



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

# Request for Quotation

RFQ NUMBER  
**6611C029**

PAGE  
**1**

ADDRESS CORRESPONDENCE TO ATTENTION OF  
**BUYER 33**  
**304-558-2402**

RFQ COPY  
 TYPE NAME/ADDRESS HERE  
**FORM TECH CONCRETE FORMS, INC**  
**28 WINFIELD ROAD**  
**SAINT ALBANS, WV 25177**

DIVISION OF HIGHWAYS  
 VARIOUS LOCALES AS INDICATED  
 BY ORDER

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
03/29/2011	NET 30	BESTWAY	DESTINATION	PRE PAID
BID OPENING DATE: 04/19/2011		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		745-56		SEE BTD SCHEDULE
REPAIR AND MAINTENANCE OF SILICONE, ASPHALT & CONCRETE  REQUEST FOR QUOTATION (RFQ) OPEN END CONTRACT  THE WEST VIRGINIA STATE PURCHASING DIVISION FOR THE AGENCY, THE WEST VIRGINIA DIVISION OF HIGHWAYS, IS SOLICITING BIDS FOR AN OPEN END CONTRACT TO PROVIDE MATERIALS FOR THE REPAIR AND MAINTENANCE OF SILICONE, ASPHALT, AND CONCRETE PER THE ATTACHED SPECIFICATIONS.  TECHNICAL QUESTIONS CONCERNING THIS SOLICITATION MUST BE SUBMITTED IN WRITING TO SHERI SLONE IN THE WEST VIRGINIA STATE PURCHASING DIVISION VIA MAIL AT THE ADDRESS SHOWN IN THE BODY OF THIS RFQ, VIA FAX AT 304-558-4115, OR VIA EMAIL AT SHERI.D.SLONE@WV.GOV. ATTACHED FIND A WORD DOCUMENT FOR SUBMITTING TECHNICAL QUESTIONS. DEADLINE FOR ALL TECHNICAL QUESTIONS IS 04/08/2011 AT THE CLOSE OF BUSINESS. ANY TECHNICAL QUESTIONS RECEIVED WILL BE ANSWERED BY FORMAL ADDENDUM TO BE ISSUED BY THE PURCHASING DIVISION AFTER THE DEADLINE HAS LAPSED.						
EXHIBIT 10  REQUISITION NO.: 6611C029						

RECEIVED

201 APR 19 A 8:11

PURCHASING DIVISION  
 STATE OF WV

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *Kelly Gird* TELEPHONE: (304) 722-6804 DATE: 4/19/11

TITLE: REGIONAL MANAGER FEIN: 38-3179533-001 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

## GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
5. Payment may only be made after the delivery and acceptance of goods or services.
6. Interest may be paid for late payment in accordance with the *West Virginia Code*.
7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at [www.state.wv.us/admin/purchase/vrc/hipaa.htm](http://www.state.wv.us/admin/purchase/vrc/hipaa.htm) and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
14. **CONFIDENTIALITY:** The vendor agrees that he or she 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/noticeConfidentiality.pdf>.
15. **LICENSING:** Vendors 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, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will 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 the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

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### INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).



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SUPPLIER

DIVISION OF HIGHWAYS  
 VARIOUS LOCALES AS INDICATED  
 BY ORDER

DATE PRINTED <b>03/29/2011</b>	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
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BID OPENING DATE: **04/19/2011** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM ACKNOWLEDGEMENT						
I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.						
ADDENDUM NO.'S:						
	NO. 1	.....	✓			
	NO. 2	.....	✓			
	NO. 3	.....	✓			
	NO. 4	.....	✓			
	NO. 5	.....	✓			
I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.						
VENDOR MUST CLEARLY UNDERSTAND 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.						
				<i>Hay J...</i> ..... SIGNATURE <i>FORM TECH</i> ..... COMPANY <i>4/18/11</i> .....		

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

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LINE	QUANTITY	UCP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
DATE						
NOTE: THIS ADDENDUM ACKNOWLEDGEMENT SHOULD BE SUBMITTED WITH THE BID.						
REV. 09/21/2009						
EXHIBIT 3						
LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE UPON AWARD AND EXTENDS FOR A PERIOD OF ONE (1) YEAR OR UNTIL SUCH "REASONABLE TIME" THEREAFTER AS IS NECESSARY TO OBTAIN A NEW CONTRACT OR RENEW THE ORIGINAL CONTRACT. THE "REASONABLE TIME" PERIOD SHALL NOT EXCEED TWELVE (12) MONTHS. DURING THIS "REASONABLE TIME" THE VENDOR MAY TERMINATE THIS CONTRACT FOR ANY REASON UPON GIVING THE DIRECTOR OF PURCHASING 30 DAYS WRITTEN NOTICE.						
UNLESS SPECIFIC PROVISIONS ARE STIPULATED ELSEWHERE IN THIS CONTRACT DOCUMENT, THE TERMS, CONDITIONS AND PRICING SET HEREIN ARE FIRM FOR THE LIFE OF THE CONTRACT.						
RENEWAL: THIS CONTRACT MAY BE RENEWED UPON THE MUTUAL WRITTEN CONSENT OF THE SPENDING UNIT AND VENDOR, SUBMITTED TO THE DIRECTOR OF PURCHASING THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE. SUCH RENEWAL SHALL BE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT AND SHALL BE LIMITED TO TWO (2) ONE (1) YEAR PERIODS.						
CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

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SHIP TO

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<p>NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.</p> <p>OPEN MARKET CLAUSE: THE DIRECTOR OF PURCHASING MAY AUTHORIZE A SPENDING UNIT TO PURCHASE ON THE OPEN MARKET, WITHOUT THE FILING OF A REQUISITION OR COST ESTIMATE, ITEMS SPECIFIED ON THIS CONTRACT FOR IMMEDIATE DELIVERY IN EMERGENCIES DUE TO UNFORESEEN CAUSES (INCLUDING BUT NOT LIMITED TO DELAYS IN TRANSPORTATION OR AN UNANTICIPATED INCREASE IN THE VOLUME OF WORK.)</p> <p>QUANTITIES: QUANTITIES LISTED IN THE REQUISITION ARE APPROXIMATIONS ONLY, BASED ON ESTIMATES SUPPLIED BY THE STATE SPENDING UNIT. 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.</p> <p>ORDERING PROCEDURE: SPENDING UNIT(S) SHALL ISSUE A WRITTEN STATE CONTRACT ORDER (FORM NUMBER WV-39) TO THE VENDOR FOR COMMODITIES COVERED BY THIS CONTRACT. THE ORIGINAL COPY OF THE WV-39 SHALL BE MAILED TO THE VENDOR AS AUTHORIZATION FOR SHIPMENT, A SECOND COPY MAILED TO THE PURCHASING DIVISION, AND A THIRD COPY RETAINED BY THE SPENDING UNIT.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p> <p>THE TERMS AND CONDITIONS CONTAINED IN THIS CONTRACT SHALL SUPERSEDE ANY AND ALL SUBSEQUENT TERMS AND CONDITIONS WHICH MAY APPEAR ON ANY ATTACHED PRINTED</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
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TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
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**DIVISION OF HIGHWAYS  
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<p>DOCUMENTS SUCH AS PRICE LISTS, ORDER FORMS, SALES AGREEMENTS OR MAINTENANCE AGREEMENTS, INCLUDING ANY ELECTRONIC MEDIUM SUCH AS CD-ROM.</p> <p>REV. 05/26/2009</p> <p>PURCHASING CARD ACCEPTANCE: THE STATE OF WEST VIRGINIA CURRENTLY UTILIZES A VISA PURCHASING CARD PROGRAM WHICH IS ISSUED THROUGH A BANK. THE SUCCESSFUL VENDOR MUST ACCEPT THE STATE OF WEST VIRGINIA VISA PURCHASING CARD FOR PAYMENT OF ALL ORDERS PLACED BY ANY STATE AGENCY AS A CONDITION OF AWARD.</p> <p>EXHIBIT 4</p> <p>LOCAL GOVERNMENT BODIES: UNLESS THE VENDOR INDICATES IN THE BID HIS REFUSAL TO EXTEND THE PRICES, TERMS, AND CONDITIONS OF THE BID TO COUNTY, SCHOOL, MUNICIPAL AND OTHER LOCAL GOVERNMENT BODIES, THE BID SHALL EXTEND TO POLITICAL SUBDIVISIONS OF THE STATE OF WEST VIRGINIA. IF THE VENDOR DOES NOT WISH TO EXTEND THE PRICES, TERMS, AND CONDITIONS OF THE BID TO ALL POLITICAL SUBDIVISIONS OF THE STATE, THE VENDOR MUST CLEARLY INDICATE SUCH REFUSAL IN HIS BID. SUCH REFUSAL SHALL NOT PREJUDICE THE AWARD OF THIS CONTRACT IN ANY MANNER.</p> <p>REV. 3/88</p> <p>NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p>						

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BID OPENING DATE: 04/19/2011 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130						
THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:  SEALED BID						
BUYER:		SHERI SLONE - FILE 33				
RFQ. NO.:		6611C029				
BID OPENING DATE:		04/19/2011				
BID OPENING TIME:		1:30 PM				
PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID: ----- (304) 722-6808 -----						
CONTACT PERSON (PLEASE PRINT CLEARLY): ----- GARY JIVIDEN -----						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS						
SIGNATURE			TELEPHONE		DATE	
TITLE		FEIN		ADDRESS CHANGES TO BE NOTED ABOVE		

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BID OPENING DATE: **04/19/2011** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
***** THIS IS THE END OF RFQ 6611C029 ***** TOTAL:						<u>SEE BID SCHEDULE</u>

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

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TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	

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## 1. SPECIFICATIONS

The following sections of the West Virginia Department of Transportation, Division of Highways Standard Specifications, Roads and Bridges, adopted 2000, as modified by the current Supplemental Specifications at time of bid opening shall apply to the administration of this contract: Sections 101, 102.4, 102.5, 105.1, 105.3, 105.4, 105.10, 105.11, 105.12, 105.13, 106.3, 106.4, 106.5, 106.6, 106.7, 106.9, 107.1, 107.2, 107.3, 107.14, 107.19, 107.20, 108.8, 109.1, 109.2 and 109.20.

The terms "Contractor and Vendor" used in the above specifications of this Contract are interchangeable. Contractor shall mean Vendor and Vendor shall mean Contractor.

West Virginia Department of Transportation, Division of Highways' Standard Specifications Roads and Bridges, adopted 2000, and the current Supplemental Specifications at time of bid opening may be obtained from:

West Virginia Division of Highways  
 State Capitol Complex  
 Engineering Division, Technical Section  
 Room A-650, Building 5  
 Charleston, West Virginia 25305

## 2. CONCRETE PATCHING & REPAIR

### 2.1 SSI SILSPEC® FLEXPATCH POLYMER PATCHING MORTAR or "Equal"

The polymer patching mortar shall be a three-component (polymer resin, curing agent, engineered blend of graded aggregates), 100 percent solids, high-strength, non-shrink, water-proof, abrasion resistant, non-conductive, semi-flexible patching material that adheres to concrete and steel, and requires no external application of heat for curing. The polymer patching mortar shall cure sufficiently to accept traffic within four (4) hours at a substrate temperature of 70° F. Minimum substrate temperature shall be 40° F. Shelf life of unopened material shall be one (1) year when stored between 50° F and 90° F. Polymer patching mortar shall meet the following physical requirements:

Compressive Strength:	1500 PSI min @ 4 hrs	ASTM C 579 Method B
	2400 PSI min @ 24 hrs	ASTM C 579 Method B
Bond Shear Strength:	650 PSI min	ASTM C 882
Linear Shrinkage	0.00 %	ASTM C 531
Abrasion Resistance:	1.0 max	ASTM C 501, Taber H22
Chloride Ion Perm:	1.0 max Coulombs	AASHTO T-277
Resilience:	70 % min	OK/OHD L6
Thermal Compatibility:	Pass	ASTM C 884

### 2.1.2 WINTER GRADE SSI SILSPEC® FLEXPATCH POLYMER PATCHING MORTAR or "Equal"

Winter grade polymer patching mortar shall have the same physical properties as 1.1 above except for substrate temperature. Winter grade polymer patching mortar shall have a substrate temperature range between 10° F and 40° F. The polymer patching mortar shall cure sufficiently to accept traffic within four (4) hours at a substrate temperature of 20° F.

**2.2 IMCO TECHNOLOGIES INC., MG-KRETE REGULAR OR FINE or "Equal".**

MG-Krete is a two component (Part A and B) high early strength structural repair material. Material can be used for all types of concrete repairs from patching deep holes to shallow feathering, poured in forms, trowel vertically and overhead. Material does not shrink on cure, self-priming and will bond to most construction materials (concrete, wood, steel, asphalt, etc.), cures rapidly with return to service in @ 30 min, is non-toxic and cleans up with water. MG-Krete has the following physical properties:

Water Absorption: waterproof

Compression Strength:

45 Min 2,610 psi

24 hrs 5,148 psi

7 days 5,815 psi

28 days 11,194 psi

Temp. Limits: 14° F (w/accelerator) to 100° F (w/retarder)

Initial Set Time @ 68° F 15 min.

**2.2.1 IMCO TECHNOLOGIES INC., MG-KRETE WITH FLEX REGULAR or "Equal".**

MG-Krete FLEX is similar to item 1.3 above, and can be used in areas where material may be subject to flexure.

**2.2.2 IMCO TECHNOLOGIES INC., HIGH TEMPERATURE RETARDER or "Equal".**

High Temperature Retarder is a powder additive that may be added to the MG-KRETE to extend working time when temperature rises above 77° F to 113° F.

**2.2.3 IMCO TECHNOLOGIES INC., LOW TEMPERATURE ACCELERATOR or "Equal".**

Low Temperature Accelerator is a powder additive that may be added to the MG-KRETE to accelerate cure when ambient temperature drops below 50° F. The accelerator may be used to help cure in temperatures as low as 15° F.

**2.3 CERATECH INC. PAVEMEND SLQ VERY RAPID REPAIR MORTAR or "Equal".**

Pavemend SLQ is a cementitious very rapid setting, self-leveling structural repair mortar. It is a single component powder that is water activated. Material can be used for horizontal and sloped concrete repairs in a wide range of temperature. Pavemend SLQ has the following physical properties:

Compression Strength:

1 hour 3,453 psi

24 hrs 4,090 psi

7 days 5,630 psi

28 days 7,483 psi

Bond Strength

24hrs 2,646 psi

Modulus of Elasticity

28 days 1.70 msi

Temp. Limits: 0° F to 90°

Initial Set Time @ 72° F 4-6 min.

### 2.3.1 CERATECH INC. PAVEMEND 15.0 RAPID REPAIR MORTAR or "Equal".

Pavemend 15.0 is a cementitious rapid setting, self-leveling structural repair mortar. It is a single component powder that is water activated. Material can be used for horizontal concrete repairs in a wide range of temperature. Pavemend 15.0 has the following physical properties:

**Compression Strength:**

2 hour	2,700 psi
3 hour	3,870 psi
24 hrs	4,230 psi
7 days	5,570 psi
28 days	6,300 psi

**Bond Strength**

24hrs	1,100 psi
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**Modulus of Elasticity**

28 days	3.30 msi
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Temp. Limits: 30° F to 110°

Initial Set Time @ 72° F 7-9 min.

### 2.3.2 CERATECH INC. PAVEMEND VR REPAIR MORTAR or "Equal".

Pavemend VR is a cementitious rapid setting, one step structural repair mortar with parging mortar consistency. It is a single component powder that is water activated. Material can be used for vertical and overhead concrete repairs in a wide range of temperature. Pavemend VR has 25-30 min of working time plus an additional 10 to 15 minutes to shape and shave the repair to match existing contours. Material can be applied in a single lift from 1/16" to over 4" without bonding agents. Pavemend VR has the following physical properties:

**Compression Strength:**

3 hour	2,516 psi
24 hrs	3,136 psi
7 days	4,226 psi
28 days	7,606 psi

**Bond Strength:**

24 hrs	1,590 psi
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**Modulus of Elasticity**

28 days	3.17 msi
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Temp. Limits: 40° F to 100°

Initial Set Time @ 72° F 15-20 min.

### 2.3.3 CERATECH INC. PAVEMEND SL RAPID REPAIR CONCRETE or "Equal".

Pavemend SL is a cementitious rapid setting, semi-leveling structural repair concrete. It is a single component powder that is water activated. Material can be used for horizontal concrete repairs in a wide range of temperature. Pavemend SL has the following physical properties:

**Compression Strength:**

1.5 hour	2,668 psi
2 hour	3,141 psi
24 hrs	6,392 psi
7 days	8,269 psi
28 days	9,392 psi

**Bond Strength**  
 28 days 4,380 psi  
**Modulus of Elasticity**  
 28 days 4.02 msi  
**Temp. Limits:** 40° F to 120°  
**Initial Set Time @ 72° F** 15-20 min.

**2.3.4 CERATECH INC. D.O.T. LINE RAPID REPAIR CONCRETE or "Equal".**

D.O.T.Line is a cementitious rapid setting, semi-leveling structural repair concrete. It is a single component powder, aggregate extended, that is water activated. Material can be used for horizontal concrete repairs in a wide range of temperature. D.O.T.Line has the following physical properties:

**Compression Strength:**  
 2 hour 2,820 psi  
 24 hrs 6,115 psi  
 7 days 9,345 psi  
 28 days 10,510 psi  
**Bond Strength**  
 7 days 2,745 psi  
**Modulus of Elasticity**  
 28 days 5.20 msi  
**Temp. Limits:** 30° F to 120°  
**Initial Set Time @ 72° F** 20-30 min.

**2.3.5 CERATECH INC. MAINLINE RAPID REPAIR CONCRETE or "Equal".**

Mainline is a cementitious rapid setting, semi-leveling structural repair concrete. It is a single component powder, aggregate extended, that is water activated. Material can be used for horizontal concrete repairs in a wide range of temperature. Mainline has the following physical properties:

**Compression Strength:**  
 4 hour 3,010 psi  
 24 hrs 4,905 psi  
 7 days 7,415 psi  
 28 days 9,370 psi  
**Bond Strength**  
 7 days 3,056 psi  
**Modulus of Elasticity**  
 28 days 4.70 msi  
**Temp. Limits:** 30° F to 120°  
**Initial Set Time @ 72° F** 30-35 min.

**3. CONCRETE SEALING AND WATERPROOFING**

**3.1 SSI DECKSEAL POLYMER DECK SEALANT or "Equal"**

DECKSEAL is a two component polymer based sealing material designed for crack and surface sealing. Mix ratio is 1 part A to 1 part B. Typical coverage of 90 to 150 sq. ft./gal depending on porosity and surface profile of substrate. DECKSEAL contains U42 Fluorescent Tracer Dye, which illuminates under black light. This provides evidence of penetration. DECKSEAL has the following physical properties:

Chloride Ion Penetration:	0 % @ 90 Days Ponding	AASHTO T-259
Bond Strength:	2,220 PSI 14 Days	ASTM C 882
Brookfield Viscosity:	<50 cps	ASTM C 881
Water Absorption:	0.74 %max 24_hrs.	ASTM C 570
Tensile Strength:	3,000	ASTM D 638
Elongation @ Break:	4 % min	ASTM D 638
V.O.C.:	<250g/L	
Shelf Life:	1 Year Unopened	

### 3.2 SSI RE-DECK SKID-RESISTANT OVERLAY or "Equal"

SSI RE-DECK is a solvent-free, moisture insensitive, 100% solids, low modulus, two component urethane-epoxy bonding agent. Mix ratio is 1:1. When broadcast with select aggregate forms a skid-resistant overlay. Typical coverage of 40 sq. ft./gal first course with 10 lbs/sq. yd. aggregate and 20 sq. ft./gal second course with 14 lbs/sq. yd. aggregate. RE-DECK has the following physical properties:

Compressive Modulus:	65,000 PSI	ASTM D 695
Tensile Strength	2,500 PSI	ASTM D 638
Tensile Elongation	50%	ASTM D 638
Bond Strength:	3,000 PSI 14 day cure	ASTM C 882
Linear Shrinkage	Negligible	ASTM C 883
Absorption:	0.20 %	ASTM D 570
Chloride Ion Perm:	0.9 Coulombs	AASHTO T-277
Shore D Hardness:	70	ASTM D 2240
Thermal Compatibility:	Pass	ASTM C 884
Brookfield Viscosity:	1,500 cps RV3 @ 20 rpm	ASTM C 881

### 3.3 KANSAS BLEND FLINT FOR RE-DECK OVERLAY or "Equal"

Flint aggregate for use with SSI RE-DECK shall be clean dry flint, free of dust or contaminants that would interfere with the bonding to the SSI RE-DECK material. Flint material shall be angular in shape and have the following gradation:

Sieve	% Passing
#4	100
#8	30-40
#16	0-5
#30	0-1

### 3.4 IMCO TECHNOLOGIES INC., D-TECH 470 SEALER or "Equal"

D-TECH is a ready to use, clear, water-based penetrating sealer for application to the surface of concrete, above or below grade. D-TECH penetrates deeply into the capillary pores of the concrete and crystallizes, becoming part of the concrete itself. Sealer can be brushed, rolled or sprayed on concrete for sealing, hardening, dust proofing, waterproofing and weatherproofing. D-TECH has the following characteristics:

- Increases concrete density and hardness
- Prevents chemical corrosion and physical abrasion of treated surface
- Effective in reducing freeze-thaw spalling
- Treatment is permanent and does not require subsequent re-application
- Effective negative side waterproofing of hydrostatic head over 115 ft.

- Reduces or eliminates efflorescence and leaching in concrete
- Effective barrier of water-vapor emission (without loss of breathability)
- Solvent-free, odor-free. Non-toxic, and non-flammable
- Improves bonding of cementitious toppings
- Ultra-violet stability
- Does not change the appearance of the concrete
- Can be applied to green concrete and old concrete
- Two light coats 300-400 sq. ft./gal depending on porosity and surface profile of substrate

### 3.5 AQUAFIN INC., AQUAFIN-IC ADMIX or "Equal".

AQUAFIN-IC ADMIX is a liquid water-proofing additive for concrete, consisting of a water based suspension of inorganic water-proofing agents. AQUAFIN-IC ADMIX can be added during the batching process or in a ready-mix truck at the job site. During concrete hardening AQUAFIN-IC ADMIX forms millions of fine crystalline fibers inside the capillary pores blocking the flow of water thus making the concrete permanently water-tight and increasing compressive strength by 25%. AQUAFIN-IC ADMIX has the following characteristics:

- Liquid for easier homogenous mixing and no clumping
- Resists extreme head pressure 460 ft or 200 psi
- Seals hairline cracks up to 1/64"
- Integral part of the concrete
- Allows concrete to breathe
- Max. water/cement ratio 0.55 before adding AQUAFIN-IC ADMIX
- Negligible effect on water reducers, plasticizers, slump, air entrainment
- 0 VOC & Non toxic
- Non-chloride, non-corrosive to steel
- Working temperature >40° F
- PH 10-12

### 3.6 INTERNATIONAL CHEM-CRETE, INC., PAVIX CCC100 or "Equal".

PAVIX CCC100 is a ready to use, clear, water-based penetrating sealer for application to the surface of concrete, above or below grade. PAVIX CCC100 provides three effective mechanisms for concrete protection by formation of two types of crystals and water repellency. In the presence of moisture, one type of crystal swells, therefore, blocking the pores completely. The second type of crystal absorbs the extra moisture on the surface of the first crystal preventing surface moisture on that crystal from diffusion to the concrete. PAVIX CCC100 has the following characteristics:

- Specific Gravity      1.1
- Seals Cracks            Up to 1/16 inch
- Viscosity                2.4 centipoises
- Freeze Point            28°F
- Environmental         No Hazards
- Color                     Clear
- Toxicity                 None
- Fumes                    None
- Flammability          None
- Shelf Life                1 Year unopened

**3.8 INTERNATIONAL CHEM-CRETE, INC., YUFIX CCC1000 or "Equal".**

YUFIX CCC1000 is a clear water based catalyzed non-hazardous deep penetrating water repellent product. It is non-toxic, non-flammable, odorless, non-staining, non-film forming, and contains no VOC's. YUFIX CCC1000 is a water repellent and sealer for all above grade vertical concrete and masonry substrates that will not alter the color, texture or appearance of the surface. It chemically reacts with CO<sup>2</sup> in the atmosphere to become an integral part of the concrete or masonry substrate permanently sealing concrete and masonry substrate pores blocking ordinary capillary action of water. YUFIX CCC1000 has the following characteristics:

- Specific Gravity 1.06
- ASTM C-666 Freeze Thaw 150 cycles: No effect
- V.O.C. Content: Zero
- Toxicity: None
- Odor: None

**3.9 INTERNATIONAL CHEM-CRETE, INC., Sofix CCC100 or "Equal".**

Sofix CCC100 is a water based blend of catalyzed chemicals that permanently eliminate moisture transmission through concrete structures. Sofix CCC 100 produces water insoluble hydrophilic crystals within the concrete capillaries, voids and pores. It is non-toxic, non-flammable, odorless, and non-film forming hydrophilic moisture and vapor blocker for all above and on grade concrete and masonry substrates that will not alter the color, texture or appearance of the surface. Sofix CCC100 will form hydrophilic crystals even in the absence of calcium hydroxide that absorb moisture and rapidly swell to block concrete pores and capillaries, thus preventing moisture penetration. Sofix CCC100 has the following characteristics:

- Specific Gravity 1.07
- ASTM C-666 Freeze Thaw 150 cycles: 4.14 grams/ft<sup>2</sup>
- V.O.C. Content: Zero
- Toxicity: None
- Odor: None
- ASTM C-1218 Chloride Penetration: Passed
- ASTM C-044 Abrasion Resistance: 1.17 grams/ft<sup>2</sup>
- ASTM E-96-95 Water Vapor Trans.: 82% Reduction
- ASTM D-4541 400 PSI
- ASTM E-303 Skid Resistance: No Effect
- Depth of Penetration 192 mils avg.

**4. ASPHALT REPAIR & PATCHING**

**4.1 PERMA-PATCH INC., PERMA-PATCH ASPHALT REPAIR or "Equal".**

Perma-Patch has a unique formulation of special polymers, pressure sensitive plastics and blend of angular limestone designed to achieve optimum performance all year long in any weather condition with one product. It permanently repairs any holes in asphalt or concrete, in all types of weather even wet, freezing or extreme heat conditions. Formulation is premixed and ready to use, no primer required. Perma-Patch has the following physical properties:

- Asphalt Content: 5.2% ASTM D2172-92
- Shelf Life: 2 Year min.
- Coverage: 10 lbs/sf. @ 1" lift, 1.4 tons/cy
- Temperature: -15° F to 100° F
- Cure: Dynamic Pressure
- Aggregate: ¼ inch max. angular limestone
- VOC: 0.1% volume by weight

## 5. JOINT SEALANT

### 5.1 DOW CORNING® 888 SILICONE JOINT SEALANT or "Equal".

DOW CORNING® 888 silicone joint sealant is a one-part, cold applied silicone that cures to a durable flexible, low-modulus silicone rubber joint sealant for new and remedial joint sealing applications in Portland cement concrete. DOW CORNING® 888 has the following physical properties:

- Color: Gray
  - Specific Gravity: 1.450-1.515
  - Skin-Over Time: 10 min. @ 77° F
  - Tack-Free Time: 60 min. @ 77° F
  - Cure Time: 7-24 days @ 77° F
  - Full Adhesion: 14-21 days
- After 7 day cure @ 77° F & 50% RH
- Elongation Minimum: 1200%
- Modulus @ 150%
- Elongation Maximum: 43 psi
- Durometer Hardness
- Shore A: 15-25 points
- Joint Movement Capability
- +100/-50%, 10 Cycles: No Failure
- Adhesion to Concrete
- Minimum Elongation: +500%

### 5.2 DOW CORNING® 890-SL SILICONE JOINT SEALANT or "Equal".

DOW CORNING® 890-SL Self-Leveling Silicone Joint Sealant is a one-part, cold applied, self-leveling silicone material that cures to an ultra-low-modulus silicone rubber upon exposure to atmospheric moisture. Sealant can be used for new and remedial joint sealing applications in Portland cement concrete and asphalt. DOW CORNING® 890-SL has the following physical properties:

- Color: Dark Gray
  - Flow, Sag, Slump: Self-Leveling
  - Percent Solids: 96% min
  - Specific Gravity: 1.26-1.34
  - Skin-Over Time: 60 min. @ 77° F
  - Cure Time: 14 days @ 77° F
  - Full Adhesion: 14-21 days
- After 21 day cure @ 77° F & 50% RH
- Elongation Minimum: 1400%



<b>Modulus @ 50%</b>	
• Elongation Maximum:	7 psi
<b>Modulus @ 100%</b>	
• Elongation Maximum:	8 psi
<b>Modulus @ 150%</b>	
• Elongation Maximum:	9 psi
<b>Durometer Hardness</b>	
Shore A:	15-25 points
<b>Joint Movement Capability</b>	
• +100/-50%, 10 Cycles:	No Failure
<b>Adhesion to Concrete</b>	
• Minimum Elongation:	+600%
<b>Adhesion to Asphalt</b>	
• Minimum Elongation:	+600%

## 6. BRIDGE DECK WATERPROOFING MEMBRANE

### 6.1 SOPRALENE FLAM 180 or "Equal".

Sopralene Flam 180 is a two ply composed of selected SBS modified bitumen applied onto non-woven polyester reinforcement with a film on both the top and bottom surfaces. Sopralene Flam 180 is adhered to the substrate by the heat welding application method. Sopralene Flam 180 has the following physical properties per ASTM D-6164 Type 1, Grade S, values are before and after heat conditioning:

	Before	After
• Tensile-Max Load at $0 \pm 3.6^\circ$ lbf/in	117	83
• Elongation at $0 \pm 3.6^\circ$ F	29	22
• Tensile – Max Load at $73.4 \pm 3.6^\circ$ F lbf/in	70	70
• Elongation at $73.4 \pm 3.6^\circ$ F %	56	61
• Tear Strength at $73.4 \pm 3.6^\circ$ F lbf	120	87
• Low Temperature Flex $^\circ$ F max	-15	-15
• Dimensional Stability % max	<0.5	<0.5
• Compound Stability Temp F	250	250

### 6.2 SOPRALENE FLAM ANTIROCK or "Equal".

Sopralene Flam Antirock is composed of selected SBS modified bitumen applied onto non-woven polyester reinforcement with a plastic burn-off film on bottom side and colored granules on the top surfaces. Sopralene Flam Antirock is applied as the finish ply in a heat welded waterproofing assembly. Sopralene Flam Antirock has the following physical properties per ASTM D-6164 Type 1, Grade G, values are before and after heat conditioning:

	Before	After
• Tensile-Max Load at $0 \pm 3.6^\circ$ lbf/in	117	83
• Elongation at $0 \pm 3.6^\circ$ F	29	22
• Tensile – Max Load at $73.4 \pm 3.6^\circ$ F lbf/in	70	70
• Elongation at $73.4 \pm 3.6^\circ$ F %	56	61
• Tear Strength at $73.4 \pm 3.6^\circ$ F lbf	120	87
• Low Temperature Flex $^\circ$ F max	-15	-15
• Dimensional Stability % max	<0.5	<0.5
• Compound Stability Temp F	230	230

- Granule Embedment g/max 0.8 0.8

### 6.3 ELASTOCOL 500 or "Equal".

Elastocol 500 Primer is a blend of elastomeric bitumen/solvents that will increase adhesion of the membrane when applied to dry clean concrete substrate. Elastocol 500 Primer meets ASTM D-41 and can be applied by brush, roller or spray at an application rate of 100 – 150 ft<sup>2</sup>.

### 6.4 ALSAN FLASHING or "Equal".

Alsan Flashing is a polyurethane/bitumen resin, moisture-cured, single-component compound that is low solvent and UV resistant. Alsan Flashing is compatible with Soprema SBS modified bitumen membranes. Alsan Flashing can be applied with a brush or roller in two to three layers and has the following as installed physical properties:

• Tensile Strength	368 psi	ASTM D-412
• Elongation	672 %	ASTM D-412
• Peel Strength of Adhesive Bond	23.0	ASTM D-903
• Shore A Hardness	74	ASTM D-2240
• Dry Time	2-12 hours	

### 6.5 ALSAN POLYFLEECE or "Equal".

ALSAN PolyFleece is a high-performance, flexible, non-woven, spun-laced polyester fabric reinforcement with excellent coating saturation capabilities into elastomeric coatings and epoxy primers. When used in combination with ALSAN Flashing or other ALSAN Liquid Membrane Systems, a watertight, puncture & UV resistant liquid flashing or membrane is formed. ALSAN PolyFleece has the following physical properties:

• Color	White
• Fiber Content	100% Polyester
• Construction	Stitch Bond
• Weight	2.4 oz./square yard
• Nominal Thickness	30 mils
• Mullen Burst psi	70 lbs.

## 7. CONTRACT REQUIREMENTS

The purpose of this contract is to establish unit prices for Items 1 thru 31, which are to be used as the basis for requisition of materials for the repair and maintenance of silicone, asphalt, and concrete. All components bid as equal, must prove they are equal, through supporting research and analysis of composition to the satisfaction of the West Virginia Department of Transportation, Division of Highways. At the discretion of the West Virginia Department of Transportation, Division of Highways, items bid as equal may be required to undergo a performance evaluation, under field conditions, to assure performance before being accepted as equal. Any item bid that is part of a system that forms a final manufacturers product, the equal item must also be part of a system of products that form a equal final manufacturers product.

Bid price for Items 1 thru 31 shall be "F.O.B." Division of Highways storage sites as indicated on the Approved Release Order (SCO). Refer to bid schedule for a listing of the Division of Highways storage sites.

Vendor may bid any or all items on the bid schedule. However, the amount bid on any one item may be conditioned on the total bid for all items necessary to make a complete system.

Any qualification of bids or modification of the specification or conditions governing the bid may be cause to reject bids.

Any vendor bidding on items in this contract shall supply technical support and on site instructional training in the proper use and application of their products. The vendor shall also provide on site evaluation of all products bid in the event of product failure or performance problems to ascertain the cause and recommend remedial action. The vendor shall provide this support to all Districts and Maintenance Division when requested, in a timely manner (within three working days) from time of request.

8. CONTRACT AWARD

Contract shall be awarded on any individual item basis.

In the event a Vendor fails to conform to the requirements of this contract document or the governing specifications the contract may be canceled and re-awarded to the next lowest bidder.

9. DELIVERY

Upon receipt of a Release Order the requested item(s) shall be delivered or available for Division of Highways pick-up within fifteen (15) calendar days.

10. VENDOR'S INVOICE

Vendor's invoice must be submitted in original and one (1) copy and contain the following:

- a. Division of Highways' Release Order Number and this contract number.
- b. Total quantity and unit price with the extended total cost of each item purchased.

Under no circumstances will the West Virginia Division of Highways accept, or pay for quantities in excess of the quantities stated on the Release Order.

11. BID SCHEDULE Form TCS-H  
 Division of Highways Storage Sites  
 Districts 1-10 & Maintenance Division

Item No.	Description	Estimated Quantity	Unit/Description	Unit Price	Extended Price	Estimated Quantity	Unit/Description	Unit Price	Extended Price
1	SSI Flexpatch Polymer Patching or "Equal" <b>BASF DECADECK Polymer</b>	1	per Unit 0.33 cu.ft.	\$300.00	\$300.00	5	per 30 Unit Lot	\$8,250.00	\$4,125.00
2	SSI Winter Grade Flexpatch Polymer Patching or "Equal" <b>BASF DECADECK Polymer</b>	1	per Unit 0.33 cu.ft.	\$300.00	\$300.00	3	per 30 Unit Lot	\$8,250.00	\$2,475.00
3	SSI Deckseal Polymer Deck Sealant or "Equal" <b>BASF EPOXAL GS</b>	24 (16)	per 2 gal (30 gal. unit)	\$124.00 (\$186.00)	\$2,976.00	10	per 10 gal per 9 gal	\$525.00	\$5,250.00
4	SSI Re-Deck Skid Resistant Overlay or "Equal" <b>BASF TRAFFICVAID EP35</b>	10	per 2 gal	\$74.00	\$740.00	13	per 12 Lot- 10 gal each	\$4,080.00	\$53,040.00
5	IMCO® MG-KRETE™ Regular or Fine or "Equal" <b>BASF SET 45</b>	32	per Kit 50# Bag 0.39 cu.ft.	\$16.34	\$522.88	105	per 36 Kit Lot	\$588.24	\$61,765.20
6	IMCO® MG-KRETE™ Part B Liquid System or "Equal" <b>NO BID</b>	128	per gal	\$0.00 NO BID	\$0.00				
7	IMCO® MG-KRETE™ Flex Regular System or "Equal" <b>BASF SET 45</b>	1	per Kit 50# Bag 0.39 cu.ft.	\$16.34	\$16.34	1	per 36 Kit Lot	\$588.24	\$588.24
8	IMCO® High Temp. Retarder Regular or "Equal" <b>NO BID</b>	1	per gal	0 NO BID	\$0.00	30	per 5 gal		\$0.00
9	IMCO® Low Temp. Accelerator Regular or "Equal" <b>NO BID</b>	1	per gal	\$0.00 NO BID	\$0.00	10	per 5 gal		\$0.00
10	IMCO® D-Tech 470 Sealer System or "Equal" <b>BASF SONOSIL</b>	1	per 5 gal	\$25.88	\$25.88	8	per 12 Lot- 5 gal each	\$291.15	\$2,329.20
11	Perma-Patch or "Equal" <b>NO BID</b>	7000	per 50-60 lb bag Lot	\$0.00 NO BID	\$0.00	20	per Truck 16 Lots		\$0.00
12	CERATECH Pavemend SLQ Very Rapid Repair Mortar or "Equal" <b>BASF 10-60</b>	1	per 5 gal 0.43 cu.ft. 50# Bag	\$0.00 12.90 NO BID	\$0.00	1	per 36 Lot- 5 gal each 50# Bag	467.40	\$0.00 \$467.40
13	CERATECH Pavemend 15.0 Rapid Repair Mortar or "Equal" <b>BASF 10-60</b>	1	per 5 gal 0.43 cu.ft. 50# Bag	\$12.90	\$12.90	1	per 36 Lot- 5 gal each 50# Bag	\$464.40	\$464.40
14	CERATECH Pavemend VR Repair Mortar or "Equal" <b>NO BID</b>	5	per 2 gal		\$0.00	1	per 80 Lot- 2 gal each		\$0.00
15	CERATECH Pavemend SL Repair Concrete or "Equal" <b>BASF 10-61</b>	1	per 5 gal 0.43 cu.ft. 50# Bag	\$12.90	\$12.90	3	per 36 Lot- 5 gal each	\$464.40	\$1,393.20
16	CERATECH Pavemend SL Repair Concrete or "Equal" <b>BASF EMACO T430</b>	1	per 54 bag 55# 0.40 cu.ft.	\$13.15	\$13.15	1	per 54 bag Lot	\$710.10	\$710.10

\* Unit equal 1 cubic foot  
 \* Kit equals 50 lb (45 lb Fine) pail Part A, 1 gal Part

11. BID SCHEDULE (Continued) Form Tech

Division of Highways Storage Sites  
Districts 1-10 & Maintenance Division

Item No.	Description	Estimated Quantity	Unit/Description	Unit Price	Extended Price	Estimated Quantity	Unit/Description	Unit Price	Extended Price
17	CERATECH D.O.T. Line Repair Concrete or "Equal" <b>BASF 10-60</b>	1	per <del>54</del> <b>30#</b> bag <b>0.43 cu. ft.</b>	\$12.90	<del>\$12.90</del> <b>\$12.90</b>	2	per 54 bag lot	\$696.60	\$1,393.20
18	CERATECH Mainline Repair Concrete or "Equal" <b>BASF 10-61</b>	1	per <del>54</del> <b>30#</b> bag <b>0.43 cu. ft.</b>	\$12.90	\$12.90	2	per 54 bag lot	\$696.60	\$1,393.20
19	AQUAFIN, INC. Aquafin-IC Admix or "Equal" <b>NO BID</b>	10	per 6 gal	NO BID	\$0.00	1	per 12 Lot- 6 gal each	NO BID	\$0.00
20	Kansas Blend Flint for SSI Re-Deck or "Equal" <b>BASF DYNAGRIP ASSEALANTE</b>	1	per <del>35</del> <b>30#</b> bag	\$18.00	\$18.00	40	per 35 bag Lot	\$556.50	##### <b>\$22,260.00</b>
21	DOW CORNING® 888 Silicone Joint Sealant or "Equal" <b>PECORA 301 NS</b>	40	per box (6-29 fl oz disposable cartridges)	\$120.00	\$4,800.00	1	per 36 Kit Lot	\$4,320.00	\$4,320.00
22	DOW CORNING® 890 Silicone Joint Sealant or "Equal" <b>PECORA 300 SL</b>	40	per box (6-29 fl oz disposable cartridges)	\$132.00	\$5,280.00				
23	CHEM-CRETE PAVIX CCC100 or "Equal" <b>NO BID</b>	80	per 5 gal	NO BID	\$0.00	10	per 36 Lot 5 gal each	NO BID	\$0.00
24	CHEM-CRETE PAVIX CCC100 or "Equal" <b>NO BID</b>	4	per 55 gal drum	NO BID	\$0.00	8	per 4-55 gal drum Lot	NO BID	\$0.00
25	CHEM-CRETE YUFIX CCC100 or "Equal" <b>BASF ENVIROSEAL 40</b>	20	per 5 gal	\$95.00	\$1,900.00	5	per 36 Lot 5 gal each	\$3,420.00	##### <b>\$17,100.00</b>
26	CHEM-CRETE Sofix CCC100 or "Equal" <b>NO BID</b>	10	per 5 gal	NO BID	\$0.00	5	per 36 Lot 5 gal each	NO BID	\$0.00
27	Sopralene Flan 180 (33"x39") or "Equal" <b>NO BID</b>	30	per roll	NO BID	\$0.00				
28	Sopralene Flan AntiRock (33"x39") or "Equal" <b>NO BID</b>	150	per roll	NO BID	\$0.00	5	per 20 roll Lot	NO BID	\$0.00
29	Elastocol 500 (Primer) or "Equal" <b>NO BID</b>	30	per 5 gal pail	NO BID	\$0.00				
30	Alsanc Flashing or "Equal" <b>NO BID</b>	25	per 5 gal pail	NO BID	\$0.00				
31	Alsanc Polyfleece Reinforcing Fabric (6"x50' Roll) or "Equal" <b>NO BID</b>	50	per roll	NO BID	\$0.00				

## Division of Highways Storage Sites

District One  
1334 Smith Street  
Charleston, WV 25301

District Two  
P.O. Box 880  
Huntington, WV 25712

District Three  
624 Depot Street  
Parkersburg, WV 26101

District Four  
P. O. Box 4220  
Clarksburg, WV 26302-4220

District Five  
P.O. Box 99 (US Route 50)  
Burlington, WV 26710

District Six  
1 DOT Drive  
Moundsville, WV 26041

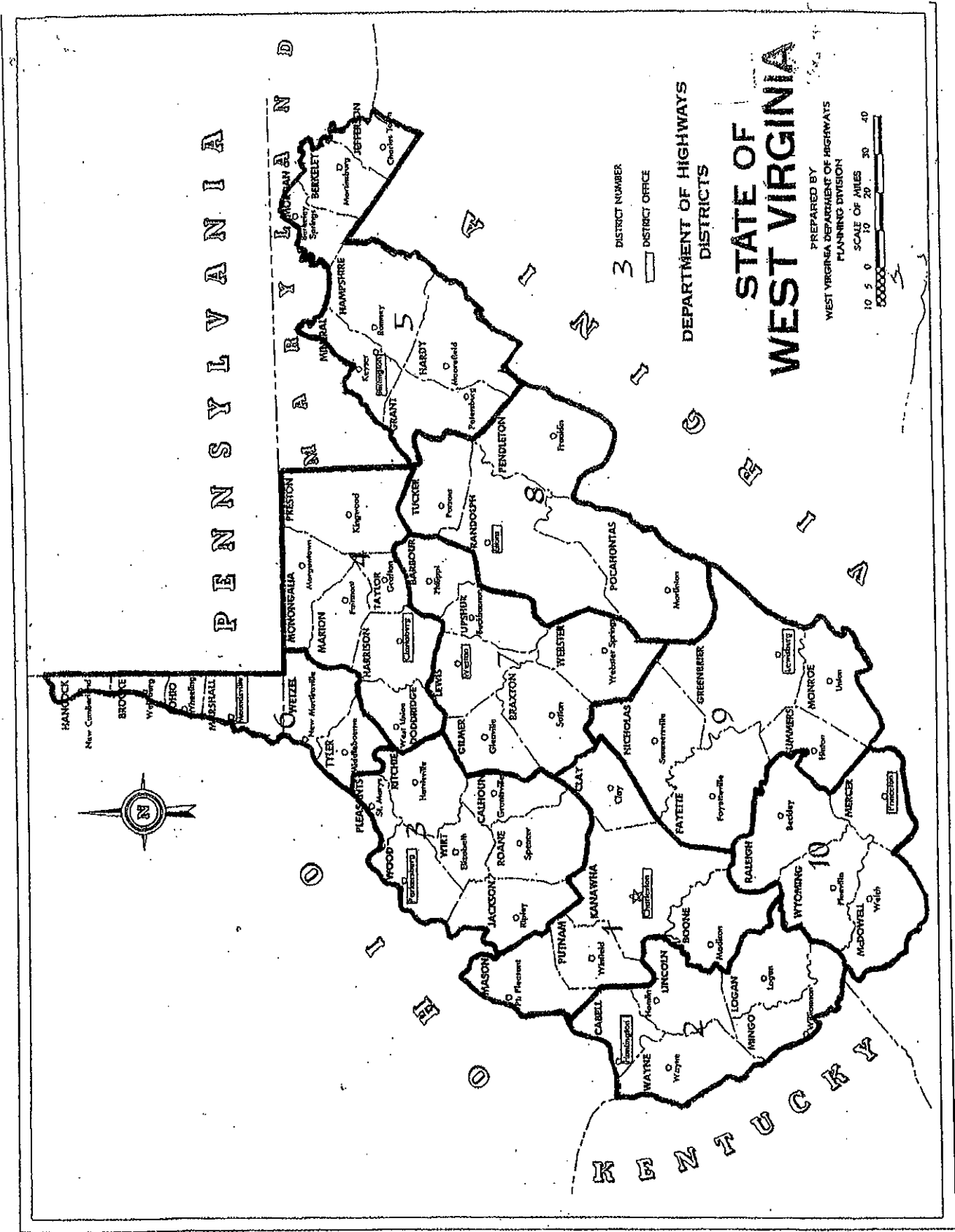
District Seven  
P.O. Box 1228  
Weston, WV 26452

District Eight  
US Route 219 North  
P.O. Box 1516  
Elkins, WV 26241

District Nine  
103 1/2 Church Street  
Lewisburg, WV 24901

District Ten  
270 Hardwood Lane  
Princeton, WV 24740

Maintenance Division  
I-79 Exit 57  
Coon Knob, WV 26601



DEPARTMENT OF HIGHWAYS  
DISTRICTS

# STATE OF WEST VIRGINIA

PREPARED BY  
WEST VIRGINIA DEPARTMENT OF HIGHWAYS  
PLANNING DIVISION

SCALE OF MILES  
0 10 20 30 40

○ DISTRICT NUMBER  
□ DISTRICT OFFICE

Please use this document for technical questions, posing in question format.

Technical Questions for RFQ: 6611CO29

Vendor Name: FORM TECH

Questions:

1. Specifications

SEE ATTACHED PRODUCT DATA SHEETS  
FOR MATERIALS BID AS EQUAL.  
NOTE: MARKED WITH ITEM NO., THAT WE SUBMIT  
AS EQUAL.

2 Delivery

/

3 Invoicing

/



**4 Award**

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**Other:**

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The Chemical Company

Item No. 1  
Item No. 2

PRODUCT DATA

3 03 01 20 Maintenance of  
Concrete Reinforcing

# DEGADECK® POLYMER CONCRETE

Rapid setting methacrylate repair material

### Description

DEGADECK® Polymer Concrete is a solvent free, 100% reactive methacrylate liquid component and a specially blended filler component, which includes Powder Hardener. DEGADECK® Polymer Concrete can be extended up to 100% with select aggregates for deeper repairs. Typical cure time is one hour at temperatures ranging from 14 to 104° F (-10 to 40° C).

### Yield

0.33 ft<sup>3</sup> per unit; unextended  
DEGADECK® Polymer Concrete Unit:  
0.5 gallon (1.9 L) DEGADECK®  
Polymer Liquid  
1-37 lb (16.7 kg) bag DEGADECK®  
Polymer Concrete Filler  
See Mixing Section for aggregate  
extensions.

### Packaging

DEGADECK® Polymer Liquid:  
4.5 gal (17 kg) pail  
54 gal (190 kg) drum  
DEGADECK® Polymer Concrete Filler:  
37 lb (16.7 kg) bags

### Color

Concrete gray

### Shelf Life

All components:  
24 months when properly stored

### Storage

Store in cool, clean, dry area. Keep out of direct sunlight. Maximum storage temperature is 86° F (30° C). Store in original and unopened container.

### Features

- Fast curing (1 hour)
- Can be used at temperatures ranging from 14 to 104° F (-10 to 40° C)
- Extendable with aggregate
- 2 component
- Compatible with other DEGADECK® methacrylate systems
- High strength
- Durable
- UV resistance

### Where to Use

#### APPLICATION

- Bridge decks
- Parking structures
- Runways
- Civil engineering applications
- Anchor bolts
- Potholes
- Joint nosing repairs
- Bearing pads
- Used to repair spalled concrete

#### LOCATION

- Exterior
- Formed vertical
- Horizontal

#### SUBSTRATE

- Concrete

### Benefits

On highway and bridge projects, allows fast return of traffic flow, contributing directly to worker and driver safety.

Extended application season

Variable depth placement consistencies

User friendly; ease of installation

Provides complete systems approach to concrete protection

Excellent bonding capabilities to a variety of concrete substrates

Withstands freeze-thaw damage

Exposure to sunlight does not affect product performance

### How to Apply

#### Surface Preparation

1. The substrate must be clean, dry and sound. Completely remove all substances detrimental to bonding, such as dirt, oils, fats, waxes, chemical contaminants, and weak, loose, or unsound concrete.
2. Use routine methods like sandblasting, chipping, and wire brushing; do not acid etch. Obtain a minimum CSP 5 as described by the International Concrete Repair Institute. Do not use a method of surface preparation that will fracture the concrete. Verify the absence of microcracking or bruising in accordance with ICRI Guideline No. 03732.
3. The concrete surface must be dry, maximum 5% moisture content. Damp and wet surfaces may be dried with artificial heat if the concrete will remain dry when the heat source is removed (i.e., the concrete must not be saturated with moisture).



## Technical Data

### Composition

DEGADECK® Polymer Concrete Filler Component is a non-cementitious, water-free composite material in which fine and coarse aggregates are bound together in a dense matrix with a polymer binder.

DEGADECK® Polymer Liquid Component is a reactive binder based on Methacrylate monomers used with DEGADECK® Filler Component to form a polymer concrete.

### Compliances

- DEGADECK® Polymer Concrete is classified under DOT regulations as Resin Solution, UN 1866, Class 3, PG II.
- DEGADECK® resins are manufactured to ISO 9001 standards.

### Typical Properties

PROPERTY	RESULTS	
	RESIN	FILLER
Appearance	Liquid	Grey powder
Specific gravity, g/cm <sup>3</sup>	0.93	—
Bulk density, approx. lb/ft <sup>3</sup> (kg/m <sup>3</sup> )	—	78.5 (1.26)
Viscosity, cP (mPa-sec)	1	—
Flash point, ° F (° C)	48 (9)	—

### Test Data

PROPERTY	RESULTS	TEST METHODS
Compressive strength, psi (MPa)	7,000 (48.2)	ASTM C 579
Tensile strength, psi (MPa)	1,150 (7.9)	ASTM C 307
Flexural strength, psi (MPa)	5,900 (40.7)	ASTM C 580
Compressive modulus of elasticity, psi (MPa)	0.6 x 10 <sup>6</sup> (4.1 x 10 <sup>5</sup> )	ASTM C 469
Coefficient of thermal expansion, /° F (/° C)	38 x 10 <sup>-6</sup> (68 x 10 <sup>-6</sup> )	ASTM C 531
Linear shrinkage, %	0.08	ASTM C 531
Water absorption, % / 24 hrs	0.09	ASTM D 570

4. Conduct adhesion tests with the polymer system to ensure proper preparation and good bond strength. Adhesion tests should exhibit failure in the concrete, not at the interface. Concrete failure must be greater than 200 psi (1.4 MPa).

5. Patch perimeter must be sawcut to 1/4" as materials cannot be feather-edged.

6. All DEGADECK® Polymer Concrete Systems require the use of DEGADECK® Primer.

### Priming

Prime all surfaces with DEGADECK® Primer at 100 ft<sup>2</sup>/gallon. Mix 1 gallon of DEGADECK® Primer with appropriate amount of powder hardener (see DEGADECK® Primer data sheet for Mixing instructions) and apply immediately. Allow to fully cure prior to placing DEGADECK® Polymer Concrete.

### Mixing

1. Mix DEGADECK® Polymer Concrete in 5 gallon pails with a mixing blade or in concrete drum mixers. Measure out no more than 1/2 gallon of DEGADECK® Liquid Component per 37 lb bag of DEGADECK® Filler Component.

2. Add DEGADECK® Liquid Component to container followed by DEGADECK® Filler Component and mix thoroughly for 30-60 seconds to obtain a mortar consistency. When extending, add aggregate as required (see Aggregate Extension Chart below).

3. DEGADECK® polymer mortar can be used in any thickness over 1/2" (12.7 mm) when extended with selected washed and dried aggregate. Aggregate is added after DEGADECK® Liquid Component and DEGADECK® Filler Component are blended.

4. The yields below are per batch (37 lbs DEGADECK® Filler Component + 1/2 gallon DEGADECK® Liquid Component). Please note that yields may vary depending on the type and quality of aggregate available, as well as application procedures at the job site.

5. Powder Hardener is already pre-blended into DEGADECK® Polymer Concrete Filler component.

### Aggregate Extension

REPAIR THICKNESS IN (MM)	EXTENSION % BY WEIGHT	AGGREGATE GRAIN SIZE	LBS OF AGGREGATE	SQUARE FEET	CUBIC FEET
1/8 (3.2)	—	—	—	29.3	0.30
1/4 (6.4)	—	—	—	14.6	0.30
1/2 (12.7)	10	1/16" to 1/8"	4	7.9	0.33
3/4 (19)	25	1/16" to 1/8"	10	5.9	0.37
1 (25.4)	50	3/16" to 3/8"	20	5.4	0.45
1-1/2 (38)	75	3/16" to 3/8"	30	4.2	0.52
2 (50.8)	100	1/4" to 3/4"	40	3.5	0.59

### Application

1. Finish the patch or repair using standard concrete finishing methods. For larger, deeper and vertical repairs, polyethylene or plastic laminate-lined forms may be required.

2. For small, shallow repairs, use a trowel to spread and smooth the DEGADECK® Polymer Concrete. Keep the trowel flat and do NOT overwork the mortar, as improper surface cure will result. The product completely cures and is traffic ready within one hour.

3. The minimum application thickness for DEGADECK® Polymer Concrete is 1/8" (3.18 mm). Applications over 1/2" (12.7 mm) thick must be extended. Washed and dried pea gravel or coarse aggregate is used to extend the mortar mix. The largest aggregate size should not exceed 1/3 the depth of the patch (see Aggregate Extension Mixing Chart above). Never use any extender aggregate less than 1/16" (1.6 mm) with DEGADECK® Polymer Concrete.

### Anchor Bolts

Holes must be primed prior to addition of polymer mortar. Bolts must be rust-free and preferably galvanized. Other types of metal plating should be tested for compatibility with DEGADECK® prior to use.

### Joint Headers

DEGADECK® Polymer Concrete is well-suited for header repairs to armored joints, strip joint systems and other similar applications. For retrofit of existing headers, remove all existing header material and any damaged and spalled concrete. Edges should be sawcut to 1/4" (6.4 mm). All surfaces must be properly primed and allowed to cure prior to accepting the polymer concrete. For new construction, the concrete should be cut back 4 – 8" from the joint and 2 – 4" depth depending on design requirements.

### Clean Up

Clean tools as needed with inhibited MMA, acetone, ethyl acetate or similar solvents.

### For Best Performance

- Polymer Concrete: Non-cementitious, water-free composite material in which fine and coarse aggregates are bound together in a dense matrix with a polymer binder. Polymer concretes are used for repairing spalled, eroded and deteriorated concrete surfaces. They are specified in environments that demand rapid cure, low maintenance and high functional performance.
- DO NOT recoat while material is still hot to touch.
- DO NOT "silk off" material with straight MMA or solvents. This will interfere with the curing process.

- Material must be re-primed prior to over-coating with other DEGADECK® systems
- DEGADECK® Polymer Concrete is not intended for use over bituminous-based substrates.
- DO NOT overwork the product. It will interfere with the curing process.
- Elevated temperatures will accelerate cure time.
- Powder Hardener is already pre-blended into DEGADECK® Polymer Concrete Filler component.
- DEGADECK® resins cure via an addition polymerization mechanism using the Powder Hardener. Free radicals are formed and used to convert the liquid resin into a three-dimensional polymer network. This reaction proceeds easily below 50° F (10° C). Also, during the reaction, all hardener is consumed and the polymer is fully formed within a one-hour period. There is no potential for an excess of unreacted components or extended cure that is typical of other systems. When used correctly, cure is thorough and consistent.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite

## Health and Safety

DEGADECK® POLYMER CONCRETE LIQUID

### Warning

DEGADECK® Polymer Liquid contains methyl methacrylate; methacrylic acid ester; n-butyl acrylate; substituted tertiary amine; aliphatic hydrocarbon

### Risks

May cause skin, eye or respiratory irritation. Ingestion may cause irritation. Contains small free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

### Precautions

Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

### Proposition 65:

This product contains material listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

### VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents.

DEGADECK® POLYMER CONCRETE FILLER

### WARNING!

DEGADECK® Polymer Concrete Filler contains silica, crystalline quartz; limestone; benzoyl peroxide.

### Risks

May cause skin, eye or respiratory irritation. Ingestion may cause irritation. Contains small free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

### Precautions

Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

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### VOC Content

0 g/L or 0 lbs/gal, less water and exempt solvents.

**For medical emergencies only,  
Call ChemTrec (1-800-424-9300).**

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Customer Service 800-433-9517  
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The Chemical Company

PRODUCT DATA

3 03 01 00 Maintenance of  
Concrete

## EPOXEAL™ GS STRUCTURAL

Two-component, ultra low viscosity gravity feed or pressure-injected epoxy sealer and structural adhesive

### Description

EpoXeal™ GS Structural is a two-component ultra-low-viscosity epoxy sealer and structural adhesive. Its low-viscosity formula penetrates deeply into concrete to repair damaged structures. It accepts an aggregate broadcast to provide a slip-resistant surface.

### Yield

150 ft<sup>2</sup>/gal (3.8 m<sup>2</sup>/L) per coat

Coverage will vary depending on porosity and amount of deterioration to substrate.

### Packaging

3 gal kits:

Two 1 gal (3.8 L) cans of Part A and One 1 gal (3.8 L) can Part B

15 gal kits:

Two 5 gal (18.9 L) pails of Part A and One 5 gal (18.9 L) pail of Part B

165 gal drum kits:

Two 55 gal drums (208 L) of Part A and One 55 gal drum (208 L) Part B

### Color

Part A: clear amber liquid

Part B: clear liquid

### Shelf life

2 years when properly stored

### Storage

Store in unopened containers in a cool, clean, dry area.

### Features

- Surface sealer
- 2 to 1 mix ratio
- Low viscosity
- Accepts aggregate broadcast

### Benefits

Reduces chloride intrusion and absorption  
 Convenient and easy to mix; meets the mix ratio requirements of professional injection equipment  
 Penetrates deeply for reliable, complete crack repair  
 Produces slip-resistant surface with aggregate concrete

### Where to Use

#### APPLICATION

- Sealing cracks in structural concrete
- Consolidation of partially deteriorated and dusting surfaces
- Bridge decks
- Roadways
- Parking and garage decks
- Floors
- Columns and beams

#### LOCATION

- Interior and exterior

#### SUBSTRATE

- Concrete

### How to Apply

#### Surface Preparation

1. Concrete must be cured a minimum of 14 days before application.
2. Concrete must be mechanically profiled and appropriately cleaned before application. Surfaces must be free from dust, grease, curing compounds, waxes, laitance, loose deteriorated concrete, and other unsound materials.
3. All damaged surfaces must be repaired with appropriate repair material.
4. Optimum penetration is achieved with dry concrete.

#### Mixing

1. Pre-mix each component thoroughly before mixing together.
2. Place 2 parts by volume of component A with 1 part by volume of component B into a clean mixing container.
3. Mix thoroughly for approximately 3 – 5 minutes using a low-speed (400 – 500 rpm) drill and paddle mixer until uniformly blended.
4. The pot life of EpoXeal™ GS Structural is 45 minutes.



## Technical Data

### Composition

EpoXeal™ GS Structural features proprietary epoxy resin technology.

### Compliances

- ASTM C 881 Type I, II, IV, V, Grade 1, Class B and C
- Meets USDA specifications for use in food processing facilities

### Test Data

PROPERTY	RESULTS	SPECIFICATION	TEST METHODS
<b>Viscosity, cps, approximate</b>	95	2,000 maximum	Brookfield
<b>Pot life, min, approximate</b>	45	30 minimum	ASTM C 881
<b>Bond strength, psi (MPa)</b>			ASTM C 882
2 days	2,410 (16.6)	1,000 (6.9)	
14 days	3,450 (23.8)	1,500 (10.3)	
<b>Absorption, %, 24 hour immersion</b>	0.9	1.0 maximum	ASTM D 570
<b>Heat deflection, ° F (° C)</b>	122 (50)	120 (49) minimum	ASTM D 648
<b>Linear coefficient of shrinkage</b>	0.0021	0.005 maximum	ASTM D 2566
<b>Compressive strength, psi (MPa)</b>	10,800 (74.5)	10,000 (69) minimum	ASTM D 695
<b>Compressive modulus, psi (MPa)</b>	310,000 (2,137)	200,000 (1,379)	ASTM D 695
<b>Tensile strength, psi (MPa)</b>	7,100 (49.0)	7,000 (48.3) minimum	ASTM D 638
<b>Flexural strength, psi (MPa)</b>	9,500 (65.5)	None	ASTM D 790
<b>Elongation, %, at break</b>	2.9	1.0 minimum	ASTM D 638

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

### Application

1. Apply by brush, roller, squeegee, or airless sprayer.
2. Apply material evenly over surface at 150 – 200 ft<sup>2</sup>/gallon (3.68 – 4.9 m<sup>2</sup>/L) per coat.
3. Coverage will vary depending on the porosity of the concrete.
4. If injecting cracks, appropriate sealing of cracks and injection ports is necessary. Use appropriately clean and calibrated mechanical injecting equipment.
5. To gravity feed, V-notch the crack, making sure the bottom and sides are sealed. Pour mixed material evenly into crack until full. For cracks greater than 1/8" (3 mm), fill crack with oven dry sand before applying product.
6. If nonslip surface is desired, aggregate broadcast is mandatory. Distribute sand evenly over surface at a rate of 12 – 20 lbs per 100 sq ft (0.59 – 0.98 kg/m<sup>2</sup>).

### Clean Up

Clean equipment with Reducer 990 before material sets. Cured material will require mechanical removal.

### For Best Performance

- Do not use when substrate temperature falls below 50° F (10° C).
- Keep from freezing.
- Do not thin; solvents will prevent proper curing.
- Injection cracks should not exceed 1/4" (6 mm) in width.
- Use only high-quality silica quartz aggregate for broadcast.
- Optimum penetration is achieved with dry concrete.
- EpoXeal™ GS Structural will discolor when exposed to UV light.
- Lower temperatures or higher humidity will slow the cure of EpoXeal™ GS Structural.
- Protect EpoXeal™ GS Structural from rain for 24 hours after application at 75° F (24° C).
- Cure time to accept traffic: at 70° F (21° C), 12 hours; at 80° F (27° C), 6 hours.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.

- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

### Health and Safety

EPOXEAL™ GS STRUCTURAL PART A

#### Warning

EpoXeal™ GS Structural Part A resin contains epoxy resin, 2-ethylhexyl glycidyl ether.

#### Risks

May cause skin, eye and respiratory irritation. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Ingestion may cause irritation.

### Precautions

Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Keep container closed when not in use. Wash thoroughly after handling. DO NOT take internally. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

### Proposition 65

This product contains materials listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

### VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents when components are mixed and applied per Manufacturer's instructions.

### EPOXEAL™ GS STRUCTURAL PART B

#### Danger—Corrosive

EpoXeal™ GS Structural Part B contains 4-nonylphenol; n-aminoethylpiperazine; poly(oxypropylene)diamine; naphthalene; 2,4,6-tris((dimethylamino)methyl)phenol

#### Risks

Contact with skin or eyes may cause burns. Ingestion may cause irritation and burns of mouth, throat and stomach. Inhalation of vapors may cause irritation. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Repeated or prolonged contact with skin may cause sensitization. Suspect cancer hazard. Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

#### Precautions

DO NOT get in eyes, on skin or clothing. Wash thoroughly after handling. Keep container closed. DO NOT take internally. Use only with adequate ventilation. DO NOT breathe vapors. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

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The Chemical Company

## PRODUCT DATA

7 07 18 00 Traffic Coatings

**TRAFICGUARD® EP35**

Rapid-setting, epoxy-based concrete overlay system

**Description**

Trafficguard® EP35 is a rapid-curing, skid-resistant, epoxy-based concrete overlay system. When mixed with aggregate it can be used as a repair mortar.

**Yield**

115 – 130 ft<sup>2</sup> per 10 gallon  
(11 – 12 m<sup>2</sup> per 38 L) kit, depending on porosity and profile of substrate  
1,300 – 1,450 ft<sup>2</sup> per 110 gallon  
(121 – 135 m<sup>2</sup> per 416 L) kit, depending on porosity and profile of substrate

80 ft<sup>2</sup>/gallon (1.96 m<sup>2</sup>/L) as a primer for epoxy binder

Binder yield varies depending on mix ratio (aggregate to epoxy) and aggregate size and gradation. A 3 to 1 ratio will yield approximately 650 in<sup>2</sup>.

**Packaging**

10 gallon (38 L) kits

110 gallon (412 L) kits

**Color**

Blonde

**Shelf Life**

2 years when properly stored

**Storage**

Store in unopened containers at 60 to 80° F (16 to 27° C) in clean, dry conditions.

**Features**

- Rapid strength development
- Waterproof
- Low modulus
- 90% lighter than typical concrete overlays
- Excellent adhesion to the substrate
- Skid-resistant
- 1 to 1 mix ratio by volume
- Produces a durable surface
- No primer required
- 100% solids

**Where to Use**

## APPLICATION

- Bridge decks
- Parking decks and ramps
- Steel decks
- Warehouse floors
- Elevated airport runways
- As a lightweight alternative to concrete overlays
- When rapid overlay installation and quick turnaround times are required
- As a skid-resistant coating
- Balconies

## LOCATION

- Horizontal surfaces
- Interior and exterior

## SUBSTRATE

- Concrete
- Steel

**Benefits**

- Minimizes traffic disruption
- Prevents chloride ion contamination, freeze-thaw damage, and salt scaling
- Accommodates thermal movement in the substrate
- Limits dead load in suspended structures
- Prevents delamination extending surface life
- Increased safety for vehicles and pedestrians
- Simplifies application
- Increased service life
- Faster installation
- VOC-compliant system meets all federal regulations

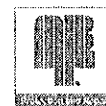
**How to Apply****Surface Preparation**

## STEEL

Shotblast steel substrates and clean to meet the requirements of SSPC-SP10, with a minimum 4 mil (0.2 mm) profile. If flash rust appears, the surface must be reblasted.

## CONCRETE

1. The concrete surface should be clean, dry, and free of oil, contaminants, laitance, and debris, and fully cured for 28 days.
2. Patch or repair deck delaminations and spalls and cracks with the appropriate MBT® repair product and allow to cure.
3. Mechanically prepare the surface to expose coarse aggregate and remove all loose materials. Meet the requirements of ICRI Guideline No. 03732 Standard CSP 6. To ensure proper surface preparation, perform "direct tension" testing (in accordance with ACI 503 Appendix A) every 4,500 ft<sup>2</sup> (414 m<sup>2</sup>).



## Technical Data

### Composition

Trafficguard® EP35 is a two component epoxy-based binder.

### Compliances

- ASTM C 881

### Test Data

PROPERTY	RESULTS	TEST METHODS
<b>Mix ratio</b> , by volume	1 to 1	
<b>Viscosity</b> , poise, at 75° F (24° C); #3 spindle at 20 rpm	20 – 25	ASTM D 2393
<b>Gel time</b> , min, at 72° F (22° C); (Modified to test 70 g sample)	15 – 20	ASTM C 881
<b>Compressive strength</b> , psi (MPa) 24 hrs 7 days	4,000 – 4,500 6,500 – 7,000	ASTM D 695
<b>Compressive strength</b> , psi (MPa) Mixed with aggregate 3 hrs 24 hrs	3,000 – 3,500 5,000 – 5,500	ASTM C 579
<b>Modulus of Elasticity in Compression</b> , psi (MPa)	1.21 x 10 <sup>6</sup> (834)	ASTM C 695
<b>Tensile strength</b> , psi (MPa), at 7 days	6,525	ASTM D 638
<b>Tensile elongation</b> , %, at 7 days	>30	ASTM D 638
<b>Adhesion Pull Test</b> 24 hrs	>536 psi (break in concrete)	ASTM D 7234 (ACI 503 Appendix A)
<b>Hardness</b> Shore D @ 7 days	62	ASTM D 2240
<b>Abrasion - Taber</b> 1000 cycles - CS 17 wheel	70 mg (neat) 77 mg (with aggregate)	ASTM D 4060
<b>Thermal compatibility</b> , 5 cycles Modified: 8 hours @ 60°C plus 16 Hours @ -21°C	Pass	ASTM C 884
<b>Water absorption</b> , % 24 hrs	0.02	ASTM D 570
<b>Rapid Chloride Permeability</b> Chloride ion penetration @ 28 days	0 negligible	ASTM C1202 (AASHTO T277)

All application and performance values are typical for the material, but may vary with test methods, conditions, and configurations.

### Mixing

1. Thoroughly mix each separate component for 2 – 3 minutes.
2. Mix Part A (resin) and Part B (hardener) in the proper ratio (1 to 1 by volume), using a slow-speed drill (500 rpm) and paddle for 2 – 3 minutes.
3. Because of the quick cure rate of this product, do not mix more material usable within the pot life of 15 – 25 minutes at 75° F (24° C). Elevated temperatures decrease pot life, and reduced temperatures increase pot life.

### BROADCAST-AGGREGATE METHOD

#### PARKING DECKS

1. Spread the mixed Trafficguard® EP35 onto the substrate with a notched squeegee at a rate of 60 ft<sup>2</sup>/gallon (1.0 m<sup>2</sup>/L). Place the epoxy to permit a continuous operation by applying the second mix immediately behind the first mix.
2. Begin the aggregate broadcast immediately, but stop to maintain a wet edge. Broadcast Dynagrip Aggregate # 9 to complete saturation (approximately 1.1 lb/ft<sup>2</sup> (5.4 kg/m<sup>2</sup>). If wet spots develop, immediately broadcast additional aggregate until a dry surface is re-established.

3. Apply the second coat in the same manner described above at a rate of 40-60 ft<sup>2</sup>/gal. The maximum recoat window is 24 hours.

#### BRIDGE DECKS

1. If the application takes place early in the evening, the deck may be opened to traffic early the next morning.
2. Spread the mixed Trafficguard® EP35 onto the substrate with a notched squeegee at a rate of 40 ft<sup>2</sup>/gallon (1.0 m<sup>2</sup>/L) or 2.5 gallons/100 ft<sup>2</sup>. Place the epoxy to permit a continuous operation by applying the second mix immediately behind the first mix.

3. Begin the aggregate broadcast immediately, but stop to maintain a wet edge. Broadcast Dynagrip Aggregate #8 or #9 to complete saturation (approximately 1.1 lb/ft<sup>2</sup> (5.4 kg/m<sup>2</sup>). If wet spots develop, immediately broadcast additional aggregate until a dry surface is re-established.

4. Apply the second coat in the same matter but at a rate of 20 ft<sup>2</sup>/gallon (2 m<sup>2</sup>/L) or 80 mils. The maximum recoat window is 24 hours.

**EPOXY BINDER**

1. Mix the 2 components of Traficguard® EP35 using the recommended procedures under the Mixing section.
2. Slowly add up to 5 parts by volume of oven-dried sand to 1 part of mixed epoxy.
3. For larger applications, a paddle-type (mortar) mixer may be used. However, the A and B components must first be mixed together using a slow-speed drill as outlined previously.
4. For epoxy concrete applications, consult your local BASF representative.
5. Prime the area to receive the epoxy mortar using neat resin (parts A and B mixed but with no aggregate). Some applications, e.g., paving dams, will require forming to prevent the material from slumping into the joint.
6. Place the epoxy mortar into the repair area and level with a trowel or float. Excess working of the surface will bring resin to the top, which will create a slick finish when cured. To prevent this, broadcast aggregate to refusal onto leveled surface.
7. Allow time for sufficient curing before removing forms, if applicable.

**HOT-WEATHER APPLICATION**

1. In hot weather, precondition materials to 65 to 70° F before mixing and applying.
2. Continuous mixes of 30 gallons can be mixed every 3 minutes but must be dumped within 6 minutes, be spread within 10 minutes of placement, and broadcast within 20 minutes.

**COOL-WEATHER APPLICATION**

1. Application can proceed in temperatures as low as 50° F (10° C). Condition all components to 80 to 100° F (27 to 38° C) before mixing and applying.
2. At 50° F (10° C), a hand-operated surface roller may become necessary to ensure the aggregate penetrates the cool resin.

**Drying Time**

**PRODUCT AND SUBSTRATE**

TEMPERATURE, ° F (° C)	OPEN TO TRAFFIC, MIN
60 (16)	150
65 (18)	135
70 (21)	120
80 (27)	90
90 (32)	75
100 (38)	60

**Aggregate**

Dynagrip Aggregate is recommended with Traficguard® EP35 polymer concrete overlay. Dynagrip Aggregate is a hard-wearing, angular, dark gray aggregate.

- Dynagrip Aggregate #8 is a coarser aggregate suitable for bridge decks and other surfaces.
- Dynagrip Aggregate #9 is a less coarse aggregate.

Alternatively, an angular shaped silica or basalt aggregate may be used. The aggregate shall be an angular-shaped silica with Mohs scale hardness of 7 or greater or basalt with a hardness of 6 or greater. The alternate aggregate must be clean, dry (less than 0.2% moisture), and conform to the following gradation.

PERCENT, BY WEIGHT, PASSING IN INDICATED U.S.

**STANDARD-SIEVE SERIES**

COARSE AGGREGATE				
Steve #	4	8	16	30
% Passing	100	30 – 75	0 – 5	0 – 1

**Clean Up**

Clean tools and equipment with xylene immediately after using. Wash hands and skin with soap or industrial hand cleaner, not with solvent. Cured material must be removed mechanically.

**For Best Performance**

- Precondition all components to 70° F (21° C) for 24 hours before using.
- Minimum ambient, surface, aggregate and epoxy temperature should be 50° F (10° C) and rising at the time of application.
- Do not apply when rain is expected within 12 hours.
- Finished product is a vapor barrier and should not be applied to on-grade slabs subject to exterior service conditions or other structures where moisture-vapor transmission is a concern.
- Do not use neat (without aggregate).
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

## Health and Safety

### TRAFICGUARD EP35 PART A

#### Warning

Traficguard EP35 Part A contains Epoxy resin (25068-38-6); Oxirane, mono [(C12-14-alkyloxy)methyl] derivs. (68609-97-2)

#### Risks

SENSITIZER. IRRITANT. May cause allergic skin reaction. May cause skin, eye and respiratory irritation. Ingestion may cause irritation.

#### Precautions

Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Keep container closed when not in use. Wash thoroughly after handling. DO NOT take internally. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

#### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

#### Proposition 65

This product contains material listed by the state of California as known to cause cancer, birth defects, or other reproductive harm.

#### VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents when components are mixed and applied per BASF instructions.

### TRAFICGUARD EP35 PART B

#### Danger—Corrosive

Traficguard EP35 Part B contains 4-nonylphenol, branched (84852-15-3); Polyetherdiamine (9046-10-0); 2,4,6-tris-(dimethylaminomethyl)-phenol (90-72-2); 1,3-Cyclohexanedimethanamine (2579-20-6)

#### Risks

CORROSIVE. Causes burns. Corrosive to eyes. Harmful if inhaled or swallowed.

#### Precautions

DO NOT get in eyes, on skin or clothing. Wash thoroughly after handling. Keep container closed. DO NOT take internally. Use only with adequate ventilation. DO NOT breathe vapors. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

#### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

#### Proposition 65

This product contains materials listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

#### VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents when components are mixed and applied per BASF instructions.

**For medical emergencies only,  
call ChemTrec (1-800-424-9300).**

## BASF Corporation Building Systems

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Customer Service 800-433-9517

Technical Service 800-243-6739



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The Chemical Company

PRODUCT DATA

3 03 01 00 Maintenance of  
Concrete

## SET<sup>®</sup> 45 AND SET<sup>®</sup> 45 HW

Chemical-action repair mortar

### Description

Set<sup>®</sup> 45 is a one-component magnesium phosphate-based patching and repair mortar. This concrete repair and anchoring material sets in approximately 15 minutes and takes rubber-tire traffic in 45 minutes. It comes in two formulations: Set<sup>®</sup> 45 Regular for ambient temperatures below 85° F (29° C) and Set<sup>®</sup> 45 Hot Weather for ambient temperatures ranging from 85 to 100° F (29 to 38° C).

### Yield

A 50 lb (22.7 kg) bag of mixed with the required amount of water produces a volume of approximately 0.39 ft<sup>3</sup> (0.011 m<sup>3</sup>); 60% extension using 1/2" (13 mm) rounded, sound aggregate produces approximately 0.58 ft<sup>3</sup> (0.016 m<sup>3</sup>).

### Packaging

50 lb (22.7 kg) multi-wall bags

### Color

Dries to a natural gray color

### Shelf Life

1 year when properly stored

### Storage

Store in unopened containers in a clean, dry area between 45 and 90° F (7 and 32° C).

### Features

- Single component
- Reaches 2,000 psi compressive strength in 1 hour
- Wide temperature use range
- Superior bonding
- Very low drying shrinkage
- Resistant to freeze/thaw cycles and deicing chemicals
- Only air curing required
- Thermal expansion and contraction similar to Portland cement concrete
- Sulfate resistant

### Benefits

- Just add water and mix
- Rapidly returns repairs to service
- From below freezing to hot weather exposures
- Bonds to concrete and masonry without a bonding agent
- Improved bond to surrounding concrete
- Usable in most environments
- Fast, simple curing process
- More permanent repairs
- Stable where conventional mortars degrade

### Where to Use

#### APPLICATION

- Heavy industrial repairs
- Dowel bar replacement
- Concrete pavement joint repairs
- Full-depth structural repairs
- Setting of expansion device nosings
- Bridge deck and highway overlays
- Anchoring iron or steel bridge and balcony railings
- Commercial freezer rooms
- Truck docks
- Parking decks and ramps
- Airport runway-light installations

#### LOCATION

- Horizontal and formed vertical or overhead surfaces
- Indoor and outdoor applications

### How to Apply

#### Surface Preparation

1. A sound substrate is essential for good repairs. Flush the area with clean water to remove all dust.
2. Any surface carbonation in the repair area will inhibit chemical bonding. Apply a pH indicator to the prepared surface to test for carbonation. If carbonation is present, abrade surface to a depth that is not carbonated.
3. Refer to International Concrete Repair Institute publication #s 03730 and 03732 for further surface preparation suggestions.



## Technical Data

### Composition

Set® 45 is a magnesium-phosphate patching and repair mortar.

### Test Data

PROPERTY RESULTS TEST METHODS  
 Typical Compressive Strengths\*, psi (MPa) ASTM C 109, modified

	Plain Concrete 72° F (22° C)	Set® 45 Regular 72° F (22° C)	Set® 45 Regular 36° F (2° C)	Set® 45 HW 95° F (35° C)
1 hour	—	2,000 (13.8)	—	—
3 hour	—	5,000 (34.5)	—	3,000 (20.7)
6 hour	—	5,000 (34.5)	1,200 (8.3)	5,000 (34.5)
1 day	500 (3.5)	6,000 (41.4)	5,000 (34.5)	6,000 (41.4)
3 day	1,900 (13.1)	7,000 (48.3)	7,000 (48.3)	7,000 (48.3)
28 day	4,000 (27.6)	8,500 (58.6)	8,500 (58.6)	8,500 (58.6)

NOTE: Only Set® 45 Regular formula, tested at 72° F (22° C), obtains 2,000 psi (13.8 MPa) compressive strength in 1 hour.

Modulus of Elasticity, psi (MPa)	7 days	28 days	ASTM C 469
Set® 45 Regular	4.18 x 10 <sup>6</sup> (2.88 x 10 <sup>6</sup> )	4.53 x 10 <sup>6</sup> (3.14 x 10 <sup>6</sup> )	
Set® 45 Hot Weather	4.90 x 10 <sup>6</sup> (3.38 x 10 <sup>6</sup> )	5.23 x 10 <sup>6</sup> (3.62 x 10 <sup>6</sup> )	
<b>Freeze/thaw durability test,</b> % RDM, 300 cycles, for Set® 45 and Set 45® HW		80	ASTM C 666, Procedure A (modified**)
<b>Scaling resistance to deicing chemicals,</b> Set® 45 and Set 45® HW			ASTM C 672
5 cycles		0	
25 cycles		0	
50 cycles		1.5 (slight scaling)	
<b>Sulfate resistance</b>			ASTM C 1012
Set® 45 length change after 52 weeks, %		0.0	
Type V cement mortar after 52 weeks, %		0.2	
<b>Typical setting times, min,</b> for Set® 45 at 72° F (22° C), and Set® 45 Hot Weather at 95° F (35° C)			Gilmore ASTM C 266, modified
Initial set		9 – 15	
Final set		10 – 20	
<b>Coefficient of thermal expansion,***</b> both Set® 45 Regular and Set® 45 Hot Weather coefficients		7.15 x 10 <sup>-6</sup> /° F (12.8 x 10 <sup>-6</sup> /° C)	CRD-C 39
<b>Flexural Strength, psi (MPa),</b> 3 by 4 by 16" (75 by 100 by 406 mm) prisms, 1 day strength,			ASTM C 78, modified
Set® 45 mortar		550 (3.8)	
Set® 45 mortar with 3/8" (9 mm) pea gravel		600 (4.2)	
Set® 45 mortar with 3/8" (9 mm) crushed angular noncalcareous hard aggregate		650 (4.5)	

\* All tests were performed with neat material (no aggregate)

\*\* Method discontinues test when 300 cycles or an RDM of 60% is reached.

\*\*\* Determined using 1 by 1 by 11" (25 mm by 25 mm by 279 mm) bars. Test was run with neat mixes (no aggregate). Extended mixes (with aggregate) produce lower coefficients of thermal expansion.

Test results are averages obtained under laboratory conditions. Expect reasonable variations.

### Mixing

1. Set® 45 must be mixed, placed, and finished within 10 minutes in normal temperatures (72° F (22° C)). Only mix quantities that can be placed in 10 minutes or less.
2. Do not deviate from the following sequence; it is important for reducing mixing time and producing a consistent mix. Use a minimum 1/2" slow-speed drill and mixing paddle or an appropriately sized mortar mixer. Do not mix by hand.
3. Pour clean (potable) water into mixer. Water content is critical. Use a maximum of 4 pts (1.9 L) of water per 50 lb (22.7 kg) bag of Set® 45. Do not deviate from the recommended water content.
4. Add the powder to the water and mix for approximately 1 – 1-1/2 minutes.
5. Use neat material for patches from 1/2 – 2" (6 – 51 mm) in depth or width. For deeper patches, extend a 50 lb (22.7 kg) bag of Set® 45 HW by adding up to 30 lbs (13.6 kg) of properly graded, dust-free, hard, rounded aggregate or noncalcareous crushed angular aggregate, not exceeding 1/2" (6 mm) in accordance with ASTM C 33, #8. If aggregate is damp, reduce water content accordingly. Special procedures must be followed when angular aggregate is used. Contact your local BASF representative for more information. (Do not use calcareous aggregate made from soft limestone. Test aggregate for fizzing with 10% HCL).

### Application

1. Immediately place the mixture onto the properly prepared substrate. Work the material firmly into the bottom and sides of the patch to ensure good bond.
2. Level the Set® 45 and screed to the elevation of the existing concrete. Minimal finishing is required. Match the existing concrete texture.

### Curing

No curing is required, but protect from rain immediately after placing. Liquid-membrane curing compounds or plastic sheeting may be used to protect the early surface from precipitation, but never wet cure Set® 45.

### For Best Performance

- Color variations are not indicators of abnormal product performance.
- Regular Set® 45 will not freeze at temperatures above -20° F (-29° C) when appropriate precautions are taken.
- Do not add sand, fine aggregate, or Portland cement to Set® 45.
- Do not use Set® 45 for patches less than 1/2" (13 mm) deep. For deep patches, use Set® 45 Hot Weather formula extended with aggregate, regardless of the temperature. Consult your BASF representative for further instructions.
- Do not use limestone aggregate.
- Water content is critical. Do not deviate from the recommended water content printed on the bag.
- Precondition these materials to approximately 70° F (21° C) for 24 hours before using.
- Protect repairs from direct sunlight, wind, and other conditions that could cause rapid drying of material.
- When mixing or placing Set® 45 in a closed area provide adequate ventilation.
- Do not use Set® 45 as a precision machinery grout.
- Never featheredge Set® 45; for best results, always sawcut the edges of a patch.
- Prevent any moisture loss during the first 3 hours after placement. Protect Set® 45 with plastic sheeting or a curing compound in rapid-evaporation conditions.
- Do not wet cure.
- Do not place Set® 45 on a hot (90° F [32° C]), dry substrate.

- When using Set® 45 in contact with galvanized steel or aluminum, consult your local BASF sales representative.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.



## Health and Safety

SET® 45

### WARNING!

Contains silica, crystalline quartz, fly ash, magnesium oxide, phosphoric acid, monoammonium salt, iron oxide, silica, amorphous, aluminum oxide, sulfur trioxide.

### Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

### Precautions

Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

## Waste Disposal Method

This product when discarded or disposed of is not listed as a hazardous waste in federal regulations. Dispose of in a landfill in accordance with local regulations.

For additional information on personal protective equipment, first aid, and emergency procedures, refer to the product Material Safety Data Sheet (MSDS) on the job site or contact the company at the address or phone numbers given below.

### Proposition 65

This product contains material listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

### VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents.

**For medical emergencies only,  
call ChemTrec (1-800-424-9300).**

## BASF Construction Chemicals, LLC – Building Systems

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The Chemical Company

PRODUCT DATA

3 03 39 00 Concrete  
Curing

## SONOSIL®

Curing aid, hardening and dustproofing  
compound for concrete

### Description

Sonosil® is a clear water-soluble, sodium-silicate-based hardening and dustproofing compound. It is easy to apply, leaves no residue, dries quickly, and is available with fugitive red dye for even application.

### Yield

See Chart on page 2.

### Packaging

Sonosil®:

5 gallon pails (18.9 L)

55 gallon drums (208 L)

Concentrate:

11 gallons (41.6 L) in a 55 gallon (208 L) drum; must be filled with soft potable water

Fugitive red dye:

1 pint (.47 L) container: use 1 pt/55 gallon drum (0.47 L/208 L drum);  
1.5 oz/5 gallon pail (44 ml/18.9 L pail).

### Color

Clear

### Shelf Life

1 year when properly stored.

### Storage

Store in unopened containers in cool, clean, dry conditions. Do not allow to freeze in the container; do not store below 35° F (2° C).

### Features

- Residue free
- Available with fugitive red dye
- Soil and grease easily removed
- Water soluble
- Easy to apply, quick drying

### Benefits

- Compatible with most resilient floor-covering adhesives
- Helps ensure even coverage
- Promotes fast, simpler post-construction clean up
- Easy to flush spray equipment and clean other equipment
- Saves labor costs; speeds production

### Where to Use

#### APPLICATION

- Floors and walls
- Decks
- Docks
- Ramps

#### LOCATION

- Interior and exterior

#### SUBSTRATE

- Freshly placed concrete
- Newly cured bare concrete
- Aged concrete

### How to Apply

#### Surface Preparation

##### GENERAL CLEAN UP

1. Remove all dirt, dust, oil, grease, asphalt, foreign matter, and parting compounds. Use detergents or caustics as needed.
2. Rinse and then remove surface water.

#### FRESHLY PLACED CONCRETE

1. Before application, complete finishing operations and allow visible surface water to disappear.
2. Surface must be able to bear foot traffic without marring or damaging the concrete.

#### NEWLY CURED BARE CONCRETE

1. Where concrete has not been membrane-cured, perform after-construction clean up.
2. Level any areas gouged by trades and follow general clean-up instructions.

#### AGED CONCRETE OR TERRAZZO

1. Mechanically remove aged membranes.
2. Restore surface soundness by patching, grouting, and crack-filling.
3. Follow general clean-up instructions.

#### VERTICAL WORK

1. After form stripping, repair and refine surface to meet job requirements. Remove parting compound remnants.
2. Surfaces must be clean and free of visible surface water.

**Sonneborn**

## Technical Data

Sonosil® is sodium-silicate-based.

### Compliances

- USDA compliant for use in meat and poultry areas

## Yield

Approximate ft<sup>2</sup>/gal per coat

	ROUGH FINISH	FINELY TEXTURED	WELL TROWELED
Newly placed concrete	300	400	500
Newly cured bare concrete	200	300	400
Aged concrete	150	200	250
Vertical work	---	200	300

For best results for succeeding coats, increase coverage rate for each succeeding coat. Coverage varies with application method and the texture and porosity of the surface.

## Application

1. Apply Sonosil® by brush, squeegee, or hand sprayer. Use spray application for best results.
2. Always apply to form a continuous, uniform film over the surface. Brush out puddles and runs immediately.
3. Under general conditions, 1 coat produces a light-duty surface. Surface wearability increases proportionally with each additional application. Coverage is influenced by surface conditions and porosity, as well as job requirements. Refer to the yield chart above.

NOTE: It is the responsibility of the user to adjust the curing rate to properly regulate the hydration of the concrete. Two applications may be required. The rates given are approximate, assuming average concrete finish, temperature, and admixture used.

4. Each application must be thoroughly dried before the next is applied. (See Drying Time.)
5. When used as a curing aid, apply to edges after forms are removed.

### Clean Up

Clean brushes, tools, and equipment and flush sprayers with clean water immediately after use.

### Drying Time

1. Sonosil® penetrates in approximately 1/2 – 1 hour per application, influenced somewhat by temperature, humidity, and job conditions. Each application must penetrate thoroughly before proceeding.
2. Sonosil® must completely dry before accepting any traffic. Allow 24 hours before subjecting to heavy traffic.

## For Best Performance

- Sonosil® is not recommended where there is heavy-duty or steel-wheel traffic.
- Winter placements using temporary heat sources, such as torpedo heaters, will require additional Sonosil®.
- Protect Sonosil® from freezing. In event of freeze/thaw, stir or agitate to uniformity before using. If separation is persistent, discard Sonosil®—DO NOT APPLY.
- Applications involving pozzolonic additives will require additional Sonosil®.
- Applications under high-humidity conditions may produce a slippery film. This may be removed with clean water and a stiff-bristled broom.
- Application temperatures greater than 80° F (27° C) or low humidity will require additional Sonosil®.
- Wait at least 7 days before applying tile or floor covering adhesives over Sonosil®. Before applying adhesives, wash surface with water and detergent and allow to thoroughly dry. A test application is mandatory.
- Sonneborn is not responsible for carbonation, microcracking, checking, crazing, or porous finishes.
- Protect metal, glass, wood, paint, and brick from contact with Sonosil®. If Sonosil® is accidentally applied to these surfaces, wash with clean water within 30 minutes.
- For subsequent coating applications, perform proper surface preparation and consult the coatings manufacturer for more instructions.

- Fugitive red dye will dissipate upon exposure to UV light.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

## Health and Safety

SONOSIL®

### Warning

Sonosil® contains sodium silicate.

### Risks

Severe skin and eye irritant. Contact with skin or eyes may cause burns. Causes respiratory irritation. Ingestion may cause burns or other harm. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

### Precautions

KEEP OUT OF THE REACH OF CHILDREN. Prevent contact with skin, eyes and clothing. Wash thoroughly after handling. DO NOT breathe vapors. Use only with adequate ventilation. Keep container closed. DO NOT take internally. Use impervious gloves, eye protection and if the TLV is exceeded or if used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations. All label warnings must be observed until container is commercially cleaned or reconditioned.

### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

### Proposition 65

This product does not knowingly contain materials listed by the state of California as known to cause cancer, birth defects, or other reproductive harm.

### VOC Content

0 lbs/gal or 0 g/L, less water and exempt solvents.

**For medical emergencies only,  
call ChemTrec (1-800-424-9300).**

**BASF Construction Chemicals, LLC –  
Building Systems**

889 Valley Park Drive  
Shakopee, MN, 55379

[www.BuildingSystems.BASF.com](http://www.BuildingSystems.BASF.com)

**Customer Service 800-433-9517  
Technical Service 800-243-6739**



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This information and all further technical advice are based on BASF's present knowledge and experience. However, BASF assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights. In particular, BASF disclaims all **CONDITIONS AND WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. BASF SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, INCIDENTAL, OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND.** BASF reserves the right to make any changes according to technological progress or further developments. It is the customer's responsibility and obligation to carefully inspect and test any incoming goods. Performance of the product(s) described herein should be verified by testing and carried out only by qualified experts. It is the sole responsibility of the customer to carry out and arrange for any such testing. Reference to trade names used by other companies is neither a recommendation, nor an endorsement of any product and does not imply that similar products could not be used.

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The Chemical Company

ITEM No. 12  
ITEM No. 13  
ITEM No. 17

PRODUCT DATA

3 03 01 00 Maintenance of Concrete

# 10-60 RAPID MORTAR

Very rapid-setting cement-based mortar

### Description

10-60 Rapid Mortar is a one-component shrinkage-compensated very rapid-setting cement-based mortar. It is designed for horizontal concrete surfaces where high early strength gain is required.

### Yield

0.43 ft<sup>3</sup> (0.012 m<sup>3</sup>) per 50 lb (22.7 kg) bag

When extended 50%:  
0.57 ft<sup>3</sup> (0.016 m<sup>3</sup>)

When extended 100%:  
0.77 ft<sup>3</sup> (0.022 m<sup>3</sup>)

### Packaging

50 lb (22.7 kg) bags

3,000 lb (1,360.8 kg) bulk bags

### Shelf Life

1 year when properly stored

### Storage

Store and transport in unopened containers at 60 to 80° F (16 to 27° C) in clean, dry conditions.

### Features

- Extra low permeability
- Very rapid setting
- Excellent resistance to freeze/thaw cycling
- Nongypsum based
- Shrinkage compensated
- Can be extended up to 100% by weight with 3/8" (10 mm) aggregate
- Proprietary cement blend

### Benefits

- Helps prevent chloride intrusion
- Structures can be opened to vehicular traffic in 1 hour; epoxy coated in as little as 4 hours
- Outstanding durability
- Volume stability
- Minimizes cracking from drying shrinkage; reduces stress at the bond line
- Economical; high yields
- Bonds to carbonated and noncarbonated concrete substrates

### Where to Use

#### APPLICATION

- Applications requiring high early-strength gain
- Structural concrete repairs
- Repairing industrial floors
- Bridges
- Parking decks
- Airport runways

#### LOCATION

- Horizontal surfaces
- Interior or exterior

#### SUBSTRATE

- Concrete

### How to Apply

#### Surface Preparation

##### CONCRETE

1. Concrete must be structurally sound and fully cured (28 days).
2. Saw cut the perimeter of the area being patched into a square with a minimum depth of 1/2" (13 mm).
3. Remove all unsound concrete and roughen the surface to a minimum 1/4" (6 mm) profile amplitude.
4. Remove all laitance, oil, grease, curing compounds, and other contaminants that could prevent adequate bond.
5. The concrete substrate should be saturated surface-dry (SSD), without standing water, before application.



## Technical Data

### Composition

10-60 Rapid Mortar is a blend of cement, graded aggregate, shrinkage-compensating agents, and set-control additives.

### Compliances

- ASTM C 928

### Test Data

The following results were obtained with a water / powder ratio of 5.5 pints (2.6 L) of water to 50 lbs (22.7 kg) of 10-60 Rapid Mortar at 73° F (23° C).

PROPERTY	RESULTS	TEST METHODS
<b>Fresh wet density, lb/ft<sup>3</sup> (kg/m<sup>3</sup>)</b>	130 (2,082)	ASTM C 138
<b>Set time, min, at 72° F (22° C)</b>		ASTM C 191
Initial	16	
Final	28	
<b>Working time, min</b>	8	
<b>Length change, % (μstrain)</b>		ASTM C 928
Drying shrinkage	-0.05 (-500)	
Wetting expansion	+0.03 (+300)	
<b>Coefficient of thermal expansion, in/in/° F (cm/cm/° C)</b>	7.0 x 10 <sup>-6</sup> (12.6 x 10 <sup>-6</sup> )	CRD C 39
<b>Modulus of elasticity, psi (GPa)</b>	4.4 x 10 <sup>6</sup> (19.5)	ASTM C 469
<b>Rapid chloride permeability, coulombs</b>	< 300	ASTM C 1202
<b>Freeze/thaw resistance, % RDM, at 300 cycles</b>	100	ASTM C 666, (Procedure A)
<b>Scaling resistance, at 25 cycles</b>	0 rating; no scaling	ASTM C 672
<b>Slant shear bond strength, psi (MPa)</b>		ASTM C 882, modified <sup>1</sup>
1 day	2,300 (16)	
28 days	2,600 (18)	
<b>Splitting tensile strength, psi (MPa)</b>		ASTM C 496
1 day	400 (3)	
28 days	450 (3)	
<b>Flexural strength, psi (MPa)</b>		ASTM C 348
1 day	700 (5)	
28 days	850 (6)	
<b>Compressive strength, psi (MPa), 2" cubes</b>		ASTM C 109
1 hr	2,000 (14)	
2 hrs	3,000 (21)	
1 day	6,500 (45)	
28 days	8,000 (55)	
<b>Compressive strength, psi (MPa), 3 by 6" cylinders, at 28 days</b>	7,400 (51)	ASTM C 39

<sup>1</sup>No bonding agent used; mortar scrubbed into substrate.

All application and performance values are typical for the material, but may vary with test methods, conditions, and configurations.

#### REINFORCING STEEL

1. Remove all oxidation and scale from the exposed reinforcing steel in accordance with ICRI Technical Guideline No. 03730 "Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion."

2. For additional protection from future corrosion, coat the prepared reinforcing steel with Zincrich Rebar Primer.

#### MIXING

1. Add 5-1/2 pints (2.6 L) of clean water to the mixing container for each bag of 10-60 Rapid Mortar. If required, add the correct amount of aggregate to the mixer. Add the powder to the water while continuously mixing with a slow-speed drill and paddle, mortar mixer, or other forced action mixer.

2. Mix for a minimum of 3 minutes until fully homogeneous.

#### AGGREGATE EXTENSION

1. For repair areas 2 – 4" (51 – 102 mm) in depth, the minimum recommended addition is 15 – 25 lbs (6.8 – 11.4 kg) of 3/8" (10 mm) washed, graded, rounded, SSD, low-absorption, high-density aggregate per 50 lb (22.7 kg) bag.

2. For areas greater than 4" (102 mm) in depth, the minimum recommended addition is 25 – 50 lbs (11.4 to 22.7 kg) of 3/8" (10 mm) washed, graded, rounded, SSD, low-absorption, high-density aggregate per 50 lb bag.

3. The maximum aggregate extension is 50 lbs (22.7 kg) of pea gravel per bag.

4. The performance of 10-60 Rapid Mortar depends on the type, condition, and amount of aggregate added. Rely on trials, testing, and previous experience to determine aggregate suitability.

#### Application

1. Apply the mixed material onto the prepared saturated surface-dry (SSD) substrate by gloved hand, trowel, or screed. Ensure proper consolidation of the mortar and compaction around reinforcing steel. Minimum application thickness is 1/2" (13 mm).

2. Finish the completed repair, as required, taking care not to overwork the surface.

3. A maximum of 15 minutes should be allowed to mix, place, and finish 10-60 Rapid Mortar at 70° F (21° C).

#### Clean Up

Clean tools and equipment with clean water immediately after use. Cured material must be removed mechanically.

#### Curing

1. Proper curing is extremely important. Cure 10-60 Rapid Mortar immediately after finishing. Use a water-based curing compound that complies with ASTM C 309.

#### For Best Performance

- Minimum ambient, surface, and material temperature is 40° F (4° C) and rising.
- Do not mix longer than 5 minutes.
- Minimum application thickness is 1/2" (13 mm).
- Consult coating supplier for overcoating requirements.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

#### Health and Safety

10-60 RAPID MORTAR

#### WARNING!

10-60 Rapid Mortar contains silica, crystalline quartz; alumina cement; portland cement; anhydrite; fly ash; calcium sulfate; silica, amorphous; iron oxide.

#### Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

#### Precautions

Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

#### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

#### Proposition 65

This product contains material listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

#### VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents.

For medical emergencies only,  
call ChemTrec (1-800-424-9300).



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The Chemical Company

PRODUCT DATA

3 03 01 00 Maintenance of Concrete

## 10-61 RAPID MORTAR

Rapid-setting cement-based mortar with extended working time

### Description

10-61 Rapid Mortar is a one-component shrinkage-compensated cement-based mortar with an extended working time. It is designed for repairing horizontal concrete surfaces.

### Yield

0.43 ft<sup>3</sup> (0.012 m<sup>3</sup>) per 50 lb (22.7 kg) bag

When extended 50%:  
0.57 ft<sup>3</sup> (0.016 m<sup>3</sup>)

When extended 100%:  
0.77 ft<sup>3</sup> (0.022 m<sup>3</sup>)

### Packaging

50 lb (22.7 kg) bags

2,500 lb (1,134 kg) bulk bags

### Shelf Life

1 year when properly stored

### Storage

Store and transport in unopened containers at 60 to 80° F (16 to 27° C) in clean, dry conditions.

### Features

- Extended working time
- Excellent resistance to freeze/thaw
- Nongypsum based
- Shrinkage compensated
- Can be extended up to 100% by weight with 3/8" (10 mm) aggregate
- Proprietary cement blend

### Where to Use

#### APPLICATION

- Both small and large-scale repairs
- Structural concrete repairs
- Repairing industrial floors
- Bridges
- Parking decks
- Airport runways

#### LOCATION

- Horizontal surfaces
- Interior or exterior

#### SUBSTRATE

- Concrete

### Benefits

- Can be used for deep or large repairs; allows repairs at elevated temperatures
- Outstanding durability
- Volume stability
- Minimizes cracking from drying shrinkage; reduces stress at the bondline
- Economical applications
- Bonds to carbonated and noncarbonated concrete substrates

### How to Apply

#### Surface Preparation

#### CONCRETE

1. Concrete must be structurally sound and fully cured (28 days).
2. Saw cut the perimeter of the area being patched into a square with a minimum depth of 1/2" (13 mm).
3. Remove all unsound concrete and roughen the surface to a minimum 1/4" (6 mm) profile amplitude.
4. Remove all laitance, oil, grease, curing compounds, and other contaminants that could prevent adequate bond.
5. The concrete substrate should be saturated surface-dry (SSD), without standing water, before application.



## Technical Data

### Composition

10-61 Rapid Mortar is a proprietary blend of cement, graded aggregate, shrinkage-compensating agents, and set-control additives.

### Compliances

- ASTM C 928

### Test Data

The following results were obtained with a water / powder ratio of 5.5 pints (2.6 L) of water to 50 lbs (22.7 kg) of 10-61 Rapid Mortar at 73° F (23° C).

PROPERTY	RESULTS	TEST METHODS
<b>Fresh wet density, lb/ft<sup>3</sup> (kg/m<sup>3</sup>)</b>	130 (2,082)	ASTM C 138
<b>Set time, min, at 72° F (22° C)</b>		ASTM C 191
Initial	50	
Final	80	
<b>Working time, min</b>	25	
<b>Length change, % (µstrain)</b>		ASTM C 928
Drying shrinkage	-0.05 (-500)	
Wetting expansion	+0.03 (+300)	
<b>Coefficient of thermal expansion in/in/° F (cm/cm/° C)</b>	$6.8 \times 10^{-6}$ (12.6 x 10 <sup>-6</sup> )	CRD C 39
<b>Modulus of elasticity, psi (GPa)</b>	$4.6 \times 10^6$ (32)	ASTM C 469
<b>Rapid chloride permeability, coulombs</b>	< 300	ASTM C 1202
<b>Freeze-thaw resistance, % RDM, at 300 cycles</b>	100	ASTM C 666
<b>Scaling resistance, at 25 cycles</b>	0 rating; no scaling	ASTM C 672
<b>Slant shear bond strength, psi (MPa)</b>		ASTM C 882, (modified <sup>1</sup> )
1 day	2,300 (16)	
28 days	2,600 (18)	
<b>Splitting tensile strength, psi (MPa)</b>		ASTM C 496
1 day	400 (3)	
28 days	450 (3)	
<b>Flexural strength, psi (MPa)</b>		ASTM C 348
1 day	700 (5)	
28 days	850 (6)	
<b>Compressive strength, psi (MPa), 2" cubes</b>		ASTM C 109
3 hrs	3,000 (21)	
1 day	6,000 (41)	
28 days	8,000 (55)	
<b>Compressive strength, psi (MPa), 3 by 6" cylinders, at 28 days</b>	7,400 (51)	ASTM C 39

<sup>1</sup>No bonding agent used; mortar scrubbed into substrate.

All application and performance values are typical for the material, but may vary with test methods, conditions, and configurations.

#### REINFORCING STEEL

1. Remove all oxidation and scale from the exposed reinforcing steel in accordance with ICRI Technical Guideline No. 03730 "Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion."

2. For additional protection from future corrosion, coat the prepared reinforcing steel with Zincrich Rebar Primer.

#### Mixing

1. Add 5-1/2 pints (2.6 L) of clean water to the mixing container for each bag of 10-61 Rapid Mortar. If required, add the correct amount of aggregate to the mixer. Add the powder to the water while continuously mixing with a slow-speed drill and paddle, mortar mixer, or other forced action mixer.

2. Mix for a minimum of 3 minutes until fully homogeneous.

#### AGGREGATE EXTENSION

1. For repair areas 2 – 4" (51 – 102 mm) in depth, the minimum recommended addition is 15 – 25 lbs (6.8 – 11.4 kg) of 3/8" (10 mm) washed, graded, rounded, SSD, low-absorption, high-density aggregate per 50 lb (22.7 kg) bag.

2. For areas greater than 4" (102 mm) in depth, the minimum recommended addition is 25 – 50 lbs (11.4 – 22.7 kg) of 3/8" (10 mm) washed, graded, rounded, SSD, low-absorption, high-density aggregate per 50 lb bag.

3. The maximum aggregate extension is 50 lbs (22.7 kg) of pea gravel per bag.

4. The performance of 10-61 Rapid Mortar depends on the type, condition, and amount of aggregate added. Rely on trials, testing, and previous experience to determine aggregate suitability.

#### Application

1. Apply the mixed material onto the prepared saturated surface-dry (SSD) substrate by gloved hand, trowel, or screed. Ensure proper consolidation of the mortar and compaction around reinforcing steel. Minimum application thickness is 1/2" (13 mm).

2. Finish the completed repair, as required, taking care not to overwork the surface.

3. A maximum of 30 minutes should be allowed to mix, place, and finish 10-61 Rapid Mortar at 70° F (21° C).

#### Clean Up

Clean tools and equipment with clean water immediately after use. Cured material must be removed mechanically.

#### Curing

Proper curing is extremely important. Cure 10-61 Rapid Mortar immediately after finishing. Use a water-based curing compound that complies with ASTM C 309.

#### For Best Performance

- Minimum ambient, surface, and material temperature is 50° F (10° C) and rising.
- Do not mix longer than 5 minutes.
- Minimum application thickness is 1/2" (13 mm).
- Consult coating manufacturer for overcoating requirements.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

#### Health and Safety

10-61 RAPID MORTAR

#### WARNING!

10-61 Rapid Mortar contains silica, crystalline quartz; alumina cement; portland cement; anhydrite; fly ash; calcium sulfate; silica, amorphous; iron oxide; sulfur trioxide.

#### Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

#### Precautions

Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

#### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

#### Proposition 65

This product contains material listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

#### VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents.

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PRODUCT DATA

3 03 01 00 Maintenance of  
Concrete

## EMACO® T430

Rapid-strength repair mortar with extended working time

### Description

Emaco® T430 repair mortar is a one-component high-performance cementitious product. It produces high early strengths at a wide range of temperatures and can be placed into service for standard rubber-tire traffic in as little as 6 hours. Emaco® T430 is specially suited for hot-weather applications when an extended working time is required.

### Yield

One 55 lb (25 kg) bag of Emaco® T430 mixed with the required water will cover approximately 9.6 ft<sup>2</sup> (0.9 m<sup>2</sup>) at a 1/2" (13 mm) thickness or approximately 0.40 ft<sup>3</sup> (0.011 m<sup>3</sup>).

With an extension of 55% aggregate, 3/8" in size, the yield is approximately 0.58 ft<sup>3</sup> (0.016 m<sup>3</sup>).

For estimating purposes, 46 bags of Emaco® T430 plus 1,380 lbs of clean, coarse 3/8" SSD aggregate yields approximately 1 yd<sup>3</sup> (60 bags of Emaco® T430 repair mortar plus 820 kg of 9.5 mm SSD aggregate yields approximately 1 m<sup>3</sup>).

### Packaging

55 lb (25 kg) multi-wall bags

3,300 lb (1,500 kg) bulk bags available by special order

### Shelf Life

6 months when properly stored

### Storage

Store in unopened containers in a clean, dry area between 45 and 90° F (7 and 32° C).

### Features

- Fast curing
- Wide temperature application range (20 to 100° F [-7 to 38° C])
- One component
- Rapid high early strength (1,000 psi [7 MPa] in 3 hours)
- Excellent bond
- Resistant to damage caused by freeze/thaw cycles
- Ample working time for a rapid repair mortar
- Extendable up to 55% by weight for deep patches

### Where to Use

#### APPLICATION

- Concrete floor repairs
- Full-depth slab repairs
- Concrete pavement-joint repairs
- Heavy industrial repairs
- Horizontal patching
- Formed vertical repairs requiring minimal downtime or quick coating
- Parking structure decks and ramps
- Highway repairs
- Wastewater-treatment facilities
- Truck docks

### How to Apply

#### Surface Preparation

##### CONCRETE

1. Perform surface preparation in compliance with ICRI Technical Guideline No. 03730 "Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion."

### Benefits

Will accept an epoxy coating within 6 hours  
Reduces dependency on weather

Just add water and mix  
Rapidly returns repaired areas to service

No bonding agent required  
Usable in most environments

Helps ensure proper placement  
Economical repairs

2. Remove all unsound or delaminated concrete, providing a minimum of 1/4" (6 mm) substrate profile and 3/4" (19 mm) clearance behind corroded reinforcing steel.

3. Sawcut the perimeter of the area being repaired to a minimum depth of 1" (25 mm) to prevent featheredges. Do not cut the reinforcement.

4. After removal of concrete but before placement, mechanically abrade the concrete surface to remove all bond-inhibiting materials and to provide additional mechanical bond. Do not use a method of surface preparation that will fracture the concrete. Verify the absence of microcracking or bruising in accordance with ICRI Guideline No. 03732.

5. Unless a bonding agent will be used, presoak the prepared concrete surface to a saturated surface-dry (SSD) condition.



## Technical Data

### Composition

Emaco® T430 contains modified cementitious binder, aggregate, and additives.

### Typical Properties

PROPERTY	VALUE
Water %, by weight	8.0
Flow at 5 drops	100
Working time, min, at 70° F (21° C)	45

### Test Data<sup>1</sup>

PROPERTY	RESULTS			TEST METHODS
<b>Compressive strength, psi (MPa),</b> 70° F (21° C)				ASTM C 109
3 hrs	1,000 (7)			
24 hrs	4,500 (31)			
7 days	7,800 (54)			
28 days	9,000(62)			
<b>Setting time, min</b>				ASTM C 266 at 72° F (22° C)
	<b>50° F (10° C)</b>	<b>70° F (21° C)</b>	<b>90° F (32° C)</b>	
Initial set	140	75	65	
Final set	160	90	75	
	<b>1 Day Psi (MPa)</b>	<b>7 Days Psi (MPa)</b>	<b>28 Days Psi (MPa)</b>	
<b>Flexural strength</b>	580 (4.0)	880 (6.1)	1,150 (7.9)	ASTM C 348
<b>Splitting tensile</b>	550 (3.8)	1,100 (7.6)	1,250 (8.6)	ASTM C 496
<b>Slant shear bond</b>	1,800 (12.4)	3,000 (20.7)	3,360 (23.2)	ASTM C 882
<b>Direct shear bond</b>	150 (1.0)	390 (2.7)	450 (3.1)	Michigan DOT
<b>Direct tensile bond</b>	100 (0.7)	170 (1.2)	290 (2.0)	BASF method
<b>Modulus of elasticity, psi (GPa),</b> at 28 Days	5.1 x 10 <sup>6</sup> (35)			
<b>Abrasion resistance, in (cm) of wear,</b> 28 day air-cured sample				ASTM C 779 A
30 min	0.0120 (0.0305)			
60 min	0.0240 (0.0610)			
<b>Freeze/thaw resistance, % RDM</b>	98.5			ASTM C 666 A
<b>Rapid chloride permeability<sup>2</sup>,</b> coulombs	990 (very low)			AASHTO-T277 / ASTM C 1202
<b>Scaling resistance, weight loss, lb/ft<sup>2</sup></b>				ASTM C 672
25 cycles	CaCl <sub>2</sub> : 0.003	NaCl: 0.067		
50 cycles	CaCl <sub>2</sub> : 0.005	NaCl: 0.084		

<sup>1</sup>Typical results from air cured samples.

<sup>2</sup>Typical results from 3 days moist-cured and 39 days air-cured samples.

Results were obtained when material was mixed with 0.52 gallons (2 L) of water per bag and cured at 72° F (22° C). Expect reasonable variations, depending upon mixing equipment, temperature, application methods, test methods, and curing conditions.

#### CORRODED REINFORCING STEEL

1. Remove all oxidation and scale from the exposed reinforcing steel in accordance with ICRI Technical Guideline No. 03730 "Guide to Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion."
2. For additional protection from future corrosion, coat the prepared reinforcing steel with Emaco® P24 rebar coating or install Corr-Stops® CM galvanic anodes.

#### Mixing

1. Use a minimum 1/2" slow-speed drill and mixing paddle or an appropriately sized mortar mixer. Do not mix by hand.
2. Allow approximately 30 minutes to mix, place, and finish Emaco® T430 repair mortar at 72° F (22° C).
3. Pour 1/2 gallon (1.9 L) of clean water per bag of Emaco® T430 into mixer.
4. Add the powder to the water and mix approximately 3 – 5 minutes. Add small amounts of additional water as needed **ONLY AFTER THE FIRST 2 MINUTES OF MIXING**. No more than 1 pint of additional water per bag should be required to achieve a flowable mortar. Mix an additional 2 minutes after adding extra water.
5. Use neat material for patches less than 1" (25 mm) in depth. Do not use Emaco® T430 for patches less than 1/2" (13 mm) deep.
6. For deeper patches, a 55 lb (25 kg) bag of Emaco® T430 may be extended by adding up to 30 lbs (13.6 kg) of thoroughly washed, SSD, sound, non (ASR) reactive 1/4 – 1/2" (6 – 13 mm) rounded aggregate. When using angular aggregate, reduce the maximum amount added to 25 lbs (11.4 kg) to obtain the proper workability.

#### Application

1. After removing all standing water, thoroughly scrub a thin layer of bond coat into the saturated surface with a stiff-bristle broom or brush. Do not dilute the bond coat with water. A suitable bonding agent may be used instead. Do not apply more of this bond coat than can be covered with mortar before the bond coat dries. Do not retemper the bond coat.
2. Immediately place the repair mortar from one side of the prepared area to the other. Work the material firmly into the bottom and sides of the patch to ensure good bond. Level the Emaco® T430 mortar and screed it to the elevation of the existing concrete. Apply the appropriate finish.

3. The application range of Emaco T430 is from 20 to 100° F (-7 to 38° C). Follow ACI-recommended concreting practices for hot or cold weather.

4. For temperatures below 85° F (29° C), use Emaco® T415 in place of Emaco® T430.

#### Curing

If a topcoat will not be applied over Emaco® T430, wet cure for a minimum of 1 day, followed by the application of an ASTM C 309 or ASTM C 1315-compliant curing compound. Wet curing for longer than 1 day, even up to 28 days, minimizes shrinkage and cracking and improves physical properties.

#### TOPCOATING

1. BASF has a wide range of polymer flooring products for topcoating. Contact your local representative for more information.
2. For epoxy systems, allow 6 hours at 72° F (22° C) before topcoating. For polyester or vinyl ester systems, allow to cure 24 hours at 72° F (22° C) before priming and topcoating. For information on surface preparation, refer to the relevant data sheet.

#### Clean Up

Use water to remove repair mortar as soon as possible from tools and mixing equipment. Cured material can only be removed mechanically. Periodically clean tools and equipment during application.

#### For Best Performance

- Precondition these materials to approximately 70° F (21° C) for 24 hours before using.
- Use Confilim® evaporation reducer to protect repairs from direct sunlight, wind, and other conditions that could cause rapid drying of material.
- Minimum application thickness is 1/4" (6 mm).
- Do not use where applications require featheredging.
- Low material and placement temperatures may accelerate setting times. Increased mixing time with higher shear may help to lessen this phenomenon.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

#### Health and Safety

##### EMACO® T430

#### Caution

Contains silica, crystalline quartz, fly ash, Portland cement, limestone, sodium sulfate.

#### Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

#### Precautions

Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. **DO NOT** take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

#### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

#### Waste Disposal Method

This product when discarded or disposed of is not listed as a hazardous waste in federal regulations. Dispose of in a landfill in accordance with local regulations.

For additional information on personal protective equipment, first aid, and emergency procedures, refer to the product Material Safety Data Sheet (MSDS) on the job site or contact the company at the address or phone numbers given below.

#### Proposition 65

This product contains material listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

#### VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents.

**For medical emergencies only,  
call ChemTrec (1-800-424-9300).**



**BASF Construction Chemicals, LLC --  
Building Systems**

889 Valley Park Drive  
Shakopee, MN, 55379

[www.BuildingSystems.BASF.com](http://www.BuildingSystems.BASF.com)

Customer Service 800-433-9517  
Technical Service 800-243-6739



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# Pecora 301 NS

Non-Sag Silicone Highway & Pavement Joint Sealant

## Specification Data Sheet



**PECORA CORPORATION**  
 An Ingersoll Rand Performance Products  
 USA Since 1982

### 1. BASIC USES

Sealing of transverse contraction and expansion joints, longitudinal, centerline and shoulder joints in Portland cement concrete (PCC) and asphalt.

### 2. MANUFACTURER

Pecora Corporation  
 165 Wambold Road  
 Harleysville, PA 19438  
 Phone: 215-723-6051  
 800-523-6688  
 Fax: 215-721-0286  
 Website: www.pecora.com

### 3. PRODUCT DESCRIPTION

Pecora 301 NS Silicone Pavement Sealant is a one part, ultra low modulus product designed for sealing joints in concrete or asphalt pavement. It has excellent unprimed adhesion to concrete, metal and asphalt substrates, superior weather resistance and remains flexible at extremely low temperatures.

Pecora 301 NS Silicone Pavement Sealant is a non-sag product designed for applications on flat and sloped surfaces.

#### Advantages:

- Reduces pavement deterioration by restricting surface water penetration into underlying base and sub base layers.
- Convenient one component, neutral moisture curing system.
- Ultra low modulus resulting in high movement capability.
- Ease of application with standard automated bulk dispensing equipment such as Graco or Pyles.
- VOC compliant.
- Primerless adhesion to concrete and asphalt.
- Aids in elimination of non-compressibles entering expansion joints.

#### Limitations:

Pecora 301 NS Silicone Pavement Sealant should not be used:

- for continuous water immersion conditions.
- when ambient temperatures is below 40°F (4°C) or above 120°F (49°C).
- flush with traffic surface. (**Sealant must be recessed 3/8"-1/2" below surface.**)
- for applications requiring support of hydrostatic pressures.
- with solvents for dilution purposes.
- with concrete that is cured less than 7 days.

- with newly applied asphalt until cooled to ambient temperature (usually 24-48 hours).
- as a structural component or in longitudinal joints greater than 3/4" in width that are intended to be used as a constant travelling surface.

#### PACKAGING

- 30 fl. oz. (887ml) cartridges
  - 20 fl. oz. (592ml) sausages
  - 4.5 gallon pails (17.0L)
  - 50 gallon drum (188.9L)
- Color: pavement gray

#### SEALANT COVERAGE CHART

Joint Width (inches)	Sealant Depth (inches)	Recess (inches)	Backer Rod Diameter (in)	Total Joint Depth (in)	Linear ft./gal
1/4	1/4	1/4	3/8	7/8-1.0	308
3/8	1/4	3/8	1/2	1-1/8 - 1-1/4	205
1/2	1/4	3/8	5/8	1-1/4 - 1-3/8	154
3/4	3/8	3/8	7/8	1-5/8 - 1-3/4	68
1.0	1/2	1/2	1-1/4	2-1/4 - 2-3/8	38

#### TABLE 1: TYPICAL UNCURED PROPERTIES

Test Property	Value	Test Procedure
Cure Through (days)	7	0.5" cross section
Extrusion Rate (grams/min)	90-250	MII-S-8802
Rheological Properties	non-sag	
Tack Free Time (mins)	60	ASTM C679
VOC Content (g/L)	50	ASTM D3960

#### TABLE 2: TYPICAL CURED PROPERTIES (After 7 days cure at 77°F (25°C), 50% RH)

Test Property	Value	Test Procedure
Adhesion, minimum elongation		ASTM D5329*
Asphalt	500	
Concrete	500	
Metal	500	
Elongation (%)	>1400	ASTM D412
Resilience (%)	>95	ASTM D5329
Stress @ 150% Elongation (psi)	22	ASTM D412
Hardness, maximum		ASTM C661
21 day cure (Shore 00)	85	Pecora Corporation
Joint Movement Capability +100/-50%; 10 cycles	Pass	ASTM C719

\*modified section 14

**4. TECHNICAL DATA**

**Applicable Standards:** Complies with TTS-00230C, TTS-001543, ASTM C920, Class 100, Type S, Grade NS, Use T, M, O, ASTM D5893-96 Type NS. Conforms to FAA Engineering Brief No. 36. Review Pecora Technical Bulletin #81 for airfield standards. Conforms to approximately 30 state DOT specifications which require low modulus, high movement, cold applied sealant.

**Joint Design:** Sealant depth should be 1/4"-1/2" and joint width should be 1/4"-1". Ideally, the ratio of joint width to sealant depth should be 2:1, when appropriate. For joint widths greater than 1", consult Pecora Technical Services department.

**5. INSTALLATION**

**Surface Preparation:** New or old concrete surface must be dry and free of dust, laitance, grease, oils, curing compounds, water repellents, waxes, foreign particles, and disintegrated substrate. Restoration work requires saw cutting and sandblasting, followed by blowing out with compressed air (moisture and oil-free). Joint area should be free of all dust and foreign debris before back-up material is installed.

**Joint Backing:** Backer rod should be used to control the sealant depth and cushion it from impact. Closed cell polyethylene is recommended. Use a size that will compress a minimum of 25% when inserted into the joint.

**Application:** Ideal surface temperature should be 60°F(16°C) - 85°F(29°C). Sealant should be applied to the prepared joint in a continuous operation. Tool the sealant slightly concave using dry-tooling techniques. **Sealant must be recessed 3/8"-1/2" below traffic surface.** (See Figure 1).

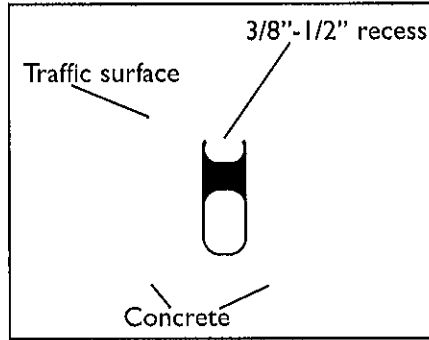


Figure 1

**Initial Skin:** Approximately 60 minutes at 77°F (25°C), 50% R.H. Higher temperatures and/or humidity will shorten this time period.

**Cleaning:** Immediately remove all excess sealant and smears adjacent to joints with mineral spirits. For equipment cleanup, also use mineral spirits. Consult manufacturer's MSDS for handling and safety precautions.

**Shelf Life:** Approximately one (1) year when stored in original, unopened container in a dry area at temperatures below 80°F(27°C).

**Precautions:** Use with adequate ventilation or wear an appropriate NIOSH-approved respirator. Contact with uncured sealant or with vapors generated during curing may cause respiratory tract irritation. Contact with skin or eyes may cause irritation or allergic reaction. Avoid contact and wash thoroughly after handling. May be harmful if swallowed. Refer to Material Safety Data Sheets (MSDS) for more information.

**FOR PROFESSIONAL USE ONLY  
KEEP OUT OF THE REACH  
OF CHILDREN.**

**6. AVAILABILITY AND COST**

Pecora products are available from our plants and warehouses, or from stocking distributors in all major cities. For the name and telephone number of your nearest representative call one of our locations listed below or visit our website at [www.pecora.com](http://www.pecora.com).

**7. WARRANTY**

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for; or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. This warranty is in lieu of any and all other warranties, expressed or implied, and in no case will Pecora be liable for incidental or consequential damages.

**8. MAINTENANCE**

Once sealant is in place and cured, it is basically maintenance free. If damage to sealant occurs, cut out the effected area, clean with vacuum or compressed air and recaulk.

**9. TECHNICAL SERVICES**

Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions or to conduct jobsite inspections. For further assistance call our Technical Service Department at 800-523-6688.

**10. FILING SYSTEMS**

- Sweet's Catalog File: [www.sweets.com](http://www.sweets.com)
- General Building
  - 07100 Waterproofing
  - 07920 Sealants
- Civil Engineering
  - 07100 Waterproofing



**PECORA CORPORATION**

HARLEYSVILLE, PA  
165 Wambold Road, Harleysville, PA 19438  
Phone: 800-523-6688 • 215-723-6051 • FAX: 215-721-0286

PEC103  
3/08



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

PEOPLE • PRODUCTS • PERFORMANCE

WEST VIRGINIA DIVISION OF HIGHWAYS  
PRELIMINARY INFORMATION FOR TECHNOLOGY/PRODUCT EVALUATION

1 TRADE NAME Pecora 301NS DATE 1/12/2011

MANUFACTURER Pecora Corporation PATENTED  NO  YES

ADDRESS 165 Wambold Rd. Harleysville, PA 19438 APPLIED FOR?  NO  YES  
City State Zip

2 REPRESENTATIVE Glen Murphy

ADDRESS 165 Wambold Rd. Harleysville, PA 19438 PHONE 215 799 7557  
City State Zip

3 PRODUCT IDENTIFICATION 301NS non-sag silicone pavement sealant

4 RECOMMENDED USE - PRIMARY  
Pecora 301 NS Silicone Pavement Sealant is a non-sag product designed for applications on flat and sloped surfaces for sealing joints in roadways.

5 RECOMMENDED USE - ALTERNATE  
Sealing horizontal, sloped, and vertical joints in parking garages.

6 OUTSTANDING FEATURES OR ADVANTAGES CLAIMED  
It has excellent unprimed adhesion to concrete, metal and asphalt substrates, superior weather resistance and remains flexible at extremely low temperatures. Convenient one component, neutral moisture curing system. Ultra low modulus resulting in high movement capability. Ease of application with standard automated bulk dispensing equipment such as Graco or Pyles. VOC compliant. Primerless adhesion to concrete and asphalt.

6a. ANY KNOWN OR PROBABLE ADVERSE AFFECT ON PRESENTLY USED OR INSTALLED MATERIALS, STRUCTURES OR EQUIPMENT  
N/A

7 MATERIAL COMPOSITION  
100% Silicone

8 MATERIAL SPECIFICATION FURNISHED BY MANUFACTURER?  
 YES  NO

9 PLAN DRAWING, PICTURE, OR SKETCH FURNISHED BY MANUFACTURER?  
 YES  NO

10 MEETS REQUIREMENTS OF FOLLOWING SPECIFICATIONS  
AASHTO NTPPEP 2003 Test Deck  ASTM C920, D5883 FED SPECS TT-S-002; 9C, TT-S-001543  OTHER

11 APPROVED FOR PROPOSED USE BY HIGHWAY AUTHORITIES OR OTHER AGENCIES IN THE FOLLOWING STATES  
Arizona, Arkansas, Georgia, Illinois (Airport Use), Kansas, Missouri, Nebraska, New York, North Dakota, Oklahoma, Rhode Island, South Carolina, Tennessee

ARE THEY USING IT?  YES  NO  TRIAL

12 ARE INSTRUCTIONS OR DIRECTIONS FOR INSTALLATION, APPLICATION OR USE AVAILABLE?  
 YES  NO  
COPY ATTACHED:  YES  NO  
TO BE MAILED

13 WILL DEMONSTRATION BE PROVIDED?  
Yes

14 ARE EDUCATIONAL COURSES OR MOVIES AVAILABLE?  
 YES  NO

15 AVAILABILITY SEASONAL  NON-SEASONAL   
DELIVERY AT SITE 10 Days

AFTER RECEIPT OF ORDER ARE QUANTITIES LIMITED?  YES  NO

16 WILL FREE SAMPLE BE FURNISHED?  YES  NO

17 APPROXIMATE COST? \_\_\_\_\_

18 IF PROPRIETARY, WHAT ARE ROYALTY COSTS AND WHAT BASIS ARE THEY COLLECTED?

HL-468

MP 106.00.02  
ATTACHMENT II  
ORIGINAL ISSUANCE: April 1976  
REISSUED: JANUARY 1995

19 NEW MARKET? \_\_\_\_\_ YES       \_\_\_\_\_ NO      IT WAS IN \_\_\_\_\_  
ALTERNATE FOR WHAT EXISTING PRODUCT? \_\_\_\_\_ Dow Corning 888NS \_\_\_\_\_  
20 IS PRODUCT GUARANTEED?  \_\_\_\_\_ YES      \_\_\_\_\_ NO  
CONDITIONS?

21 BACKGROUND DESCRIPTION OF COMPANY AND ITS PRODUCT  
Pecora has been an American manufacturer of sealants and waterproofing products since 1862.

22 WHO RECOMMENDED THAT THE DIVISION OF HIGHWAYS BE CONTACTED?  
Local Pecora sales representative Sharon Vietmeier (412) 335 6090

23 HAS ANOTHER DIVISION OF THE DIVISION OF HIGHWAYS BEEN CONTACTED?  
YES \_\_\_\_\_ NO       \_\_\_\_\_ WHICH \_\_\_\_\_

24 ADDITIONAL INFORMATION  
Samples available upon request.

HL-468

MP 106.00.02  
ATTACHMENT II  
ORIGINAL ISSUANCE: April 1976  
REISSUED: JANUARY 1995

25 THE FOREGOING INFORMATION IS FURNISHED BY  
NAME Glen Murphy  
ADDRESS 165 Wambold Rd, Harleysville, PA 19438

COMPLETED FORMS SHOULD BE RETURNED TO

DIRECTOR  
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
MATERIALS CONTROL, SOILS AND TESTING DIVISION  
100 DRY BRANCH RD  
CHARLESTON, WV 25306

# Pecora 300 SL

## Specification Data Sheet

### Self-Leveling Pavement Joint Sealant



**PECORA CORPORATION**  
Architectural Weatherproofing Products  
USA since 1964

### BASIC USES

Sealing of typical concrete, metal and asphalt roadway and airfield control joints.

### 2. MANUFACTURER

Pecora Corporation  
165 Wambold Road  
Harleysville, PA 19438  
Phone: 215-723-6051  
800-523-6688  
Fax: 215-721-0286  
Website: www.pecora.com

### 3. PRODUCT DESCRIPTION

Pecora 300 SL Silicone Pavement Sealant is a one part, ultra low modulus elastomer designed for sealing joints in roadways. It has excellent unprimed adhesion to concrete, metal and asphalt substrates, superior weather resistance and remains flexible at extremely low temperatures.

Pecora 300 SL Silicone Pavement Sealant is a self levelling product designed for applications on flat surfaces.

#### Advantages:

- Reduces pavement deterioration by restricting surface water penetration into underlying base and sub base layers.
- Convenient one component, neutral moisture curing system.
- Ultra low modulus resulting in high movement capability.
- Ease of application with standard automated bulk dispensing equipment such as Graco or Pyles.
- VOC compliant.
- Primerless adhesion to concrete and asphalt.
- Aids in elimination of non-compressibles entering expansion joints.

#### Limitations:

Pecora 300 SL Silicone Pavement Sealant should not be used:

- for continuous water immersion conditions.
- when ambient temperatures are below 40°F or above 120°F.
- flush with traffic surface. (**Sealant should always be recessed 3/8"-1/2" below surface.**)
- for applications requiring support of hydrostatic pressures.
- with solvents for dilution purposes.
- with concrete that is cured less than seven (7) days.

- with newly applied asphalt until cooled to ambient temperature (usually 24-48 hours).
- as a structural component or in longitudinal joints greater than 3/4" in width that are intended to be used as a constant travelling surface.
- on surfaces with a slope greater than 5%.

#### PACKAGING

- Quart cartridges
- 5 gallon pails (4.5 gallons)
- 55 gallon drums (50 gallons)

#### COLOR

- Pavement: Grey

#### SEALANT COVERAGE CHART

Joint Width (inches)	Sealant Depth (inches)	Recess (inches)	Backer Rod Diameter (in)	Total Joint Depth (in)	Linear ft./gal
1/4	1/4	3/8	3/8	7/8 - 1.0	308
3/8	1/4	3/8	1/2	1-1/8 - 1-1/4	205
1/2	1/4	3/8	5/8	1-1/4 - 1-3/8	154
3/4	3/8	3/8	7/8	1-5/8 - 1-3/4	68
1.0	1/2	1/2	1-1/4	2-1/4 - 2-3/8	38

#### TABLE 1: TYPICAL UNCURED PROPERTIES

Test Property	Value	Test Procedure
Cure Through (days)	7	0.5" cross section
Extrusion Rate (grams/min)	275-550	Mil-S-8802
Rheological Properties	Self levelling	
Tack Free Time (mins)	60	ASTM C679
VOC Content (g/L)	40	ASTM D3960

#### TABLE 2: TYPICAL CURED PROPERTIES (After 7 days cure at 77°F (25°C), 50% RH)

Test Property	Value	Test Procedure
Adhesion @ 600% Elong. (psi)		ASTM D5329*
Asphalt	24	
Concrete	24	
Metal	24	
Elongation (%)	>1400	ASTM D412
Resilience (%)	>95	ASTM D5329
Stress @ 150% Elongation (psi)	14	ASTM D412
Hardness		ASTM C661
21 day cure (Shore 00)	65	Pecora Corporation
Joint Movement Capability +100/-50%; 10 cycles	Pass	ASTM C719

\*modified section 14

**4. TECHNICAL DATA**

**Applicable Standards:** Complies with TT-S-00230C, TT-S-001543, ASTM C920, Class 100, Type S, Grade SL, Use T, M, O, ASTM D5893-96 Type SL. Review Pecora Technical Bulletin #81 for airfield standards.

**Joint Design:** Sealant depth should be 1/4"-1/2" and joint width should be 1/4"-1". Ideally, the ratio of joint width to sealant depth should be 2:1, when appropriate. For joint widths greater than 1", consult Pecora Technical Services department.

**5. INSTALLATION**

**Surface Preparation:** New or old concrete surface must be dry and free of dust, laitance, grease, oils, curing compounds, water repellents, waxes, foreign particles, and disintegrated substrate. Restoration work requires saw cutting and/or sandblasting, followed by blowing out with compressed air (moisture and oil-free). Joint area should be free of all dust and foreign debris before back-up material is installed.

**Joint Backing:** Backer rod should be used to control the sealant depth and cushion it from impact. Closed cell polyethylene is recommended. Use a size that will compress 25% when inserted into the joint.

**Application:** Ideal surface temperature should be 60°F-85°F. Sealant should be applied to the prepared joint in a continuous operation. **Sealant should always be recessed 3/8"-1/2" below the traffic surface.** (See Figure 1).

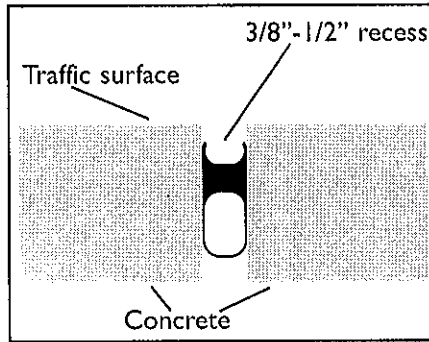


Figure 1

**Initial Skin:** Approximately 30 minutes at 77°F (25°C), 50% R.H. Higher temperatures and/or humidity will shorten this time period.

**Cleaning:** Immediately remove all excess sealant and smears adjacent to joints with mineral spirits. For equipment cleanup, also use mineral spirits. Consult manufacturer's MSDS for handling and safety precautions.

**Shelf Life:** Approximately one (1) year when stored in original, unopened container in a dry area at temperatures below 80°F.

**Precautions:** Use with adequate ventilation or wear an appropriate NIOSH-approved respirator. Contact with uncured sealant or with vapors generated during curing may cause respiratory tract irritation. Contact with skin or eyes may cause irritation or allergic reaction. Avoid contact and wash thoroughly after handling. May be harmful if swallowed. Refer to Material Safety Data Sheet (MSDS) for more information.

**FOR PROFESSIONAL USE ONLY  
KEEP OUT OF THE REACH  
OF CHILDREN.**

**6. AVAILABILITY AND COST**

Pecora products are available from stocking distributors nationwide. For the name and telephone number of your nearest representative, call the number below or visit our website at [www.pecora.com](http://www.pecora.com).

**7. WARRANTY**

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. The determination of eligibility for this warranty, or the choice of remedy available under this warranty, shall be made in our sole discretion and any decisions made by Pecora Corporation shall be final. This warranty is in lieu of any and all other warranties, expressed or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose and in no case will Pecora be liable for damages other than those expressly stated in this warranty, including but not limited to incidental or consequential damages.

**8. MAINTENANCE**

Once sealant is in place and cured, it is basically maintenance free. If damage to sealant occurs, cut out the affected area, clean with vacuum or compressed air and recaulk.

**9. TECHNICAL SERVICES**

Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions or to conduct jobsite inspections. For further assistance call our Technical Service Department at 800-523-6688.



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



PEOPLE • PRODUCTS • PERFORMANCE

WEST VIRGINIA DIVISION OF HIGHWAYS  
PRELIMINARY INFORMATION FOR TECHNOLOGY/PRODUCT EVALUATION

1 TRADE NAME Pecora 300SL DATE 4/8/2011  
 MANUFACTURER Pecora Corporation PATENTED  YES  NO  YES  
 ADDRESS 165 Wambold Rd, Harleysville, PA 19438 APPLIED FOR?  NO  
 City State Zip  
 2 REPRESENTATIVE Glen Murphy  
 ADDRESS 165 Wambold Rd, Harleysville, PA 19438 PHONE 215 789 7557  
 City State Zip  
 3 PRODUCT IDENTIFICATION 300SL self-leveling silicone pavement sealant  
 4 RECOMMENDED USE - PRIMARY  
 Pecora 300SL is designed for sealing joints in roadways  
 5 RECOMMENDED USE - ALTERNATE  
 Horizontal parking deck expansion joints.  
 6 OUTSTANDING FEATURES OR ADVANTAGES CLAIMED  
 It has excellent unprimed adhesion to concrete, metal and asphalt substrates, superior weather resistance and remains flexible at extremely low temperatures. Convenient one component, neutral moisture curing system. Ultra low modulus resulting in high movement capability. Ease of application with standard automated bulk dispensing equipment such as Graco or Pyles. VOC compliant. Primerless adhesion to concrete and asphalt.  
 6a. ANY KNOWN OR PROBABLE ADVERSE EFFECT ON PRESENTLY USED OR INSTALLED MATERIALS, STRUCTURES OR EQUIPMENT  
 N/A  
 7 MATERIAL COMPOSITION  
 Silicone

8 MATERIAL SPECIFICATION FURNISHED BY MANUFACTURER?  
 YES  NO  
 9 PLAN DRAWING, PICTURE, OR SKETCH FURNISHED BY MANUFACTURER?  
 YES  NO  
 10 MEETS REQUIREMENTS OF FOLLOWING SPECIFICATIONS  
 AASHTO NTPPEP 2003 Test Deck \_\_\_\_\_ ASTM C820, D5893 FED SPECS TT-S-00230C, TT-S-001543 OTHER \_\_\_\_\_  
 11 APPROVED FOR PROPOSED USE BY HIGHWAY AUTHORITIES OR OTHER AGENCIES IN THE FOLLOWING STATES  
Arkansas, Colorado, Georgia, Kansas, Mississippi, Nebraska, Nevada, New Mexico, New York, Oklahoma, Oregon, Rhode Island, South Carolina, Tennessee, Texas  
 ARE THEY USING IT?  YES  NO  TRIAL  
 12 ARE INSTRUCTIONS OR DIRECTIONS FOR INSTALLATION, APPLICATION OR USE AVAILABLE?  
 YES  NO  
 COPY ATTACHED:  YES  NO  
 TO BE MAILED  
 13 WILL DEMONSTRATION BE PROVIDED?  
Yes  
 14 ARE EDUCATIONAL COURSES OR MOVIES AVAILABLE?  
 \_\_\_\_\_ YES \_\_\_\_\_ NO  
 15 AVAILABILITY SEASONAL \_\_\_\_\_ NON-SEASONAL   
 DELIVERY AT SITE 10 Days  
 AFTER RECEIPT OF ORDER ARE QUANTITIES LIMITED?  
 \_\_\_\_\_ YES  NO  
 16 WILL FREE SAMPLE BE FURNISHED?  
 YES  NO  
 17 APPROXIMATE COST? \_\_\_\_\_



18 IF PROPRIETARY, WHAT ARE ROYALTY COSTS AND WHAT BASIS ARE THEY COLLECTED?

HL-488

MP 108.00.02  
ATTACHMENT II  
ORIGINAL ISSUANCE: April 1976  
REISSUED: JANUARY 1985

19 NEW MARKET? \_\_\_\_\_ YES      X \_\_\_\_\_ NO      IT WAS IN \_\_\_\_\_  
ALTERNATE FOR WHAT EXISTING PRODUCT? \_\_\_\_\_ Dow Corning 890SL \_\_\_\_\_  
20 IS PRODUCT GUARANTEED?      X \_\_\_\_\_ YES      \_\_\_\_\_ NO  
CONDITIONS?

21 BACKGROUND DESCRIPTION OF COMPANY AND ITS PRODUCT

Pecora has been an American manufacturer of sealants and waterproofing products since 1862.

22 WHO RECOMMENDED THAT THE DIVISION OF HIGHWAYS BE CONTACTED?

Local Pecora sales representative Sharon Vietmeier (412) 335 6090

23 HAS ANOTHER DIVISION OF THE DIVISION OF HIGHWAYS BEEN CONTACTED?  
YES \_\_\_\_\_ NO      X \_\_\_\_\_ WHICH \_\_\_\_\_

24 ADDITIONAL INFORMATION

Samples available upon request.

HL-488

MP 108.00.02  
ATTACHMENT II  
ORIGINAL ISSUANCE: April 1976  
REISSUED: JANUARY 1985

25 THE FOREGOING INFORMATION IS FURNISHED BY

NAME      Glen Murphy \_\_\_\_\_  
ADDRESS      165 Wambold Rd. Hartsville, PA 19438 \_\_\_\_\_

COMPLETED FORMS SHOULD BE RETURNED TO

DIRECTOR  
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
MATERIALS CONTROL, SOILS AND TESTING DIVISION  
190 DRY BRANCH RD  
CHARLESTON, WV 25308

# State of West Virginia **VENDOR PREFERENCE CERTIFICATE**

Certification and application\* is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

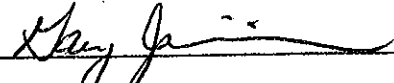
- 1. **Application is made for 2.5% resident vendor preference for the reason checked:**  
 Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,  
 Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,  
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or**,
- 2. **Application is made for 2.5% resident vendor preference for the reason checked:**  
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
- 3. **Application is made for 2.5% resident vendor preference for the reason checked:**  
 Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
- 4. **Application is made for 5% resident vendor preference for the reason checked:**  
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or**,
- 5. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**  
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or**,
- 6. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**  
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

**Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.**

Bidder: FORM TECH  
Date: 4/19/11

Signed:   
Title: REGIONAL MANAGER

\*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.

RFQ No. 6611C029

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**West Virginia Code §5A-3-10a states:** No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

**DEFINITIONS:**

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

**EXCEPTION:** The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

**WITNESS THE FOLLOWING SIGNATURE**

Vendor's Name: FORM TECH CONCRETE FORMS, INC.

Authorized Signature: [Signature] Date: 4/18/11

State of WV

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 18 day of April, 2011.

My Commission expires March 29 2017, 20  .

AFFIX SEAL HERE

NOTARY PUBLIC

[Signature]

