg/m <sup>3</sup>	Respirable.	
		10 mg/m <sup>3</sup>	Total	
		1800 mg/m <sup>3</sup>		
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	Ceiling	1800 mg/m <sup>3</sup>		
QUARTZ (CAS 14808-60-7)	STEL	10 mg/m <sup>3</sup>	Mist.	
		TWA	350 mg/m <sup>3</sup>	
		TWA	0.05 mg/m <sup>3</sup>	Respirable dust.

#### Biological limit values

No biological exposure limits noted for the ingredient(s).

#### Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). Wear chemical goggles; face shield (if handling molten material).

##### Skin protection

##### Hand protection

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

##### Other

Wear suitable protective clothing and eye/face protection. Use of an impervious apron is recommended.

##### Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal hazards** During product use, there is a risk of thermal burns.  
**General hygiene considerations** When using do not smoke. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Appearance** Solid.  
**Physical state** Solid.  
**Form** Solid.  
**Color** Black. Dark brown  
**Odor** Product is a black, semi-solid with a burnt tar odor.  
**Odor threshold** Not available.  
**pH** Not available.  
**Melting point/freezing point** 150 - 250 °F (65.56 - 121.11 °C) ASTM D36 Softening Point  
**Initial boiling point and boiling range** > 800 °F (> 426.67 °C)  
**Flash point** > 400.0 °F (> 204.4 °C)  
**Evaporation rate** Not available.  
**Flammability (solid, gas)** Not available.  
**Upper/lower flammability or explosive limits**  
**Flammability limit - lower (%)** Not available.  
**Flammability limit - upper (%)** Not available.  
**Explosive limit - lower (%)** Not available.  
**Explosive limit - upper (%)** Not available.  
**Vapor pressure** 4.07 hPa estimated  
**Vapor density** Not available.  
**Relative density** Not available.  
**Solubility(ies)**  
**Solubility (water)** Not available.  
**Partition coefficient (n-octanol/water)** Not available.  
**Auto-ignition temperature** > 700 °F (> 371.11 °C)  
**Decomposition temperature** Not available.  
**Viscosity** Not available.  
**Other information**  
**Density** Not Available  
**Percent volatile** 0 %  
**Specific gravity** 1 - 2.2

## 10. Stability and reactivity

**Reactivity** Not Reactive  
**Chemical stability** Material is stable under normal conditions.  
**Possibility of hazardous reactions** Hazardous polymerization does not occur.  
**Conditions to avoid** Strong oxidizing agents.  
**Incompatible materials** Incompatible with oxidizing agents.  
**Hazardous decomposition products** Upon decomposition, product emits acrid dense smoke with carbon dioxide, carbon monoxide, trace oxides of nitrogen and sulfur, and water.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system.
<b>Skin contact</b>	Irritating to skin.
<b>Eye contact</b>	Causes eye irritation. Molten material will produce thermal burns.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	6450 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Defats the skin. Causes irritation.

**Serious eye damage/eye irritation** Irritating to eyes.

#### Respiratory or skin sensitization

**Respiratory sensitization** Not available.

**Skin sensitization** Irritating to skin.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

#### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

**Reproductive toxicity** Contains no ingredient listed as toxic to reproduction

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

**Chronic effects** Prolonged inhalation may be harmful. May cause eczema-like skin disorders (dermatitis)

## 12. Ecological information

**Ecotoxicity** This product has no known eco-toxicological effects. Not expected to be harmful to aquatic organisms.

Components	Species	Test Results
CALCIUM CARBONATE (CAS 471-34-1)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> ) > 56000 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

<b>Persistence and degradability</b>	Not available.
<b>Bioaccumulative potential</b>	Not available.
<b>Mobility in soil</b>	Not available.
<b>Other adverse effects</b>	Not available.

### 13. Disposal considerations

<b>Disposal instructions</b>	Dispose of contents/container in accordance with local/regional/national/international regulations. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.
<b>Hazardous waste code</b>	Not applicable.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Offer rinsed packaging material to local recycling facilities.

### 14. Transport information

#### DOT

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

**General information** Not regulated as dangerous goods.

**Further information** If the product is shipped at temperatures below 212°F (100°C), it is not regulated for transport by ground, air or vessel. If shipped above 212 deg F: "UN3257, Elevated Temperature Liquid, n.o.s. (Asphalt mixture), 9, PG III"

### 15. Regulatory information

**US federal regulations** All components are on the U.S. EPA TSCA Inventory List.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

#### SARA 304 Emergency release notification

Not regulated.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

QUARTZ (CAS 14808-60-7)

Cancer  
lung effects  
immune system effects  
kidney effects

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

##### SARA 302 Extremely hazardous substance

Not listed.

##### Classified hazard categories

Specific target organ toxicity (single or repeated exposure)

##### SARA 313 (TRI reporting)

Not regulated.

#### Other federal regulations

##### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

##### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

##### Safe Drinking Water Act (SDWA)

Not regulated.

**US state regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**California Proposition 65****California Proposition 65 - CRT: Listed date/Carcinogenic substance**

ASPHALT (CAS 8052-42-4)

Listed: January 1, 1990

QUARTZ (CAS 14808-60-7)

Listed: October 1, 1988

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

ASPHALT (CAS 8052-42-4)

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)

QUARTZ (CAS 14808-60-7)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision****Issue date** 05-11-2020**Version #** 01**Further information** HMIS® is a registered trade and service mark of the NPCA.**NFPA ratings**  
Health: 0  
Flammability: 0  
Instability: 0**References**  
ACGIH  
EPA: AQUIRE database  
US. IARC Monographs on Occupational Exposures to Chemical Agents  
HSDB® - Hazardous Substances Data Bank  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices**Disclaimer**  
The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Revision information**

Product and Company Identification: Alternate Trade Names  
First-aid measures: Skin contact  
Fire-fighting measures: Specific hazards arising from the chemical  
Handling and storage: Conditions for safe storage, including any incompatibilities  
Exposure controls/personal protection: Appropriate engineering controls  
Physical & Chemical Properties: Multiple Properties  
Stability and reactivity: Reactivity  
Toxicological information: Carcinogenicity  
Transport information: Further information  
HazReg Data: International Inventories  
GHS: Classification



**LABORATORY REPORT**  
**HP Concrete Cold Patch**  
**(Part Number 34969)**

Lot Number: **T9125**  
Date of Test: 7/29/2023  
Date of Report: 8/30/2023

**HP Cold Mix Properties**

<b>Property</b>	<b>Test Result</b>	<b>Specification Limit</b>
Boiling Water Stripping Test, (ASTM D3625)	<b>97</b>	95% minimum
Workability	<b>Pass</b>	Workable 30°F to 100°F

**Aggregate Properties**

<b>Property</b>	<b>Test Result</b>	<b>Specification Limit</b>
Aggregate Size (ASTM C136)	<b>100</b>	100% passing 3/8" sieve
LA Abrasion Loss, (AASHTO T96)	<b>26</b>	40 maximum

Respectfully Submitted,

CRAFCO, INC

Ian Lowry  
Pavement Material Manager

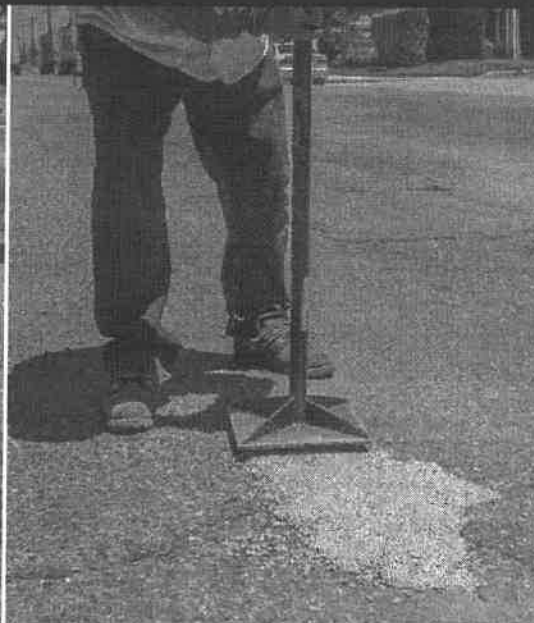


# HP Concrete Cold Patch™

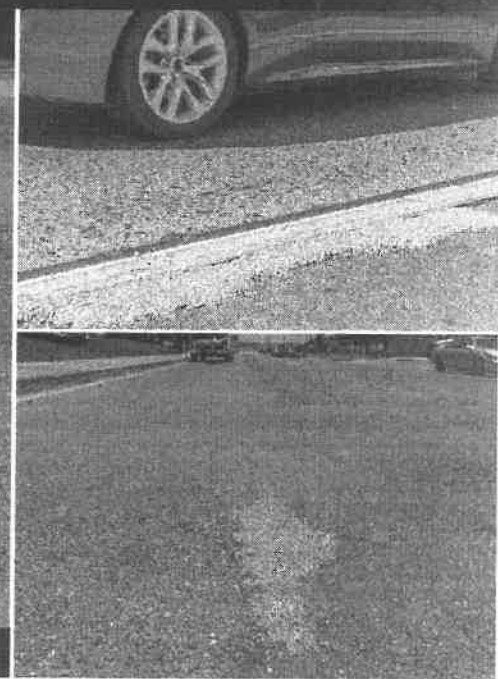
One Repair Solution for Proven Results on Multiple Surfaces



Concrete



Asphalt



Repair wide cracks, potholes & other voids quickly & completely in concrete & asphalt

Crafco HP Concrete Cold Patch™ offers a solution for both sides of the pavement universe. Featuring a unique gray color and special design, HP Concrete performs extremely well in repairs to either asphalt or concrete surfaces. **With 10 years of proven success, the results speak for themselves.**

Our innovative combination of construction-grade aggregate and proprietary polymer-modified resin base delivers multiple benefits. The gray color matches both concrete and oxidized asphalt, and its formulation results in a strong but flexible repair that delivers semi-permanent to permanent results based on pavement condition.

With Crafco HP Concrete Cold Patch, you get a versatile pavement repair that looks great and performs even better.

## FEATURES & BENEFITS

- Unique gray color, which blends with both concrete or oxidized asphalt
- Ready to use bags prevent waste and save money
- No mixing, mechanical compaction or tacking
- No messy clean up
- Open to traffic **immediately**
- DOT approved
- For use in all seasons

## AVAILABLE

- Easy to use 50 lb bag



Delivering Confidence Through Innovation, Quality and Value Since 1976

## HP Concrete Cold Patch™

**Crafco HP Concrete Cold Patch** is a unique, gray-colored, cold-applied patching material used to repair potholes, spalls, cracks, and other confined voids and distresses over 1" wide (2.5 cm) and greater than 1/2" (1 cm) deep in Portland cement concrete and oxidized asphalt. It can be used on roads, highways, streets, airport pavements, parking lots, bridge and parking decks, sidewalks, walkways, and floors. No mixing, heating, or special installation equipment is required.

### RECOMMENDED INSTALLATION PROCEDURES

#### INSTALLATION

- Clean, sweep, and blow the repair area free of all loose debris before applying.
- The repair area surfaces can be damp but should not have standing water or ice present during installation.
- Remove HP Concrete Cold Patch from the bag and place it into the prepared repair area.
- For best performance, HP Concrete Cold Patch should be applied with at least 1/2" (1 cm) in thickness. For repairs 1/2" (1 cm) to 2" (5 cm) thick, apply product in a single layer and compact. Repairs deeper than 2" (5 cm) should be filled in layers, from 1" (2.5 cm) to 2" (5 cm) thick, with compaction of each layer. The final layer should be placed approximately 1/4" (.6 cm) to 1/2" (1 cm) above the surface, and then be compacted to surface level with a hand or mechanical tamper or multiple passes from a vehicle tire.
- Following compaction, clean up any excess HP Concrete Cold Patch and open pavement to traffic. **Tip:** If needed in warm climates, initial surface tack can be reduced with a light sprinkle application of Portland cement, calcium carbonate powder, or fine sand over the compacted surface.

HP Concrete Cold Patch should be installed when pavement temperatures are between 30°F (-1°C) and 100°F (38°C). If applying when pavement temperatures are below 30°F (-1°C), the repair area can be warmed to at least 30°F (-1°C) using a Crafco Hot Air Lance™ or a torch. HP Concrete Cold Patch can be stored in a warmer area, not exceeding 90°F (32°C), prior to use, to improve workability.



#### STORAGE

Pallets and bags of HP Concrete Cold Patch should be kept intact and stored under cover. Shelf life of properly stored product in unopened pallets and bags is up to one year. To maintain workability, leftover HP Concrete Cold Patch from an opened bag should be placed in an airtight container such as a pail or bucket with a tight-fitting lid.

#### USAGE GUIDE

50 LB (22.7 KG)  
HP COLD PATCH BAG

Repair Area Size	Depth	Quantity per Repair
6" x 6" (15 cm x 15 cm)	1" (2.5 cm) 2" (5 cm)	0.05 bag 0.1 bag
12" x 12" (30 cm x 30 cm)	1" (2.5 cm) 2" (5 cm)	0.2 bag 0.4 bag
24" x 24" (61 cm x 61 cm)	1" (2.5 cm) 2" (5 cm)	0.8 bag 1.6 bag

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**READ BEFORE USING THIS PRODUCT**

**GENERAL** CrafcO HP Concrete Cold Patch is a unique, gray color, cold applied, single component patching material used for repairing potholes, spalls, cracks and other confined voids and distresses over 1 inch wide and greater than ½ inch deep, in Portland cement concrete and asphalt pavement, slab and deck surfaces. It can be used to repair roads, highways, streets, airport pavements, parking lots, bridge and parking decks, sidewalks, walkways and floors. HP Concrete Cold Patch is composed of a specially designed thermoplastic binder and a unique aggregate composition that produces an easy to use durable patching material that is a gray color like Portland cement concrete or oxidized asphalt pavement. HP Concrete Cold Patch can be used in most weather conditions and will adhere in cold and damp conditions. Unlike most other concrete patching materials, no mixing, heating or special installation equipment is required. HP Concrete Cold Patch is the easiest to use and has the fastest installation of all types of concrete patching materials. To use, HP Concrete Cold Patch is simply removed from the bag, placed into the prepared area to be patched, leveled and then compacted. The patch is then ready for traffic immediately after compaction. No additional curing time is needed.

**PROPERTIES** Properties of CrafcO HP Concrete Cold Patch are as follows:

Compacted In Place Unit Weight	125 pcf
Compacted In Place Density	2.0
Weight per Bag	50 lbs
Volume per Bag	0.40 cu ft
Workability	30 to 100F
Aggregate Size	100% passing 3/8 inch
Aggregate Durability	40% maximum Loss
Binder Coating Durability	95% minimum

**INSTALLATION** The repair area is to be swept clean of all loose debris and blown clean before applying patching material. The repair area surfaces can be damp but should not have free moisture present during installation. The HP Concrete Cold Patch is removed from the bag and placed into the prepared repair area. For best performance, HP Concrete Cold Patch should be applied at least ½ inch in thickness. For repairs from ½ inch to 2 inches thick, apply product in a single layer and compact. Repairs deeper than 2 inches should be filled in layers, from 1 to 2 inches thick, with compaction of each layer. The final layer should be placed approximately ¼ to ½ inch above the surface, and then be compacted to surface level with a hand or mechanical tamper or multiple passes from a vehicle tire. Compaction should be sufficient to produce firm material in the repair. Following compaction, any excess patch material is then cleaned up and the repair area can be opened to traffic. Just after installation and compaction, HP Concrete Cold Patch will be a malleable material that will not be dislodged by traffic. Over time the surface will harden. If needed at warm temperatures, initial surface tack can be reduced with a light sprinkle application of portland cement, calcium carbonate powder, or fine sand over the compacted surface. HP Concrete Cold Patch should be installed when pavement temperatures are between 30 and 100F. If applying when pavement temperatures are below 30F, the repair area can be warmed to at least 30F using a torch or heat lance. To improve workability when installing product at colder temperatures, product can be stored in a warmer area not exceeding 90F prior to use, and bags can be dropped on the ground to loosen the material, if needed.

**STORAGE** Pallets and bags of HP Concrete Cold Patch should be kept intact and stored under cover. Shelf life of properly stored product in unopened pallets and bags is up to 1 year. To maintain workability, leftover HP Concrete Cold Patch from an opened bag should be placed in an airtight container such as a pail or bucket with a tight fitting lid.

**PACKAGING** Packaging consists of individual 50 pound plastic bags which are stacked on standard 40 by 48 inch pallets. Each pallet contains 56 bags, producing a pallet weight of 2800 lbs. Palletized units are protected from the weather using a plastic pallet cover, and a minimum of two layers of six month u.v. protected stretch wrap. Pallets are labeled with the product name, part number, lot number and net product weight.

**WARRANTY** CRAFCO, Inc. warrants that CRAFCO products meet applicable specifications at time of shipment. Techniques used for the preparation of the areas to be repaired are beyond our control as are the use and application of the product; therefore, CrafcO shall not be responsible for improperly applied or misused product. Remedies against CrafcO, Inc., as agreed to by CrafcO, are limited to replacing nonconforming product or refund (full or partial) of purchase price from CrafcO, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by CrafcO, Inc. whichever is earlier. There shall be no other warranties expressed or implied. For optimum performance, follow CrafcO recommendations for product installation.



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** HP Concrete Cold Patch  
**Other means of identification** None.  
**Recommended use** Pavement Patching and Repair  
**Recommended restrictions** None known.  
**Manufacturer/Importer/Supplier/Distributor information**  
**Manufacturer:** CrafcO, Inc.  
**Address:** 6165 West Detroit St.  
Chandler, AZ 85226 USA  
**Contact Name:** CrafcO Materials Engineering  
**Telephone:** 602-276-0406  
**E-mail:** sales@crafco.com  
**CHEMTREC:** 800-424-9300 (North America)  
+ 1-703-527-3887 (International)

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Not classified.  
**Environmental hazards** Not classified.  
**OSHA defined hazards** Not classified.

\*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

### Label elements

**Hazard symbol** None.  
**Signal word** Not applicable.  
**Hazard statement** Not applicable.  
**Precautionary statement**  
**Prevention** Not applicable.  
**Response** Not applicable.  
**Storage** Not applicable.  
**Disposal** Not applicable.  
**Hazard(s) not otherwise classified (HNOC)** None known.  
**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Granite		219714-96-2	80 - 89
Ground Limestone		471-34-1	0 - 10
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC		64742-52-5	0 - 5
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT		64742-47-8	0 - 3
TITANIUM DIOXIDE		13463-67-7	0 - 0.5
CARBON BLACK		1333-86-4	0 - 0.3

## 4. First-aid measures

<b>Inhalation</b>	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention, if needed.
<b>Skin contact</b>	Immediately flush skin with plenty of water. Wash off with soap and plenty of water. Get medical attention if irritation develops and persists. Wash clothing separately before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If ingestion of a large amount does occur, call a poison control center immediately.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	Symptoms may be delayed. Treat symptomatically.
<b>General information</b>	Use personal protective equipment appropriate for handling. Get medical attention if symptoms occur. Wash contaminated clothing before re-use.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire. Straight Streams of Water
<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases.
<b>Special protective equipment and precautions for firefighters</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Structural firefighters protective clothing will only provide limited protection.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. Water runoff can cause environmental damage.
<b>Specific methods</b>	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Wear appropriate protective equipment and clothing during clean-up. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapor, fumes, dust and/or mist from the spilled material. Avoid skin contact and inhalation of vapors during disposal of spills.
<b>Methods and materials for containment and cleaning up</b>	Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Following product recovery, flush area with water. Prevent product from entering drains.
<b>Environmental precautions</b>	No special environmental precautions required.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Keep formation of airborne dusts to a minimum. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes. Use personal protective equipment as required. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash thoroughly after handling. Avoid release to the environment. Do not empty into drains.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep away from heat and sources of ignition. Store in a well-ventilated place. Keep container tightly closed.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
CARBON BLACK (CAS 1333-86-4)	PEL	3.5 mg/m <sup>3</sup>	
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	PEL	5 mg/m <sup>3</sup>	Mist.
Ground Limestone (CAS 471-34-1)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
TITANIUM DIOXIDE (CAS 13463-67-7)	PEL	15 mg/m <sup>3</sup>	Total dust.

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
TITANIUM DIOXIDE (CAS 13463-67-7)	TWA	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
CARBON BLACK (CAS 1333-86-4)	TWA	3 mg/m <sup>3</sup>	Inhalable fraction.
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.
TITANIUM DIOXIDE (CAS 13463-67-7)	TWA	10 mg/m <sup>3</sup>	

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
CARBON BLACK (CAS 1333-86-4)	TWA	0.1 mg/m <sup>3</sup>	
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)	Ceiling	1800 mg/m <sup>3</sup>	
	STEL	10 mg/m <sup>3</sup>	Mist.
	TWA	350 mg/m <sup>3</sup>	
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT (CAS 64742-47-8)	TWA	100 mg/m <sup>3</sup>	
Ground Limestone (CAS 471-34-1)	TWA	5 mg/m <sup>3</sup>	Respirable.
		10 mg/m <sup>3</sup>	Total

#### Biological limit values

No biological exposure limits noted for the ingredient(s).

#### Exposure guidelines

Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

<b>Appropriate engineering controls</b>	Ensure adequate ventilation, especially in confined areas.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Avoid contact with eyes. Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.
<b>Other</b>	Wear chemical protective equipment that is specifically recommended by the manufacturer. Apron and long sleeves are recommended.
<b>Respiratory protection</b>	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
<b>Thermal hazards</b>	Not available.
<b>General hygiene considerations</b>	When using do not smoke. Do not breathe dust. Avoid contact with eyes. Avoid contact with skin. Avoid contact with clothing. Wash hands before breaks and immediately after handling the product. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Appearance</b>	Pellets.
<b>Physical state</b>	Solid.
<b>Form</b>	Solid.
<b>Color</b>	Grey.
<b>Odor</b>	Hydrocarbon-like.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Unknown
<b>Flash point</b>	> 200.0 °F (> 93.3 °C) Cleveland Open Cup
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	0.7 % estimated
<b>Flammability limit - upper (%)</b>	5 % estimated
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	0.15 hPa estimated
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Unknown
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	16.00 - 17.00 lb/gal
<b>Percent volatile</b>	< 2 %

Specific gravity 2.00

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport  
**Chemical stability** Stable under normal temperature conditions.  
**Possibility of hazardous reactions** Hazardous polymerization does not occur.  
**Conditions to avoid** Not known.  
**Incompatible materials** Oxidizing materials.  
**Hazardous decomposition products** Irritants. Upon decomposition, product emits acrid dense smoke with carbon dioxide, carbon monoxide, trace oxides of nitrogen and sulfur, and water.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** Inhalation of vapors/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or difficulty breathing.  
**Skin contact** Causes mild skin irritation.  
**Eye contact** Irritating to eyes.  
**Ingestion** May cause discomfort if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
CARBON BLACK (CAS 1333-86-4)		
<b>Acute Oral</b>		
LD50	Rat	> 8000 mg/kg
Ground Limestone (CAS 471-34-1)		
<b>Acute Oral</b>		
LD50	Rat	6450 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Not classified.

**Serious eye damage/eye irritation** Moderately irritating to the eyes. Not classified.

#### Respiratory or skin sensitization

**Respiratory sensitization** Not classified.

**Skin sensitization** Not classified.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product contains components that may cause cancer, however, after formation this product is encapsulated and the normal routes of exposure are unavailable.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

CARBON BLACK (CAS 1333-86-4) 2B Possibly carcinogenic to humans.  
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5) 3 Not classifiable as to carcinogenicity to humans.  
TITANIUM DIOXIDE (CAS 13463-67-7) 2B Possibly carcinogenic to humans.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

#### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.



**Reproductive toxicity** Not classified.  
**Specific target organ toxicity - single exposure** Not available.  
**Specific target organ toxicity - repeated exposure** Not available.  
**Aspiration hazard** Not available.

## 12. Ecological information

**Ecotoxicity** Not expected to be harmful to aquatic organisms.

Product	Species	Test Results
HP Concrete Cold Patch		
<b>Aquatic</b>		
Fish	LC50	Fish
		193.2066 mg/l, 96 hours estimated
Components	Species	Test Results
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT (CAS 64742-47-8)		
<b>Aquatic</b>		
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)
		2.9 mg/l, 96 hours
Ground Limestone (CAS 471-34-1)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish (Gambusia affinis)
		> 56000 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** Not available.  
**Bioaccumulative potential** Not available.  
**Mobility in soil** Not available.  
**Other adverse effects** Not available.

## 13. Disposal considerations

**Disposal instructions** Dispose of contents/container in accordance with local/regional/national/international regulations. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.  
**Waste from residues / unused products** Not available.  
**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

## 14. Transport information

### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

## 15. Regulatory information

**US federal regulations** This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312**

Yes

**Hazardous chemical****Classified hazard categories**

Serious eye damage or eye irritation

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)**

Not regulated.

**US state regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**California Proposition 65****California Proposition 65 - CRT: Listed date/Carcinogenic substance**

CARBON BLACK (CAS 1333-86-4)

Listed: February 21, 2003

TITANIUM DIOXIDE (CAS 13463-67-7)

Listed: September 2, 2011

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

CARBON BLACK (CAS 1333-86-4)

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC (CAS 64742-52-5)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT (CAS 64742-47-8)

TITANIUM DIOXIDE (CAS 13463-67-7)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision**

<b>Issue date</b>	04-06-2015
<b>Revision date</b>	05-29-2020

**Version #** 05

**Further information** HMIS® is a registered trade and service mark of the NPCA.

**NFPA ratings** Health: 1  
Flammability: 0  
Instability: 0

**References** ACGIH  
EPA: AQUIRE database  
NLM: Hazardous Substances Data Base  
US. IARC Monographs on Occupational Exposures to Chemical Agents  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

**Disclaimer** The information provided in this Safety Data Sheet is correct to the best of our knowledge information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Revision information** Physical & Chemical Properties: Multiple Properties  
GHS: Classification



**LABORATORY REPORT**  
**HP ER Cold Patch**  
**(Part Number 34977ER)**

Date: 8/30/2023

**HP ER Cold Mix Binder**

<b>Property</b>	<b>Test Result</b>	<b>Specification Limit</b>
Flash Point, °F	217	325 minimum
Viscosity at 140°F	372	400-2000cP
Distillation, %*		
437°F	0.0	0.0
500 °F	0.0	0.0
600 °F	0.0	0.0
680 °F (Residue)	99	98-100

\*Run when new shipment of cutter is used  
 Binder content 4.91%

**Aggregate Gradation**

<b>Gradation</b>	<b>Test Results</b>	<b>Specification Limit, %</b>
		<b>Passing</b>
1/2	100	100
3/8	94	85-100
No. 16	10	5-40
No. 200	3	1 - 5
LA Abrasion Loss**	30.8	35 maximum

\*\* Run on a periodic basis at quarry

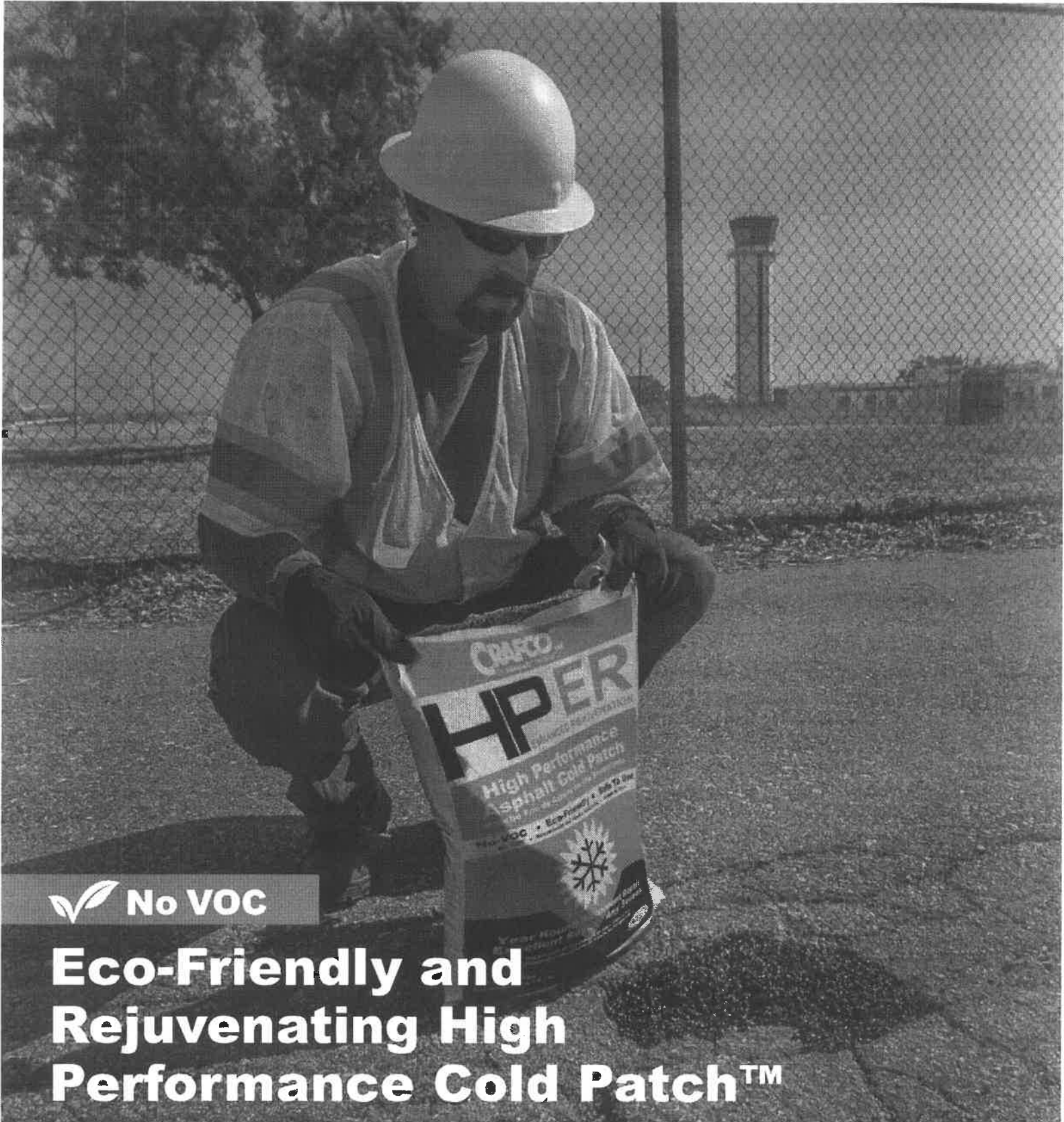
Respectfully Submitted,

CRAFCO, INC.

Ian Lowry  
 Pavement Material Manager  
 CrafcO Inc.

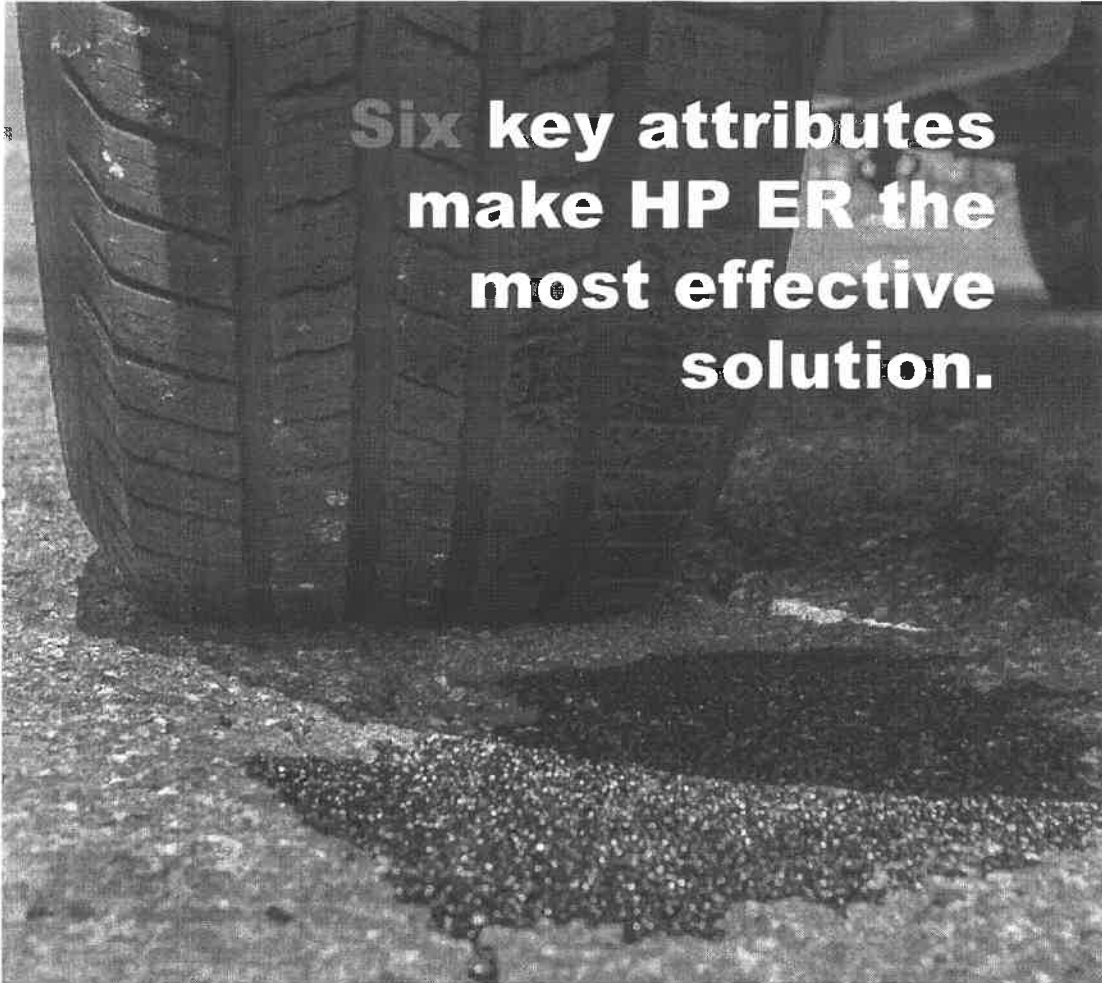
**CRAFCO**®  
INC  
PRESERVATION PRODUCTS

# HP ER Asphalt Cold Patch



 **No VOC**

**Eco-Friendly and  
Rejuvenating High  
Performance Cold Patch™**



## Six key attributes make HP ER the most effective solution.

- 1. PLIABLE**  
In the pile, in the bag, or in the hole, the proprietary blend is engineered to allow the material to remain workable in all climates and temperatures - even below freezing.
- 2. STABLE**  
Enhanced binder design strengthens aggregate matrix ensuring repair remains together. Open to traffic immediately. No raveling or rutting.
- 3. STRONG REPAIR**  
Rejuvenators and adhesion promoters provide increased cohesive strength so the repair stays in place.
- 4. EASY COMPACTION**  
Select aggregate type and gradation is designed to accommodate easy and thorough compaction.
- 5. SINGLE COMPONENT**  
Doesn't require multiple components, water, or activators. Aggregate is fully pre-coated, creating a strong and long lasting bond.
- 6. ENHANCED ADHESION**  
Strengthened adhesive properties keep material together even when applied in wet conditions without any separation of the aggregate.



**Crafco HP ER Cold Patch™** is a high performance, ready to use, permanent pavement patching material. **Crafco HP ER Cold Patch™** is specially formulated with **No VOC** and a proprietary blend of rejuvenating & adhesion promoting additives to improve the repair's longevity for long-term performance.

With **Crafco HP ER Cold Patch™** you can **STOP** repairing the same holes over and over again! **Crafco HP ER Cold Patch™** is easy to use – no mixing, heating, or special application equipment required and is ideal for repairing potholes, utility cuts, wide cracks, and other pavement voids and distresses on roads, highways, airport pavements, bridge, and parking decks, and much more. Use on asphalt or concrete.

**Available in:** Easy-to-use 50 lb. bags & bulk!



# CRAFCO<sup>®</sup> INC

The recognized leader in asphalt modification technology. Our materials development team innovates new products through ongoing research to provide our customers with safe, eco-friendly products that offer superior performance.

Supporting our customers with expert advice | [crafco.com](http://crafco.com) |    

**READ BEFORE USING THIS PRODUCT**

**GENERAL** Crafcó HP ER Cold Patch is a ready to use pavement patching material with 0 VOC and rejuvenating qualities for the surrounding pavement. Crafcó HP ER is ideal for repairing potholes, asphalt spalls, cracks and other pavement voids and distresses over 1 inch wide and ½ inch deep. HP ER Cold Patch can be used to repair roads, highways, streets, airport pavements, bridge and parking decks, driveways and walkways. HP ER Cold Patch is specially formulated to be used in all season weather conditions and to adhere in cold and damp pavements. No mixing, heating or special application equipment is required. HP ER Cold Patch develops strength after compaction by tampers, vehicle tires or traffic. Crafcó HP ER Cold Patch complies with specification requirements for maximum volume distillate at 500°F (260°C) when tested according to ASTM D402. VOC = 0 g/l

**PROPERTIES** The Properties of HP ER Cold Patch are as follows:

Binder Properties:

Property	Specification
Flash Point, ASTM D92	325°F (165°C) minimum
Distillation 500°F – Volume % of Original Sample, ASTM D402	0.0% maximum
Residue from Distillation to 680°F, Volume %, ASTM D402	99 – 100%

VOC Compliant HP Asphalt Cold Patch:

Property	Specification
Aggregate Size (ASTM C136)	½" maximum
Aggregate % Passing No. 200 Mesh (ASTM C117)	2 – 5%
Aggregate Durability (ASTM C131)	40% maximum

**APPLICATION** It is recommended that the repair area be swept clean of all debris and blown out before Application. Apply HP ER Cold Patch to a height of ½ inch above the area surrounding the hole to be repaired. Do not apply less than 1 inch of material. Deep areas can be filled by adding material after compaction to build thickness, using 1-2 inch material lifts. Compact the material to a level surface with a tamper or vehicle tire. The repair area can be opened to traffic as soon as the compaction is complete. Initial surface tack can be reduced with a light sprinkle application of Portland Cement or calcium carbonate over the compacted surface. Read HP ER Cold Patch Installation Instructions for further information.

**PACKAGING** HP ER Cold Patch is available in bulk piles and packaged. Packaging consists of individual 50 pound plastic bags which are palletized into shipping units. Palletized units are protected from the weather using a three mil thick plastic bag, a weather and moisture resistant cap sheet and a minimum of two layers of six month u.v. protected stretch wrap. Pallets are labeled with the product part number, lot number and net weight. Application Instructions are provided on the bag.

**WARRANTY** CRAFCO, Inc. warrants that CRAFCO products meet applicable specifications at time of shipment. Techniques used for the preparation of the areas to be repaired are beyond our control as are the use and application of the product; therefore, Crafcó shall not be responsible for improperly applied or misused product. Remedies against Crafcó, Inc., as agreed to by Crafcó, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafcó, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafcó, Inc. whichever is earlier. There shall be no other warranties expressed or implied. For optimum performance, follow Crafcó recommendations for product installation.



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** HP ER COLD PATCH  
**Other means of identification** None.  
**Recommended use** Not available.  
**Recommended restrictions** None known.  
**Manufacturer/Importer/Supplier/Distributor information**  
**Manufacturer:** CrafcO, Inc.  
**Address:** 6165 West Detroit St.  
Chandler, AZ 85226 USA  
**Contact Name:** CrafcO Materials Engineering  
**Telephone:** 602-276-0406  
**E-mail:** sales@crafcO.com  
**CHEMTREC:** 800-424-9300 (North America)  
+ 1-703-527-3887 (International)

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Not classified.  
**Environmental hazards** Not classified.  
**OSHA defined hazards** Not classified.

### Label elements

**Hazard symbol** None.  
**Signal word** None.  
**Hazard statement** The mixture does not meet the criteria for classification.  
**Precautionary statement**  
**Prevention** Observe good industrial hygiene practices.  
**Response** Wash hands after handling.  
**Storage** Store away from incompatible materials.  
**Disposal** Dispose of waste and residues in accordance with local authority requirements.  
**Hazard(s) not otherwise classified (HNOC)** None known.  
**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
ASPHALT		8052-42-4	1 - 10
QUARTZ		14808-60-7	<1
Other components below reportable levels			94.653

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.  
**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.  
**Eye contact** Rinse with water. Get medical attention if irritation develops and persists.  
**Ingestion** Rinse mouth. Get medical attention if symptoms occur.



<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	<p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid prolonged exposure. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m3	Inhalable fume.

**US. ACGIH Threshold Limit Values  
Components**

Type	Value	Form	
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m <sup>3</sup>	Respirable fraction.

**US. NIOSH: Pocket Guide to Chemical Hazards  
Components**

Type	Value	Form	
ASPHALT (CAS 8052-42-4)	Ceiling	5 mg/m <sup>3</sup>	Fume.
QUARTZ (CAS 14808-60-7)	TWA	0.05 mg/m <sup>3</sup>	Respirable dust.

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves.
<b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

**Appearance**

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Black.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	212 °F (100 °C) estimated
<b>Flash point</b>	> 350.0 °F (> 176.7 °C) Cleveland Closed Cup
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.

**Upper/lower flammability or explosive limits**

<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.

**Decomposition temperature** Not available.

**Viscosity** Not available.

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport

**Chemical stability** Material is stable under normal conditions.

**Possibility of hazardous reactions** Hazardous polymerization does not occur.

**Conditions to avoid** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

**Incompatible materials** Strong oxidizing agents.

**Hazardous decomposition products** No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** Prolonged inhalation may be harmful.

**Skin contact** No adverse effects due to skin contact are expected.

**Eye contact** Direct contact with eyes may cause temporary irritation.

**Ingestion** Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation.

### Information on toxicological effects

**Acute toxicity** Not available.

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

### Respiratory or skin sensitization

**Respiratory sensitization** Not a respiratory sensitizer.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

### IARC Monographs. Overall Evaluation of Carcinogenicity

ASPHALT (CAS 8052-42-4) 2B Possibly carcinogenic to humans.

QUARTZ (CAS 14808-60-7) 1 Carcinogenic to humans.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

QUARTZ (CAS 14808-60-7) Cancer

### US. National Toxicology Program (NTP) Report on Carcinogens

QUARTZ (CAS 14808-60-7) Known To Be Human Carcinogen.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Persistence and degradability** No data is available on the degradability of any ingredients in the mixture.

**Bioaccumulative potential** No data available.

**Mobility in soil** No data available.  
**Other adverse effects** The product contains volatile organic compounds which have a photochemical ozone creator potential.

### 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

#### DOT

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

### 15. Regulatory information

**US federal regulations** This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### **TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

#### **CERCLA Hazardous Substance List (40 CFR 302.4)**

ASPHALT (CAS 8052-42-4) Listed.

#### **SARA 304 Emergency release notification**

Not regulated.

#### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

QUARTZ (CAS 14808-60-7) Cancer  
lung effects  
immune system effects  
kidney effects

#### **Superfund Amendments and Reauthorization Act of 1986 (SARA)**

##### **SARA 302 Extremely hazardous substance**

Not listed.

##### **SARA 313 (TRI reporting)**

Not regulated.

#### **Other federal regulations**

##### **Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

##### **Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

## US state regulations

### California Proposition 65



**WARNING:** This product can expose you to chemicals including ASPHALT, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### California Proposition 65 - CRT: Listed date/Carcinogenic substance

QUARTZ (CAS 14808-60-7)

Listed: October 1, 1988

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

QUARTZ (CAS 14808-60-7)

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

<b>Issue date</b>	07-27-2021
<b>Version #</b>	01
<b>NFPA ratings</b>	Health: 0 Flammability: 0 Instability: 0

**Disclaimer** Crafc0, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
9/5/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Arthur J. Gallagher Risk Management Services, LLC 3737 Embassy Pkwy Suite 260 Akron OH 44333	<b>CONTACT NAME:</b> Marilyn Snodgrass <b>PHONE (A/C No, Ext):</b> 330-665-7955 <b>E-MAIL ADDRESS:</b> Marilyn_Snodgrass@ajg.com	<b>FAX (A/C, No):</b> 330-665-7979
	<b>INSURER(S) AFFORDING COVERAGE</b>	
<b>INSURED</b> DJL Material & Supply Inc. PO Box 5293 Akron OH 44334-0293	<b>INSURER A :</b> Cincinnati Insurance Company	<b>NAIC #</b> 10677
	<b>INSURER B :</b>	
	<b>INSURER C :</b>	
	<b>INSURER D :</b>	
	<b>INSURER E :</b>	
	<b>INSURER F :</b>	

**COVERAGES** **CERTIFICATE NUMBER:** 648961202 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input checked="" type="checkbox"/> LOC OTHER:	Y	EPP0148308	6/27/2023	6/27/2024	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 500,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
A	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY		EPP0148308	6/27/2023	6/27/2024	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 0		EPP0148308	6/27/2023	6/27/2024	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 \$ PER STATUTE OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y/N N/A If yes, describe under DESCRIPTION OF OPERATIONS below					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
Written notice of cancellation for non-payment of premium will be provided to the Named Insured 10 days prior to the date of cancellation and 30 days prior for any other type of cancellation per Ohio State Law and policy provisions.

Certificate holder is listed as Additional Insured per form GA472 (09/17), Bid #CRFQ-0803-DOT2400000014-1

<b>CERTIFICATE HOLDER</b>  State of West Virginia 1900 Kanawha Blvd E, Bldg 5 Charleston WV 25305-0130 USA	<b>CANCELLATION</b>  SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 