



Reflective Films Division

6565W. Howard Street
Niles, IL 60714
Phone 847-588-7226
FAX 847-588-7227

December 14, 2007

State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Charleston, WV 25305

Attn: John Abbott

RE: RFQ Number: PRI4656 (Reflective Sheeting for License Plates)/Statement
of Certification

We hereby certify that the license materials and equipment will perform according to the
specification for the above solicitation.

We also certify that we have the ability to supply special graphic designs, minimum of 12-
1/16" X 300 ft.

Sincerely,


Dan Zampa
Director of Sales

Avery Dennison – Graphics and Reflective Products Division



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

WV PURCHASING AGENCY SECTION Fax 304-558-4115

Dec 10 2007 09:17am P001/003

Request for Quotation

RFO NUMBER
PRI4656

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
JOHN ABBOTT
304-558-2544

RFQ COPY

TYPE NAME/ADDRESS HERE
Avery Dennison Corporation
7542 N. Natchez Ave.
Niles IL 60714

SHIP TO

WV PRISON INDUSTRIES
 MOUNT OLIVE CORRECTIONAL CTR
 1 MOUNTAINSIDE WAY
 MOUNT OLIVE, WV
 25185 304-442-5958

DATE PRINTED 12/09/2007	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
BID OPENING DATE: 12/18/2007		BID OPENING TIME: 01:30PM		

LINE	QUANTITY	UCP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM #03						
THIS ADDENDUM IS ISSUED TO MODIFY THE REQUIREMENT(S) OF THE ORIGINAL SPECIFICATIONS, AND TO CHANGE THE BID OPENING DATE FROM 12/05/2007 TO 12/18/2007.						
BID OPENING DATE: 12/18/2007; 1:30 PM						
0001	1	LS		550-48		
REFLECTIVE SHEETING FOR LICENSE PLATES						
***** THIS IS THE END OF RFQ PRI4656 *****						TOTAL: <u>412,531.49</u>

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SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE _____ TELEPHONE _____ DATE _____

TITLE _____ FEIN _____ ADDRESS CHANGES TO BE NOTED ABOVE

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

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. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125.00 registration fee.
5. All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contract, 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.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA Business Associate Addendum** - The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Covered Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** 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. Complete all sections of the quotation form.
4. Unit prices shall prevail in cases of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** 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.

SIGNED BID TO:

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

Addendum #3 to PRI4656

1. To amend the bid opening date to December 18, 2007 @ 1:30 p.m.
2. To add the following language to Paragraph 2. Warranty Provisions:

The security marks offered by Avery Dennison & 3-M have been approved by the State of West Virginia.

3. To add the following language to Paragraph D. Security Marks:

The security marks offered by Avery Dennison and 3-M have been approved by the State of West Virginia.



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

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PAGE
 1

ADDRESS CORRESPONDENCE TO ATTENTION OF
 JOHN ABBOTT
 304-558-2544

ADDRESS

*Avery Dennison Corporation
 7542 N. Natchez Ave.
 Niles IL 60714*

SHIP TO

WV PRISON INDUSTRIES
 MOUNT OLIVE CORRECTIONAL CTR
 1 MOUNTAINSIDE WAY
 MOUNT OLIVE, WV
 25185 304-442-5958

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
11/27/2007				

BID OPENING DATE: 11/27/2007 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM #02						
THIS ADDENDUM IS ISSUED TO POSTPONE THE BID OPENING UNTIL FURTHER NOTICE.						
0001	1	LS		550-48		
REFLECTIVE SHEETING FOR LICENSE PLATES						

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SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FAX	ADDRESS CHANGES TO BE NOTED ABOVE

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 Department of Administration
 Purchasing Division
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Request for Quotation

RFQ NUMBER
PRI4656

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
**JOHN ABBOTT
 304-558-2544**

*709070102 03 800-780-2971
**AVERY DENNISON MARKING FILMS
 250 CHESTER STREET BLDG 12K**

PAINESVILLE OH 44077
Avery Dennison Corporation
7542 N. Natchez Ave.
Niles IL 60714

**WV PRISON INDUSTRIES
 MOUNT OLIVE CORRECTIONAL CTR**
**1 MOUNTAINSIDE WAY
 MOUNT OLIVE, WV
 25185 304-442-5958**

DATE PRINTED 11/14/2007	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
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BID OPENING DATE: **12/05/2007** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM #01						
THIS ADDENDUM IS ISSUED TO ANSWER VENDOR QUESTIONS, EXTEND THE BID OPENING DATE FROM 11/15/2007 TO 12/05/2007; 1:30 PM, AND ADD EXHIBIT 10 (ADDENDUM ACKNOWLEDGEMENT).						
NEW BID OPENING DATE: 12/05/2007; 1:30 PM						
0001	1	LS		550-48		
REFLECTIVE SHEETING FOR LICENSE PLATES						
EXHIBIT 10						
REQUISITION NO.:						
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 ... <input checked="" type="checkbox"/> ...						
NO. 2 ... <input checked="" type="checkbox"/> ...						
NO. 3 ... <input checked="" type="checkbox"/> ...						

D. J. [Signature]

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE _____ TELEPHONE _____ DATE _____

TITLE _____ FEIN _____ ADDRESS CHANGES TO BE NOTED ABOVE

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Department of Administration
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2

ADDRESS CORRESPONDENCE TO ATTENTION OF
**JOHN ABBOTT
304-558-2544**

AVERY DENNISON CORPORATION

*709070102 03 800-780-2971
**AVERY DENNISON MARKING FILMS
250 CHESTER STREET BLDG 12K
PAINESVILLE OH 44077**

SHIP TO

**WV PRISON INDUSTRIES
MOUNT OLIVE CORRECTIONAL CTR
1 MOUNTAINSIDE WAY
MOUNT OLIVE, WV
25185 304-442-5958**

*Avery Dennison Corporation
7542 N. Natchez Ave.
Niles IL 60714*

DATE PRINTED 11/14/2007	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
BID OPENING DATE: 12/05/2007 BID OPENING TIME 01:30PM				

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
	NO. 4					
	NO. 5					
<p>I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.</p> <p>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.</p> <p style="text-align: center;"> <i>[Signature]</i> SIGNATURE <i>Avery Dennison Corporation</i> COMPANY <i>12/14/07</i> DATE </p>						
***** THIS IS THE END OF RFQ PRI4656 ***** TOTAL:						<u>412,531.49</u>

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TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

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

**Addendum # 1
PRI4656**

General Information

- **The bid opening date is extended to December 5, 2007, at 1:30 p.m.**

Questions/Answers Presented at Pre Bid Meeting on License Plate Sheeting

- Q1. On Page 10, Section 1, Paragraph 1 – Under pre-qualifications vendors are requested to submit 5 sample plates. Are additional images needed?**
- A1. The 5 sample plates are all that is needed. The additional image is hereby deleted from PRI4656.**
- Q2. Do the sheeting samples have to be submitted on metal?**
- A2. Yes**
- Q3. Is the applicator the only piece of equipment to be included in the bid?**
- A3. Yes**
- Q4. What is the range of the oven temperature you are using now?**
- A4. The temperature range on the oven being used now is 0° - 500°. Correctional Industries runs the process between 270° and 275° on a 12 minute cycle.**
- Q5. Page 11 – Please clarify “bolt back” on a skid.**
- A5. This is a 36 roll skid – 12 rolls of sheeting per package, stacked 3 high. If an order is less than 12 rolls of sheeting, the sheeting must be packaged 1 roll per single box.**
- Q6. Page 14 – Color boxes for pastel colors. Is this for the decal area?**
- A6. This specification is included so WV Correctional Industries has access to various needed colors. There is no reference to a decal area in the specification and the pastel color requirement does not pertain to decals.**
- Q7. Page 17, Section 2, Paragraph 5 – Identification Marks. The information on the visible and not visible angles is very specific to 3M.**
- A7. We are unable to amend the specifications as the current identification marks are approved by the WV State Police and WV Division of Motor Vehicles and**

implemented as a standard in the State of West Virginia. Changing and/or altering the security marks would require training of all police officers throughout the State of West Virginia.

Q8. Page 18, Paragraph 3 – Roll length is listed as 100' roll, while on Page 11 it is shown as 300 yard roll. Which is correct?

A8. All quantities should be yards.

Q9. Page 19, Paragraph 5 – Waste Materials. Do you have any idea of those approximate costs?

A9. There is no way Correctional Industries (CI) can provide an approximate total. An example would be: If CI received a roll of sheeting with an incorrect graphic or the sheeting was bad, CI would ask to be reimbursed for the graphic and the metal less the price for scrap.

Q10. Page 19 – 750' rolls are stated. Is this correct?

A10. This should be 12 rolls, 300 yards each.

Q11. Page 20 – the specifications state the first order must be received in 45 days? Please clarify.

A11. This is 45 days after the approval of the artwork by both DMV and Correctional Industries.

Q12. Are the estimated order quantities on the bid forms for 1 year or 3 years?

A12. The quantities listed on the bid form are estimations for one year.

Q13. What is an approximate number of Class A plates per year?

A13. Average 240,000

Q14. Page 36, Bid Sheet – DMV-20 reads, “2 Color – Long Run – Over 40 Rolls – 300 yd rolls. Is 300 correct or should it be 200?

A14. DMV-20 shall be corrected to 200 yard rolls instead of 300 yard rolls.

Q15. Can you provide us with the total number of graphics ordered over the last 3 years?

A15. See attached spreadsheets.

Questions Presented at Pre Bid Meeting on Validation Decal Sheeting

- Q1. Page 22 – Will there be any piggybacks?
- A1. **No. What this section is talking about is that the sticker backing can not be slick or a waxy, gloss backing. The sticker backing must be compatible with CI's equipment. Also, a slick or waxy, gloss backing will prevent glue from sticking to the back of the stickers. CI must be able to apply glue to the back of the stickers for placing them on context cards.**
- The word "burles" is hereby corrected to "buried".
- Q2. Farm Decal – Different from other stickers.
- A2. **Yes. The Farm Decal is a laminate type sticker with a peel off front. This decal is placed inside the vehicle.**
- Q3. Page 24, Section 1 – will we be able to get more sample decals to test our decals on sticking to the sheeting and other decals?
- A3. **Yes, please call our Plant Superintendent, Chuck Welling, at 304-684-5521.**
- Q5. Page 25, Section D – The watermarks are very specific to 3M. Can this be removed to include all vendors?
- A5. **We are unable to amend the specifications as the current watermarks are approved by the WV State Police and WV Division of Motor Vehicles and implemented as a standard in the State of West Virginia. Changing and/or altering the security marks would require training of all police officers throughout the State of West Virginia.**
- Q6. On the Motor Carrier decal, is the green color the only color that needs to be reflective?
- A6. **Yes**
- Q7. Page 26 – How many printers need to be supplied?
- A7. **The number of printers supplied should be based on the ability to print approximately 50,000 decals per day.**
- Q8. What other items need to be compatible?
- A8. **Laminate machine, computer course to generate the programs, a printer for reports, the capability of incorporating graphics into designs. The software should be user friendly for inserting graphics, changing fonts. Printer ribbons (both wax and resin) should be available in the following colors: Red, Navy Blue, Royal Blue, Green, Yellow and Black.**

- Q9. Page 26 – Clarification on State’s responsibility to create database.
- A9. **Page 26, F. Production Equipment. Is hereby changed to represent the Vendor shall be responsible for supplying database software to generate reports and accountability.**
- Q10. Do you need the capability for daily and stored information?
- A10. **Yes, both are needed.**
- Q11. Is replacing print heads a part of the bid? And, can you give an approximate number of how many are replaced per year?
- A11. **Replacing print heads is to be included in the bid. CI estimates between 12 – 15 per year, but this number can vary.**
- Q12. Does the applicator equipment have to be new or can it be refurbished?
- A12. **As long as there is a warranty provided, the applicator does not have to be new. This machine must be compatible with the rest of CI’s operation and should have a good track record.**
- Q13. Page 37 – 560 rolls or 100 decals?
- A14. **Some of the DMV Commodity Codes are priced by the roll while others by “per decal”. The cost summary sheets contain the proper units of measure. Example: DMV35 is the vehicle decal material and is purchased by the roll, so the estimated quantity of 560 rolls is correct. DMV36 is also vehicle decal material; however, we are requesting a price per decal, not per roll. The remaining DMV Commodity Codes for the validation decals are the same as the example set forth above.**

**Addendum No. 1 to PRI4656
Question No. 15
License Plate Sheeting - Rolls Ordered 2005, 2006 and 2007**

Graphic Ordered - 2005

Commodity Code	Description	Rolls Ordered	Roll Size (Yards)
DMV 7	4H/FFA Graphic	1	100
DMV 5	Passenger/2005	3	300
DMV 5	Apportion/2005	5	300
DMV 7	Breast Cancer	1	100
DMV 6	Passenger/2006 w/website	40	300
DMV 7	Apportion/2006	2	300
DMV 3	Permanent Trailer	5	300
DMV 7	82nd Airborne	1	100
DMV 6	Passenger/2006 w/website	7	300
DMV 33	Plain White w/Image	12	300
DMV 34	Motorcycle Plain w/Image	1	300
DMV 8	Passenger/2006 w/website	40	300
DMV 5	911 Remembrance	1	100
DMV 9	Dale Earnardt Jr.	1	100
DMV 13	Wounded In the Line Of Duty	1	100
DMV 7	White Water Rafting	1	100
Process Color	Wildlife (Deer)	1	300
DMV 3	Permanent Trailer	2	300
DMV 5	Veterans	1	100
DMV 7	Breast Cancer	1	100

Total Rolls Ordered 127

Addendum No. 1 to PRI4656
Question No. 15
License Plate Sheeting - Rolls Ordered 2005, 2006 and 2007

Graphic Ordered - 2006

Commodity Code	Description	Rolls Ordered	Roll Size (Yards)
DMV 12	Motorcycle	2	100
DMV 6	Passenger/2007	40	300
DMV 5	Scenic	2	300
DMV 3	Permanent Trailer	2	300
DMV 5	Veterans	2	300
DMV 19	Motorcycle/2006	5	300
DMV 8	Passenger/2006	2	300
DMV 3	Apportion	2	300
DMV 6	Passenger/2007	4	300
DMV 5	United We Stand	1	300
DMV 5	Wildlife (Deer)	1	100
DMV 3	Permanent Trailer	6	300
DMV 5	911 Remembrance	1	100
DMV 6	Passenger/2007	40	300
DMV 33	Plain White Graphic	3	300
DMV 6	Passenger/2007	40	300
DMV 6	Passenger/2008	2	300
DMV 8	Davis & Elkins	1	100
DMV 9	Character	1	100
DMV 33	Plain White w/Image	15	300
DMV 11	Classic Car	1	100
DMV 5	Sheriff	1	100
DMV 5	Remembrance	1	100
DMV 5	Passenger/2007	4	300
DMV 5	Passenger/2008	40	300
DMV 7	White Water Rafting	1	100
DMV 19	Motorcycle	2	300
DMV 3	Permanent Trailer	3	300

Total Rolls Ordered 225

Addendum No. 1 to PRI4656

Question No. 15

License Plate Sheeting - Rolls Ordered 2005, 2006 and 2007

Graphic Ordered - 2007 (Through June 2007)

Commodity Code	Description	Rolls Ordered	Roll Size (Yards)
Process Color	Wildlife (Deer)	1	100
DMV 5	United We Stand	2	300
DMV 5	Scenic	2	300
DMV 9	Dale Earnhardt Jr.	1	100
DMV 19	Motorcycle	1	300
DMV 5	Passenger/2007	1	300
DMV 3	Permanent Trailer	5	300
Process Color	Wildlife (Deer)	1	100
DMV 6	Passenger/2008	55	300
DMV 19	Motorcycle	1	100
DMV 6	Passenger/2008	40	300
DMV 6	Passenger/2008	40	300
DMV 33	Plain White w/Image	4	300
DMV 19	Veteran Motorcycle (new)	1	300
DMV 19	Motorcycle (new)	25	200
DMV 3	Permanent Trailer	3	300
DMV 5	Veteran	1	200
DMV 9	Afghanistan War on Terrorism	1	100
DMV 9	Scenic	1	100
DMV 5	Motorcycle (new)	1	300
DMV 7	Breast Cancer	1	100
DMV 5	Transit Authority	1	100

Total Rolls Ordered

189

SIGN IN SHEET

Page 1 of 2

PLEASE PRINT

PRE-BID SIGN-IN SHEET - PLEASE LEAVE A BUSINESS CARD - PRI4856 - 11/07/2007; 1:30 PM
FIRM & REPRESENTATIVE NAME MAILING ADDRESS

		TELEPHONE & FAX NUMBERS
Company:	Avery Dennison	PHONE 440-358-3906 TOLL FREE
Rep:	ANITA JURY	FAX 440-358-3915
Email Address:	anita-jury@averydennison.com	PHONE 304-558-3938 TOLL FREE
Company:	WV DMU	FAX 304-558-4780
Rep:	Kym Smith	PHONE 304-558-2232 TOLL FREE
Email Address:	ksmith@dot.state.wv.us	FAX 304-558-4780
Company:	WV DRY	PHONE 304-558-2232 TOLL FREE
Rep:	Rachel Lane	FAX 304-558-4780
Email Address:	klane@dot.state.wv.us	PHONE 304-558-2232 TOLL FREE
Company:	WV Correctional Industries	FAX 304-558-4780
Rep:	George M. Hill	PHONE 304-442-5958 TOLL FREE
Email Address:	ghill@mail.wvcorpt.edu	FAX 304-442-8907
Company:	WV Correctional Industries	PHONE 304-442-5958 TOLL FREE
Rep:	Daniel Tucker	FAX 304-442-8907
Email Address:		

SIGN IN SHEET

Page 2 of 2

PLEASE PRINT

PRE-BID SIGN-IN SHEET - PLEASE LEAVE A BUSINESS CARD - PRI4686 - 11/07/2007; 1:30 PM

FIRM & REPRESENTATIVE NAME		MAILING ADDRESS	TELEPHONE & FAX NUMBERS
Company:	WV DMV	1500 Kanawha Blvd E Bldg 3 Rm 337	PHONE 304-558-4247 TOLL FREE FAX 304-558-4780
Rep:	TARSKA "TERRY" CASTO	Charleston WV	
Email Address:	tercasto@dmv.state.wv.us	25317	
Company:	John S. Pugh		
Rep:	WVCI		
Email Address:	JPU@ELIA@PUGH.COM		
Company:	SAPCO	2880 No. Pleasants Hwy	PHONE 304-684-5321 TOLL FREE FAX 304-684-5522
Rep:	WVCI Chuck Wilkin		
Email Address:	chuckwilkin@wvci.com		
Company:	JIM	5100 S. IOWA ST. STE 100	PHONE 304-341-5464 TOLL FREE FAX 304-341-3130
Rep:	Thomas J. Stevens	Post 5008 Capital Station Charleston WV 25361	
Email Address:	Stevens665@aol.com		
Company:			
Rep:			
Email Address:			



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 Department of Administration
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ADDRESS CORRESPONDENCE TO ATTENTION OF:
JOHN ABBOTT
304-558-2544

***709070102** **847-647-7717**
AVERY DENNISON CORP
7542 N NATCHEZ AVE

NILES IL 60714

WV PRISON INDUSTRIES
MOUNT OLIVE CORRECTIONAL CTR

1 MOUNTAINSIDE WAY
MOUNT OLIVE, WV
25185 **304-442-5958**

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
10/22/2007				

BID OPENING DATE: **11/15/2007** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		550-48		
<p>REFLECTIVE SHEETING FOR LICENSE PLATES</p> <p>OPEN-END CONTRACT TO PROVIDE REFLECTIVE SHEETING FOR THE WV CORRECTIONAL INDUSTRIES' LICENSE PLATE PROGRAM, PER THE SPECIFICATIONS.</p> <p>MANDATORY PRE-BID: 11/7/2007; 1:30 PM MOUNT OLIVE CORRECTIONAL CENTER 1 MOUNTAINSIDE WAY MT. OLIVE, WV 25185</p> <p>CONTACT JOHN ABBOTT @ 304-558-2544 TO CONFIRM ATTENDANCE.</p> <p>EXHIBIT 3</p> <p>LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE ON 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.</p> <p>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.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *[Signature]* TELEPHONE: **847-588-7226** DATE: **12/14/07**
 TITLE: **Director of Sales** FEIN: **95-1492269** ADDRESS CHANGES TO BE NOTED ABOVE

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



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VENDOR

*709070102 847-647-7717
 AVERY DENNISON CORP
 7542 N NATCHEZ AVE

 NILES IL 60714

SHIP TO

WV PRISON INDUSTRIES
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DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
10/22/2007				

BID OPENING DATE: **11/15/2007** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>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.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICE 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</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

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



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
PRI4656

PAGE
3

ADDRESS CORRESPONDENCE TO ATTENTION OF:
JOHN ABBOTT
304-558-2544

VENDOR

*709070102 847-647-7717
AVERY DENNISON CORP
7542 N NATCHEZ AVE

NILES IL 60714

SHIP TO

WV PRISON INDUSTRIES
MOUNT OLIVE CORRECTIONAL CTR

1 MOUNTAINSIDE WAY
MOUNT OLIVE, WV
25185 304-442-5958

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
10/22/2007				
BID OPENING DATE: 11/15/2007		BID OPENING TIME 01:30PM		

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<p>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, THIS CONTRACT IS AUTOMATICALLY NULL AND VOID, AND IS TERMINATED 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 DOCUMENTS SUCH AS PRICE LISTS, ORDER FORMS, SALES AGREEMENTS OR MAINTENANCE AGREEMENTS, INCLUDING ANY ELECTRONIC MEDIUM SUCH AS CD-ROM.</p> <p>REV. 04/11/2001 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>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>						

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LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>VENDOR PREFERENCE CERTIFICATE</p> <p>CERTIFICATION AND APPLICATION* IS HEREBY MADE FOR PREFERENCE IN ACCORDANCE WITH WEST VIRGINIA CODE, 5A-3-37 (DOES NOT APPLY TO CONSTRUCTION CONTRACTS).</p> <p>A. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED:</p> <p>() 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</p> <p>() BIDDER IS A PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR AND HAS MAINTAINED ITS HEAD-QUARTERS 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</p> <p>() BIDDER IS A CORPORATION 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.</p> <p>B. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE</p>						

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LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>REASON CHECKED:</p> <p>() 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;</p> <p>OR</p> <p>() 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 BIDDERS' 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.</p> <p>BIDDER UNDERSTANDS IF THE SECRETARY OF TAX & 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) RESCIND THE CONTRACT OR PURCHASE ORDER ISSUED; 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.</p> <p>BY SUBMISSION OF THIS CERTIFICATE, BIDDER AGREES TO DISCLOSE ANY REASONABLY REQUESTED INFORMATION TO THE PURCHASING DIVISION AND AUTHORIZES THE DEPARTMENT OF TAX AND REVENUE TO DISCLOSE TO THE DIRECTOR OF</p>						

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<p>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.</p> <p>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.</p> <p>BIDDER: <i>Avery Dennison Corporation</i></p> <p>DATE: <i>12/14/07</i></p> <p>SIGNED: <i>[Signature]</i></p> <p>TITLE: <i>Director of Sales</i></p> <p>* CHECK ANY COMBINATION OF PREFERENCE CONSIDERATION(S) IN EITHER "A" OR "B", OR BOTH "A" AND "B" WHICH YOU ARE ENTITLED TO RECEIVE. YOU MAY REQUEST UP TO THE MAXIMUM 5% PREFERENCE FOR BOTH "A" AND "B". (REV. 12/00)</p> <p>NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO: DEPARTMENT OF ADMINISTRATION</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

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LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
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:				JOHN ABBOTT-----		
RFQ. NO.:				PRI4656-----		
BID OPENING DATE:				11/15/2007-----		
BID OPENING TIME:				1:30 PM-----		
PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID: ----- 847-588-7227 -----						
CONTACT PERSON (PLEASE PRINT CLEARLY):				----- Yasu Masaka -----		

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

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ADDRESS CORRESPONDENCE TO ATTENTION OF
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***709070102** **847-647-7717**
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7542 N NATCHEZ AVE

NILES IL 60714

WV PRISON INDUSTRIES
MOUNT OLIVE CORRECTIONAL CTR

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25185 **304-442-5958**

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LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
***** THIS IS THE END OF RFQ PRI4656 ***** TOTAL:						<u>\$412,531.49</u>

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WV Correctional Industries
PRI4656
PART A
LICENSE PLATE SPECIFICATIONS

Section I - GENERAL

This specification shall cover the materials, performance characteristics, quality, and testing of retroreflective sheeting and support services necessary to produce finished license plates.

1. DESCRIPTION

- a. The retroreflective license plate shall consist of retroreflective (hereinafter referred to as "reflective" only) sheeting laminated to a specified aluminum substrate which is then embossed and message roll coated according to the sheeting manufacturer's recommendations.
Vendor is required to provide manufacturer and product numbers/codes of all reflective sheeting and inks proposed for use under this contract.
- b. The reflective sheeting shall consist of lens elements enclosed within a transparent resin and shall have a precoated pressure sensitive adhesive backing protected by a removable liner. The pre-printed design, in the reflective sheeting, shall be buried below the sheeting surface to insure reliable long-term durability.
- c. The reflective sheeting, when applied to the license plate substrate and blanked to finished size, shall contain identifying marks for purposes of on-vehicle traceability, warranty enforcement, and anti-counterfeiting in accordance with these specifications. The identification marks shall be buried below the sheeting surface for durability and shall incorporate the manufacturer's logo, lot, and year of manufacture. The identification marks shall not interfere or detract from the graphic design or reduce sheeting brightness. The final design will be determined by the Division of Motor Vehicles, hereinafter referred to as the DMV.
- d. Vendor may, at not cost to the State, add enhanced security threads, marks or other features for purposes of anti-counterfeiting. Enhanced security features are not to interfere or detract from the graphic design or reduce sheeting brightness.
- e. Pre-printed reflective sheeting shall conform to the design, colors and sheeting type as approved by the State. When using white

background sheeting all graphic inks shall be transparent to facilitate the same daytime/night-time appearance.

- f. In addition to a price-per-roll for pre-printed reflective sheeting, each bidder shall include pricing of plain white reflective sheeting and any colored sheeting offered. The specifications contained herein shall apply to all standard size plate classifications and are inclusive of all special category plates issued by the state wherein reflective material is requested.

2. PREQUALIFICATION

Before any bid is considered, the vendor shall meet the following criteria:

- a. There are approximately 210 license plate designs currently in use. To assure high quality license plate performance, durability and service, the sheeting manufacturer shall provide references of experience to the satisfaction of the state agency. The successful manufacturer shall also:

1. Provide at no expense or liability to the State of West Virginia, five (5) full color license plates duplicated from random samples provided by the State, and one (1) additional sample imaged as described in Section IV.2. Samples shall not be embossed (or debossed). The State will use the samples to evaluate color match, quality and other specifications herein defined. To allow a reasonable period of time for each potential bidder to duplicate samples, the total advertisement period shall be a minimum of 45 days. **Mr. George Hill, 304-442-5958** will provide samples to be duplicated. Each vendor shall duplicate the same samples for a fair evaluation. Samples will be available for pick-up during the entire advertisement period. **A refundable deposit will be required in the amount of \$150 in the form of a cashier's check or a certified check. No personal checks or cash will be accepted. The deposit will be held until the samples are returned. All samples provided by the STATE shall be returned to Mr. Hill.**

The vendor should provide their samples to the WV Purchasing Division, along with the required Request for Quotation (RFQ) at the time of bid opening, to the attention of: John Abbott, 2019 Washington St. E., Charleston, WV 25305. Bidder should affix a label with the following information on each sample:

RFQ No. PR14656

Company Name Avery Dennison Corporation
 Contact Yasu Masaka
 Telephone No. 847-588-7226

2. Provide and install within 30 days of award of contract state-of-the-art application and processing equipment at no charge (if required). The sheeting manufacturer shall also provide a list of equipment and flow diagrams with the bid. Any equipment provided by the manufacturer shall be considered property of the State during the life of the contract and for a period not to exceed 6 months, as determined by the State, after the termination of the contract. The manufacturer shall be responsible for maintenance of the equipment during the life of the contract at no additional cost.
 3. Provide list and qualifications of experienced, full-time design, customer, technical, and sales services personnel.
 4. Provide expert installation service and on-site technical service within 48 hours at no charge; provide immediate toll-free call-in technical service.
 5. Provide next day delivery of stocked equipment parts.
 6. Provide all inks, thinners, and any other required supplies.
 7. Ship sheeting rolls via 9 or 12 roll "bulk-pack" configuration for ease of handling in the tag shop.
 8. Conform to all performance requirements of this specification as specified in Section II and as tested by the State designated testing lab.
 9. Properly warrant the plates produced from the manufacturer's sheeting. The sheeting manufacturer shall also provide a warranty mark in the sheeting in accordance with Section IV.2.
 10. Certify and demonstrate the ability to provide special graphic designs in quantities as limited as one 12-1/16" x 300 ft. roll upon request by the State.
- B. A corporate officer of the reflective sheeting manufacturer shall certify that the license plate materials and equipment shall perform according to this specification. Furthermore, the corporate officer shall also certify that sufficient technical services shall also be

provided by the sheeting manufacturer until quality license plates are produced by the State's manufacturing facility.

- C. The sheeting manufacturer shall submit technical data exhibiting characteristics of all materials proposed. Information submitted shall include detailed processing conditions for each phase of license plate manufacture. Such information shall also include times and temperatures required for curing of any inks and clear-coats (if required) for use in the production of completed license plates.

Vendors failing to conform to any requirement may be disqualified.

- D. Provide all inks, thinners and, warrant for life of sheeting at no additional cost to the State of West Virginia.

3. PERIODIC EVALUATION:

The State reserves the right to periodically evaluate the performance of materials. Samples for periodic evaluation of performance will be selected at random from materials submitted on State purchase orders. Failure of materials to comply with the requirements of this specification shall be cause for removal.

TECHNOLOGICAL IMPROVEMENTS:

The sheeting manufacturer may, with agreement of the state, incorporate technological improvements that better optimize the license plate production process and/or license plate performance.

Section II - PERFORMANCE STANDARDS

1. LICENSE PLATE SHEETING

- a. Substrate - The sheeting shall be laminated to a properly treated aluminum substrate recommended by the sheeting manufacturer.
- b. Diffuse Daytime Color - Through instrumental color testing, the diffuse daytime color of the reflective sheeting shall conform to color requirements as determined spectrophotometrically in accordance with ASTM E1164 and E1349, utilizing either 45/0 or 0/45 degree illumination/viewing conditions as described in E1164 and E1349 for retroreflective materials. Chromaticity and the Luminance Factor based on CIE tristimulus values for the 2° observer and Illuminant D65, shall be calculated in accordance with ASTM E308.

The color specification limits for white license plate sheeting are listed below. See Appendix I for other sheeting colors.

COLOR SPECIFICATION

Color	Chromacity Coordinates		Luminance Factor, Y(%)
	X	Y	
White	.303	.287	42 min.
	.368	.353	
	.340	.380	
	.274	.316	

c. Adhesive and Protective Liner

1. The precoated adhesive shall form a durable bond to flat license plate surfaces as recommended by the reflective sheeting manufacturer.
2. The protective liner attached to the adhesive shall be removable by peeling without soaking in water or other solvents and shall be easily removed after accelerated storage for four hours at 150 F (66 C) under weight of 2.5 lbs. per sq. in. (1.14 kg per 6.45 sq. cm.). The liner shall be non-printed to permit reuse.

d. Flexibility-Embossing - The sheeting shall, when correctly applied to treated aluminum, conform to the minimum/maximum tolerances for embossing and/or debossing dies as used by the manufacturing facility that supplies finished plates to the state and as recommended by the sheeting manufacturer.

e. Roll Coating - The reflective sheeting shall be roll coated and compatible with transparent and opaque colors as provided by the sheeting manufacturer.

2. FINISHED LICENSE PLATES

Test panels shall be prepared in accordance with Section III, Paragraph 1.

- a. Retroreflective Characteristics - The coefficient of retroreflection for the sheeting shall be measured on flat, clean, finished license plate test panels and shall have the following minimum values at 0.2 observation angle, expressed as candlepower per foot-candle per square foot (candelas per lux per square meter) of material. Measurements shall be conducted in accordance with ASTM E810,

"Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting."

Color	ENTRANCE ANGLE	
	-4	40
White	50	16
Yellow	25	10
Orange	25	10
Lemon-Yellow	25	10
Gold	25	10
Green	18	7
Blue	18	7
Red	9	3

NOTE: Pastel background colors shall have initial reflectance values of at least 65% of values of standard white sheeting.

Pastel colors are as follows:

Salmon
 Sunflower
 Silver Gray
 Sand
 Lime Yellow
 Sea Green
 Sky Blue
 Straw
 Chamois

- b. Rainfall Performance - The Coefficient of Retroreflection of the same finished license plate test panels, measured on the same flat area of the test panels, totally wet by rain, shall not be less than 90% of the values specified above. Wet performance measurements shall be conducted at 0.2x observation and -4x entrance angles in accordance with ASTM E810 and using the test set-up described in Section 7.10.1 of AASHTO M 268.

- c. Daytime/Nighttime Color - To assist in positive daytime/nighttime identification of license plates, the color of the reflective background of the sheeting, including any pre-printed design, shall be similar in daylight and by illumination at night.
- d. Cleanability - Finished license plates, manufactured in accordance with the recommendations of the reflective sheeting manufacturer, shall be easily cleansed of normal dirt accumulation by washing with water and mild detergent. A test panel shall be sprayed with water-suspended soils collected from the underside of vehicle fenders, mixed with water in the proportion of five pounds (2.27 kg) of soil to one gallon (3.78 liters) of water, and poured through a paint strainer.

The mixture shall then be sprayed onto the panel while particles are in suspension. After the panel is thoroughly dry, it shall be cleaned by washing with a mixture of water and mild detergent, rinsed with clean water and wiped dry for examination. The panel shall show no appreciable difference when compared to a new clean panel.

- e. Solvent Resistance - License plates finished according to the manufacturer's recommendations shall be sufficiently solvent resistant to permit cleaning with VM&P naphtha, mineral spirits, turpentine, or other solvents commonly used on vehicle finishes. Rinsed and dried, the plate surface shall show no appreciable change following cleaning.

As a performance measurement, the finished license plate test panel shall be immersed for one minute in a test fuel (ASTM D471 Reference Fuel B). After removal, the test panel shall not show any visible change which would reduce its effective performance.

- f. Temporary Water Repellent Surface Coating - To check for temporary water-repellent surface coatings, a test panel shall be exposed for 150 hrs. to Twin Arc Weathering per ASTM G23-81 type E. Following exposure, the panel will be washed in a 5% HCl solution for 45 seconds, rinsed thoroughly with water, dried with a soft clean cloth, and brought to equilibrium at 72° F plus or minus 5° F and 50% RH plus or minus 5% RH. The panel shall then be measured for coefficient of retroreflection and shall maintain not less than 90% of the specified dry and wet minimum values in II.2.a. The panel shall show no appreciable discoloration, cracking, crazing, blistering, lifting, or dimensional change. The surface shall continue to be essentially smooth and provide a compatible surface for direct application of validation stickers with pressure sensitive adhesive.

Section III - TEST PANELS AND QUALITY CONFORMANCE

1. TEST PANELS

Finished license plate test panels 6" x 12" (15.2 cm x 30.5 cm) must be provided for testing and evaluation within ten (10) calendar days if required by the State, and shall be produced of the same materials on the same equipment and by the same general processes of substrate preparation, laminating, embossing or debossing, and roll coating as the production plates, in accordance with the sheeting manufacturer's recommendations. Note the following test panel exemption for photometric testing.

Special test panels for photometric testing shall be produced as above, except that they shall not be embossed (or debossed) and they shall not be roll coated.

All test panels must be conditioned for at least 24 hours at $72^{\circ}\text{F} \pm 5^{\circ}\text{F}$ ($22^{\circ}\text{C} \pm 1^{\circ}\text{C}$) and $50\% \pm 2\%$ RH prior to testing.

2. QUALITY CONFORMANCE

Failure of the reflective sheeting to meet any requirement specified herein shall be cause for refusal to accept materials until evidence has been provided by the manufacturer that corrective action has been taken to eliminate deficiencies.

Section IV - PERFORMANCE LIFE AND WARRANTIES

1. PERFORMANCE LIFE

Reflective sheeting applied and processed into finished license plates according to the sheeting manufacturer's instructions shall be considered to perform effectively for the service life specified (excluding those plates showing mechanical damage) if:

- a. The plates show no fading, cracking, blistering, or peeling which will significantly impair the intended visibility or legibility of the plate, and if
- b. The clean plate retains at least 5 candlepower per foot candle per plate (0.46 candelas per lux per plate) for the length of the intended issue being bid.

Measurements shall be conducted at 0.2x observation angle and -4x entrance angle. Coefficient of Luminous Intensity shall be measured using the test method outlined in ASTM E810 except that the Coefficient of Luminous Intensity shall be determined in

accordance with ASTM E808 Para. 4.2.1 and ASTM E809 Para. 12.1.1.

2. WARRANTY PROVISIONS

For warranty purposes, the sheeting shall be imaged with the manufacturer's logo, year of manufacture, and lot number. If at any time during the specified performance life of the reflective material provided, a one-half of one percent sample of clean, plates produced from a given production run reveals that 10 percent or more of that sample are found to be defective in visual or brightness performance requirements as defined herein, the vendor shall be responsible for replacement of all plates manufactured from that specific lot of material.

The sheeting manufacturer shall be responsible for all replacement costs associated with a specific lot; a maximum liability assessment of \$7.50 per plate may be invoked for failed plates associated with a specific lot. Reimbursement of the State shall be in dollars and/or materials equal to the assessed damage, at the State's discretion.

To assure effective identification, the identification marks shall be approximately 1.125 inches in diameter on standard 6" x 12" plates and shall be of a design mutually agreed upon by the State and the sheeting manufacturer. The manufacturer may vary the number, design and placement of the marks for motorcycle or smaller license plate sizes.

The identification marks shall be verifiable on a license plate once properly affixed to the vehicle's designated mounting area, from an approximate head-on distance of six (6) feet; warranty marks shall not be observable at 2 feet or 20 feet or when the viewer steps to one side from the head-on viewing position so as not to compete or conflict with vital plate information.

The identification marks shall be verifiable under both ambient light and retroreflected light at night, shall not interfere or conflict with the plate design or aesthetics, and shall not alter sheeting colors or reduce sheeting brightness below specified levels.

Section V - SUPPORT SERVICES

1. PLATE DESIGN SERVICE

The manufacturer shall maintain a full-time design service to assist the State in creating a license plate of high legibility, recognition and desired aesthetics. Such services shall be provided at no additional cost to the State.

The manufacturer shall work directly with the Division of Motor Vehicles, State of West Virginia, in creating and developing license plate designs. All designs must be approved by the Commissioner of the Division of Motor Vehicles or his designee.

Consistency of printing and roll coat inks must be maintained throughout the contract period. The vendor must provide for and maintain a compatible color match to existing and/or selected designs by the State. The sheeting manufacturer will be required to furnish sheeting based on the current license plate design/format or any approved State design. Failure to match and maintain colors in accordance with this section will be cause for contract cancellation.

Special-plate-category designs shall be provided in standard roll form so that they can be manufactured into finished plates by the same process and on the same machinery as used for the basic design(s) covered by this contract. The successful bidder must be able to provide these designs in quantities as limited as one 100 ft. roll of material. Any variance in price related to volume or the number of colors used in a particular design must be noted in the vendor's bid.

The State reserves the right to redesign any or all of the plates required under these specifications during any resulting contract period.

2. TECHNICAL SERVICE

The reflective sheeting supplier shall, without additional cost, provide the license plate manufacturing shop with expert technical service and product information to ensure the shop operating personnel are proficiently trained to manufacture quality license plates. All training must be completed within two weeks after all equipment is installed and in satisfactory working condition and materials are provided to the shop personnel.

To ensure continued quality license plate manufacturing, the sheeting supplier shall, without additional cost, provide the State with a minimum of one day on-site technical maintenance service per 100 days of actual production.

3. EQUIPMENT

The sheeting supplied must be compatible with existing State equipment or the reflective sheeting supplier shall provide the necessary equipment for the intended contract period to laminate plain or pre-printed sheeting to the substrate inclusive of, but not limited to, the reflective sheeting applicator, stretch control mechanics, brake table and corresponding registry feed controls. All required training shall be completed and equipment installed and operational within forty-five (45) days of notice of award of contract. Installation and training shall be

acceptable upon consistently running the required line(s) at representative speeds not to exceed 100 strokes per minute with a rejection rate of 2% or less. The acceptability of the blanks shall be determined by the issuing agency in conjunction with the license plate plant management.

If the application registry control and stretch control equipment is not installed in the time and manner as specified above or if any sheeting, ink or coating fails to meet specifications, the entire order is subject to cancellation and the State reserves the right to purchase all sheeting, ink and coating covered by the order from an alternate source, with the defaulting contractor reimbursing any cost differential.

The sheeting manufacturer shall provide a list of available stocked parts to the State. In the event of equipment failure the sheeting manufacturer shall ship stocked replacement parts by express carrier within 12 hours of notification.

On site technical service shall be available within 48 hours of notification by the State of production difficulties.

The cost of any waste materials, including metal and sheeting generated because of faulty installation and testing of application, stretch and registry equipment will be reimbursed to the State by the successful vendor. Any salary costs incurred outside of normal operating hours of the shop operating personnel, because the successful bidder requested to work outside of normal scheduled work hours of the license plate plant employees, will be borne by the vendor.

Upon expiration of the existing contract, the existing sheeting supplier's equipment, if provided, shall be removed within thirty (30) days unless an extension of the sheeting contract has been negotiated with the sheeting supplier.

Section VI - PACKAGING AND SHIPPING

To ensure easy access and proper inventory control and to prevent roll damage due to double stacking, the reflective sheeting shall be shipped in bulk packages. Each package should contain twelve (12) 750 ft. rolls per layer, by three (3) layers high with two single packaged rolls on top. Production run sequence numbers shall be affixed to the outside of each shipping package that corresponds to the materials contained therein. Each roll shall be additionally designated by a core identifier stamped or affixed with a permanent label to the inside of each roll core. Sheeting shall be shipped with no more than three (3) production lots per pallet. Mismatch of numbers on the box and inside the roll core can be cause for rejection. A shipping or packaging list shall be affixed to one box on a pallet identifying all production runs contained within the shipment.

Section VII - DELIVERY SCHEDULE

All deliveries shall be provided F.O.B. destination to the State's designated point of delivery. The first expected delivery of reflective sheeting shall be not later than forty-five (45) days following official notification of contract award, initial order and receipt of State approved artwork. All subsequent deliveries shall be F.O.B. destination within thirty (30) days after receipt of order. Penalty for non-delivery of material within the thirty (30) day window will be charged at \$500 per business day and will be deducted from the invoice upon receipt.

Section VIII - ACCOUNTABILITY

The manufacturer shall be accountable for all sheeting from the place of manufacture to the point of delivery. All over-run materials remaining in the manufacturer's possession after discontinuation of any design or the contract's cancellation, shall be destroyed and used for no other purpose.

Engraved printing cylinders used to manufacture pre-printed sheeting shall be supplied and remain in the possession of the sheeting manufacturer until such time as the cylinders are destroyed.

The vendor must provide adequate security methods and supervision to protect sheeting from unauthorized use.

Section IX - PROCESSING

The reflective sheeting processing shall be in accordance with the recommendations of the manufacturer. All processing procedures for reflective material, thinners, coatings, solvents and inks must be compatible, or made compatible at the vendor's expense, with equipment and procedures currently employed by the State.

Failure to meet the terms, conditions and specifications of the contract shall be considered as a breach of contract and may subject the contract to cancellation and/or other penalty as provided for under law.

The contractor will be required to deliver all thinner, inks and clear coat if required on an "as needed" basis. Delivery in the amounts required must be completed within thirty (30) days after receipt of order.

Projected volumes are estimates only. The contract shall be for actual amounts ordered during the selected contract production period. Delivery schedules and quantities must be coordinated with the State's designated manufacturer.

PART A**APPENDIX I****COLOR SPECIFICATIONS**

Color	Chromaticity Corner X	Coordinate Points Y	Luminance Factor, Y(%)
1. White	.303	.287	42 Min.
	.368	.353	
	.340	.380	
	.274	.316	
2. Yellow	.498	.412	28-38
	.557	.442	
	.479	.520	
	.438	.472	
3. Lemon Yellow	.455	.455	40-50
	.514	.485	
	.440	.558	
	.395	.508	
4. Orange	.505	.354	14-24
	.600	.360	
	.550	.412	
	.478	.385	
5. Blue	.181	.069	11-20
	.270	.220	
	.230	.250	
	.103	.246	
6. Green	.210	.275	15-25
	.280	.385	
	.180	.520	
	.080	.310	
7. Red	.613	.297	5-10
	.708	.292	
	.636	.364	
	.558	.352	

WV Correctional Industries
PRI4656
PART B
SPECIFICATIONS FOR THERMAL TRANSFER
PRINTABLE VALIDATION SHEETING

SECTION I – GENERAL

This specification shall cover the equipment, materials, performance characteristics, quality, testing and support services for retroreflective sheeting with verifiable security marks to produce thermal transfer printed validation stickers for license plates.

A. DESCRIPTION

The retroreflective (hereafter referred to as (“reflective”) sheeting shall consist of lens elements enclosed within a transparent resin and shall have either two pre-coated pressure sensitive adhesives separated by a liner or a single adhesive layer, depending on customer requirements. The first layer assures maximum adhesion to the license plate, while the second layer, piggyback coated on the liner of the first adhesive, facilitates sheeting and cardstock processing through the manufacturer’s thermal transfer printing system.

The sheeting shall contain identifying marks for purposes of on-vehicle traceability, warranty enforcement, and anti-counterfeiting in accordance with these specifications. The identification marks shall be buried below the sheeting surface for durability and shall incorporate the manufacturer’s logo, lot, and year of manufacture. The identification marks shall not interfere or detract from the graphic design or reduce sheeting brightness. The final design shall be determined by the Division of Motor Vehicles. These security marks shall facilitate visual verification of authenticity.

The reflective sheeting shall have a smooth weather resistant surface, which is receptive to durable thermal transfer resin colorants. The surface shall enable high quality thermal transfer imaging. The reflective stickers shall be processed according to the sheeting manufacturer’s recommendations.

B. PREQUALIFICATION

Prospective bidders who desire to pre-qualify materials governed by this specification, should submit technical data exhibiting characteristics and processing parameters of the sheeting, adhesives, thermal transfer printing colorants, and equipment systems for the production of completed validation stickers. In addition bidder shall provide, at no expense or liability to the State of West Virginia, five (5) validation decals, each of a different color, duplicated from each type of the five (5) different types of

decals the agency has. The State will use the samples to evaluate color match, quality and other specifications herein defined. To allow a reasonable period of time for each bidder to duplicate samples, the total advertisement period shall be a minimum of 45 days. Mr. Chuck Welling, 304-684-5521, will provide five samples to be duplicated. Samples will be available for pick-up during the entire advertisement period.

A refundable deposit will be required in the amount of \$250 in the form of a cashier's check or a certified check. No personal checks or cash will be accepted. The deposit will be held until the samples are returned. All samples provided by the State shall be returned to Mr. Welling on or before the formal bid opening date. The vendor should provide their samples to the WV Purchasing Division, along with the required Request for Quotation (RFQ) at the time of bid opening, to the attention of: John Abbott, 2019 Washington St. East, Charleston, WV 25305. Bidder should affix a label with the following information on each sample:

RFQ No. RRI 4656
 Company Name Avery Dennison Corporation
 Contact Yasu Masaka
 Telephone No. 847-588-7226

If a review of the technical data and samples indicate that the proposed materials and equipment comply with the requirements of this specification, the prospective bidder or supplier shall be so notified.

The successful bidder will be required to provide all equipment, software programming, and operator training to produce validation stickers.

In the event of equipment failure, the vendor shall ship stocked replacement parts by express carrier within 12 hours of notification of equipment failure.

SECTION II – REQUIREMENTS

A. RETROREFLECTIVE CHARACTERISTICS

1. The unprinted reflective sheeting shall have the following minimum coefficients of retroreflection expressed as candlepower per foot candle per square foot of material (candelas per lux per square meter). Test samples shall be oriented as specified in the manufacturer's instructions. The coefficient of retroreflection shall be measured in accordance with ASTM E-810, "Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting," except that only one reading shall be taken at each position; the sample shall not be rotated 90 degrees.

Observation Angles	White <u>0.2 DEGREES</u>
Entrance Angles	
-4 Degrees	50.0
40 Degrees	10.0

See Appendix I for Retroreflective Characteristics of other colors

2. RAINFALL PERFORMANCE

The coefficient of retroreflection of the same sheeting, totally wet by rain, shall not be less than 90% of the above values. Wet performance measurements shall be conducted at 0.2 degrees observation and -4 degrees entrance angle in accordance with ASTM-810 and using the test set-up described in FHWA Specification FP-85, Section 718.03 (a) and Section 7.10.1 of AASHTO M 268.

B. ADHESIVE AND PROTECTIVE LINER

1. The first pre-coated pressure-sensitive adhesive shall form a durable, vandal resistant bond to clean, dry, properly painted or reflective sheeting license plate surfaces or sticker surfaces of the same material.
2. Adhesive No. 2, if required for a piggyback construction and applied to the backside of adhesive No. 1's liner, shall hold retroreflective stickers on a temporary support liner prior to release and tipping onto cardstock.
3. The adhesive shall not exude from sheeting edges when processed into finished stickers so as to cause pieces to stick together during printing, handling or while packaged in shipment and distribution.
4. The protective liner of adhesive No. 1 shall be removed by peeling without soaking in water or other solvents and shall be easily removed after storage for four hours at 150 degrees F. (66 degrees C.) Under a weight of 2.5 lbs. per sq. in. (0.17 kg/cm squared).

C. DIFFUSE DAYTIME COLOR

Through instrumental color testing, the diffuse daytime color of the reflective sheeting shall conform to color requirements as determined spectro-photometrically in accordance with ASTM E-1164 and E-1349, utilizing either 45/0 or 0/45 degree illumination/viewing conditions as

described in E-1164 and E-1349, utilizing either 45/0 or 0/45 degree illumination/viewing conditions as described in E-1164 and E-1349 for retroreflective materials. Chromaticity and the Luminance Factor based on CIE tristimulus values for the 2⁰ observer and Illuminant D65, shall be calculated in accordance with ASTM E-308.

<u>Color</u>	<u>Chromaticity Coordinate Corner Points</u>		<u>Luminance Factor</u>
	<u>X</u>	<u>Y</u>	<u>Y%</u>
1. White	.303	.290	35 min.
	.365	.354	
	.340	.378	
	.278	.316	

D. SECURITY MARKS

The sheeting shall have protective security marks which are an integral part of the sheeting, and which make unauthorized sticker reproduction extremely difficult. The security marks shall be of a design mutually agreed upon by the State and the sheeting manufacturer and shall meet the following additional requirements:

1. Stickers (25 inches - 64 cm - from the ground) properly applied to a vertically-mounted license plate shall provide effective visual verification by exhibiting the following:
 - a. The marks shall be visible to a 6 ft. (180 cm) tall viewer directly facing the sticker's surface at 30 degrees above the perpendicular to the sticker.
 - b. The marks shall not be visible to the viewer standing 2 ft. (.6m) and 20 ft. (6.1m) from and directly facing the sticker.
 - c. The marks shall not be visible when viewed at an angle greater than 45 degrees to the left or right side of the sticker.
2. The security marks shall: a) be verifiable in diffuse daylight and by retroreflected light at night; b) be visible on a sticker when held at arm's length and slightly titled. These same marks shall not be visible when rotated 90 degrees from the first viewing position; c) not alter sheeting colors or reduce sheeting brightness below specified levels; and d) not be removable by chemical or physical means from the sheeting or finished validation sticker, applied or unapplied, without irreparable damaged to the reflective system.

E. PROCESSABILITY

The successful bidder shall furnish a matched component system inclusive of all sheetings, adhesives, thermal transfer colorants, and equipment needed to produce license plate validation stickers meeting the requirements of this applications.

All components shall be compatible with all procedures and equipment used by the State to manufacture license plate validation stickers. Verification of compatibility will be required by the State's sticker manufacturing facility prior to initiating the production of validation stickers of each size and color specified; the components shall be submitted to the appropriate agency for visual examination and testing. Print quality of finished stickers shall meet commonly accepted industry standards to include machine readable symbology, when required.

F. PRODUCTION EQUIPMENT

The sticker sheeting manufacturer shall provide all equipment required on a bailment agreement to manufacture finished validation stickers to include the printer, printer control device, and printer/driver software.

The state shall be responsible for development of the interface software between the printing equipment and the State's database(s).

The State shall utilize the thermal transfer printer for other non-reflective sticker printing without the expressed permission from the reflective sheeting manufacturer.

The equipment shall be removed from the State's manufacturing facility within 30 days of contract expiration and non-removal.

In the event of equipment failure, the vendor shall ship stocked replacement parts by express carrier within 12 hours of notification of equipment failure.

G. CLEANABILITY

The sheeting processed into finished stickers and applied in accordance with the recommendations of the reflective sheeting manufacturer, shall be readily cleansed of normal dirt accumulation by washing with water and mild detergent.

The surface shall also be sufficiently solvent-resistant to permit cleaning with solvents commonly used to clean vehicle finishes. Accordingly, the surface printed colorant shall show no wear after exposure to 25 cycle rubs (one cycle equals one rub back and forth) with a "Q-tip" type cotton swab with gasoline, methyl alcohol, kerosene, mineral spirits, VM & P naphtha, 409 cleaner, window cleaners, and other common cleaners used to clean automotive paint finishes. See Appendix II for the test method.

H. WET ABRASION RESISTANCE

Finished stickers shall show good wet abrasion resistance after 1000 cycles of "Wet Scrub" testing. No appreciable wear shall be observed. See Appendix II for the test method.

I. PERFORMANCE LIFE

Finished stickers, including surface printed colorants, shall remain clear and durable and shall provide a compatible surface for direct application of additional annual validation stickers of the same material.

J. GENERAL AND DIMENSIONAL REQUIREMENTS

The sheeting shall be furnished as die cut stickers in roll form to the size and shape specified. Rolls shall be wound to provide proper orientation of the security mark.

K. TECHNICAL SERVICE

The printing equipment vendor shall provide the validation sticker manufacturing shop with competent technical service and product information until the site operating personnel are able to manufacture quality validation stickers in keeping with the State's requirements and according to the manufacturer's recommendations. A listing of the technical service personnel and their qualifications shall be provided.

In the event production difficulties are experienced with the successful bidder's materials, the sheeting manufacturer shall provide telephone toll-free technical service call-in consultation. Telephone technical service shall be furnished by the sheeting manufacturer at no additional cost until such times as the difficulties are resolved.

L. Packaging and Delivery

All reflective sheeting and other materials shall be packaged in accordance with accepted commercial standards. All deliveries shall be provided F.O.B. destination to the State's designated point of delivery. The first expected delivery of validation sheeting shall be not later than forty-five (45) days following official notification of contract award, initial order and receipt of State approved art work. All subsequent deliveries shall be F.O.B. destination within thirty (30) days after receipt of order. Penalty for non-delivery of material within the (thirty) 30 day window will be charged at \$500 per business day and will be deducted from the invoice upon receipt.

PART B**APPENDIX I****VALIDATION SHEETING RETROREFLECTIVE CHARACTERISTICS**

The coefficient of Retroreflection shall be measured on flat, clean Validation Sheeting and shall have the following minimum values at 0.2° observation angle, expressed as candlepower per foot-candle per square foot (candelas per lux per square meter) of material. Measurements shall be conducted in accordance with ASTM E-810, "Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting".

Color	Entrance Angles	
	-4°	40°
White	50	10
Yellow	30	8
Lemon-Yellow	28	11
Green	28	8
Blue	14	5
Red	10	3
Orange	6	2
Gold	30	10
Yellow-Green	24	8
Magenta	12	3

PART B**APPENDIX II****TESTING OF THERMAL TRANSFER PRINTED VALIDATION DECALS**

These testing procedures cover the testing of thermal transfer printed validation stickers for abrasion resistance and resistance to cleaners and solvents. NOTE: Only cleaners and solvents commonly used on or around vehicle paint finishes need to be tested.

1. Wet Scrub Abrasion Resistance

References: Federal Test Method Standard 141a, Method 6142; Gardner Laboratory Bulletin WG2000

Equipment:

The test used here is a modification of the Federal Test Standard No. 141a, Method 6142, "Scrub Resistance". An apparatus such as Gardner Model M-105 or the Gardner Straight Line Washability and Abrasion Tester No. 1364 is required.

Sample Preparation:

Prepare samples by adhering two test decals to conversion coated aluminum weathering panels available from Q-Lab 800 Canterbury Road, Westlake, Ohio 44145; Telephone: (440/835-8700). Panels measure 11" x 2.75". After applying the decals, roll them down firmly with a small wallpaper rubber roller (approximately 1.5" dia.).

Allow samples to stand for 48 hours in a constant temperature/humidity room before testing.

Procedure:

1. After conditioning the brush in lukewarm water for 30 minutes, shake out the excess water. Then condition the brush in a 0.5 percent detergent ("Dreft") solution for 5 minutes. Place the Chinese hogs bristle brush in the brushholder.
2. Mount the test panel in the test apparatus. The test apparatus may need to be modified slightly to accommodate the 11" x 2.75" test panel
3. Turn on the machine and allow 1,000 scrub cycles to pass before stopping the machine. During the test period, a 0.5% detergent ("Dreft") solution is dipped on the test panel at the approximate rate of 12 drops per minute through a titration column or just enough to keep the panel wet.

4. Rinse and dry the test panel.

Results:

If the decal print does not show sufficient wear so that the tester can see the substrate sheeting, the sample decal passes the test.

2. RESISTANCE TO SOLVENTS AND CLEANERS

Printed stickers may be tested on the card stock or on the liner.

Test Solvents: methyl alcohol, mineral spirits, kerosene, VM & P naphtha, and gasoline. (NOTE: Solvents that damage automobile paint or lacquer finishes, should not be used as a test solvent).

Test Cleaners: "409", window glass, ammonia, bug and tar (with petroleum distillates or mineral spirits)

Procedure:

Wet a "Q-tip" type cotton swab (mounted on the end of a stick) with the respective solvent or test cleaner.

The tester holds the swab at a 45 degree angle to the test sticker and with approximately 40 grams of pressure, wipes the wet swab back and forth across the printed sticker for 10 cycles (one cycle is once across the sample and back). The tester conducts the same test on a second sample for 25 cycles.

Results:

The sample passes if the solvent or cleaner does not solvate the print sufficiently to wear through to the substrate.

(SEE PART A FOR SPECIFICATIONS)
COMMODITY CODES DMV 1 THRU DMV 16 ARE:

SPECIAL CATEGORY PLATES, 5 YEAR DURABILITY, PRE-PRINTED DESIGN, 12-1/16" x 100 & 300 Yd. Roll

Price Per 100 & 300 Yard Roll

Commodity Code No.	No. Of colors	Short Run (up to 40 rolls)	Long Run (more than 40 rolls)	
DMV 1	1			
DMV 2				
DMV 3	2			
DMV 4				
DMV 5	3			
DMV 6				
DMV 7	4			
DMV 8				
DMV 9	5			
DMV 10				
DMV 11	6			
DMV 12				
DMV 13	7			
DMV 14				
DMV 15	8			
DMV 16				

(SEE PART A FOR SPECIFICATIONS)

COMMODITY CODES DMV 17 THRU DMV 32 ARE:

SPECIAL CATEGORY PLATES, 5 YEAR DURABILITY, PRE-PRINTED DESIGN, 7-1/16" x 200 Yd. Roll

(SEE PART A FOR SPECIFICATIONS)

COMMODITY CODES DMV 33 THRU DMV 34 ARE:

Reflective Sheeting, Enclosed Lens, Graphic, Solid Color - *White Only* -- See Bid form for sizes

(SEE PART B FOR SPECIFICATIONS)

COMMODITY CODES DMV 35 THRU DMV 44 ARE:

Thermal Transfer Printable Validation Sheeting/Laminating Adhesive Film Liner

Commodity Code No.	Description & Size		
DMV 35	Vehicle, Trailer and Recreational Decals: 2,800 decals per roll, without back print 3/8" staple tab, die-cut, 1-up. 1.875"w x 1.125"h x 0.125" corner radius.		
DMV 36	Same as 35		
DMV 37	Motorcycle Decals: 2,800 decals per roll, without back print 3/8" staple tab, die-cut, 1-up. .75"w x 1.5"h x 0.125" corner radius.		
DMV 38	Same as 37		
DMV 39	Motorboat Decals: 2,500 decals per roll, without back print 3/8" staple tab, die-cut, 1-up. 3"w x 3"h x 0.125" corner radius.		
DMV 40	Same as 39		
DMV 41	Farm Decal: 1,000 decals per roll, 3" x 100 yard roll Face Adhesive Validation (FAV) for inside windshield use.		
DMV 42	Same as 41		

DMV 43	Laminating Adhesive Film Liner: To be used with Farm Decal FAV (above). 2 Mil x 2-7/8" x 100 yds.		
Misc. 5460 - 3"	Misc. Decal, 3" x 50 yards		
Misc. 5460 - 4"	Misc. Decal, 4" x 50 yards		

PRI4656 - Reflective License Plate Materials - Bid Form				
Item #	Description	Est. Oder Qty.	Unit Price	Total
	Licens Plate Material			
DMV 1	1 Color - Short Run - Up to 40 Rolls - 300 Yard Rolls	1 Roll	\$ 1,818.00	\$ 1,818.00
DMV 2	1 Color - Long Run - Over 40 Rolls - 300 Yard Rolls	1 Roll	\$ 1,161.00	\$ 1,161.00
DMV 3	2 Color - Short Run - Up to 40 Rolls - 300 Yard Rolls	13 Rolls	\$ 2,016.00	\$ 26,208.00
DMV 4	2 Color - Long Run - Over 40 Rolls - 300 Yard Rolls	1 Roll	\$ 1,161.00	\$ 1,161.00
DMV 5	3 Color - Short Run - Up to 40 Rolls - 300 Yard Rolls	1 Roll	\$ 2,259.00	\$ 2,259.00
DMV 6	3 Color - Long Run - Over 40 Rolls - 300 Yard Rolls	126 Rolls	\$ 1,161.00	\$ 146,286.00
DMV 7	4 Color - Short Run - Up to 40 Rolls - 300 Yard Rolls	1 Roll	\$ 2,502.00	\$ 2,502.00
DMV 8	4 Color - Long Run - Over 40 Rolls - 300 Yard Rolls	3 Rolls	\$ 1,413.00	\$ 4,239.00
DMV 9	5 Color - Short Run - Up to 40 Rolls - 300 Yard Rolls	1 Roll	\$ 2,727.00	\$ 2,727.00
DMV 10	5 Color - Long Run - Over 40 Rolls - 300 Yard Rolls	1 Roll	\$ 1,413.00	\$ 1,413.00
DMV 11	6 Color - Short Run - Up to 40 Rolls - 300 Yard Rolls	1 Roll	\$ 2,961.00	\$ 2,961.00
DMV 12	6 Color - Long Run - Over 40 Rolls - 300 Yard Rolls	2 Rolls	\$ 1,413.00	\$ 2,826.00
DMV 13	7 Color - Short Run - Up to 40 Rolls - 300 Yard Rolls	1 Roll	\$ 3,186.00	\$ 3,186.00
DMV 14	7 Color - Long Run - Over 40 Rolls - 300 Yard Rolls	1 Roll	\$ 1,413.00	\$ 1,413.00
DMV 15	8 Color - Short Run - Up to 40 Rolls - 300 Yard Rolls	1 Roll	\$ 3,411.00	\$ 3,411.00
DMV 16	8 Color - Long Run - Over 40 Rolls - 300 Yard Rolls	1 Roll	\$ 1,413.00	\$ 1,413.00
			Subtotal	\$ 204,984.00

Vendor: Avery Dennison Corporation
 Contract Coordinator: Yasu Masaka
 Telephone Number: 847-588-7226
 Fax Number: 847-588-7227
 Email Address: yasu.masaka@averydennison.com

PRI4656 - Reflective License Plate Materials - Bid Form				
Item #	Description	Est. Oder Qty.	Unit Price	Total
	Licens Plate Material			
DMV 1A	1 Color - Short Run - Up to 40 Rolls - 100 Yard Rolls	1 Roll	\$ 606.00	\$ 606.00
DMV 2A	1 Color - Long Run - Over 40 Rolls - 100 Yard Rolls	1 Roll	\$ 387.00	\$ 387.00
DMV 3A	2 Color - Short Run - Up to 40 Rolls - 100 Yard Rolls	1 Roll	\$ 672.00	\$ 672.00
DMV 4A	2 Color - Long Run - Over 40 Rolls - 100 Yard Rolls	1 Roll	\$ 387.00	\$ 387.00
DMV 5A	3 Color - Short Run - Up to 40 Rolls - 100 Yard Rolls	1 Roll	\$ 753.00	\$ 753.00
DMV 6A	3 Color - Long Run - Over 40 Rolls - 100 Yard Rolls	1 Roll	\$ 387.00	\$ 387.00
DMV 7A	4 Color - Short Run - Up to 40 Rolls - 100 Yard Rolls	1 Roll	\$ 834.00	\$ 834.00
DMV 8A	4 Color - Long Run - Over 40 Rolls - 100 Yard Rolls	1 Roll	\$ 471.00	\$ 471.00
DMV 9A	5 Color - Short Run - Up to 40 Rolls - 100 Yard Rolls	1 Roll	\$ 909.00	\$ 909.00
DMV 10A	5 Color - Long Run - Over 40 Rolls - 100 Yard Rolls	1 Roll	\$ 471.00	\$ 471.00
DMV 11A	6 Color - Short Run - Up to 40 Rolls - 100 Yard Rolls	1 Roll	\$ 987.00	\$ 987.00
DMV 12A	6 Color - Long Run - Over 40 Rolls - 100 Yard Rolls	1 Roll	\$ 471.00	\$ 471.00
DMV 13A	7 Color - Short Run - Up to 40 Rolls - 100 Yard Rolls	1 Roll	\$ 1,062.00	\$ 1,062.00
DMV 14A	7 Color - Long Run - Over 40 Rolls - 100 Yard Rolls	1 Roll	\$ 471.00	\$ 471.00
DMV 15A	8 Color - Short Run - Up to 40 Rolls - 100 Yard Rolls	1 Roll	\$ 1,137.00	\$ 1,137.00
DMV 16A	8 Color - Long Run - Over 40 Rolls - 100 Yard Rolls	1 Roll	\$ 471.00	\$ 471.00
			Subtotal	\$ 10,476.00

PRI4656 - Reflective License Plate Materials - Bid Form				
Item #	Description	Est. Oder Qty.	Unit Price	Total
	Licens Plate Material			
DMV 17	1 Color - Short Run - Up to 40 Rolls - 200 Yard Rolls	1 Roll	\$ 721.00	\$ 721.00
DMV 18	1 Color - Long Run - Over 40 Rolls - 200 Yard Rolls	1 Roll	\$ 465.50	\$ 465.50
DMV 19	2 Color - Short Run - Up to 40 Rolls - 200 Yard Rolls	7 Rolls	\$ 798.00	\$ 5,586.00
DMV 20	2 Color - Long Run - Over 40 Rolls - 300 Yard Rolls	1 Roll	\$ 465.50	\$ 465.50
DMV 21	3 Color - Short Run - Up to 40 Rolls - 200 Yard Rolls	1 Roll	\$ 892.50	\$ 892.50
DMV 22	3 Color - Long Run - Over 40 Rolls - 200 Yard Rolls	1 Roll	\$ 465.50	\$ 465.50 ^{pr.}
DMV 23	4 Color - Short Run - Up to 40 Rolls - 200 Yard Rolls	1 Roll	\$ 987.00	\$ 987.00
DMV 24	4 Color - Long Run - Over 40 Rolls - 200 Yard Rolls	1 Roll	\$ 563.50	\$ 563.50
DMV 25	5 Color - Short Run - Up to 40 Rolls - 200 Yard Rolls	1 Roll	\$ 1,074.50	\$ 1,074.50
DMV 26	5 Color - Long Run - Over 40 Rolls - 200 Yard Rolls	1 Roll	\$ 563.50	\$ 563.50
DMV 27	6 Color - Short Run - Up to 40 Rolls - 200 Yard Rolls	1 Roll	\$ 1,165.50	\$ 1,165.50
DMV 28	6 Color - Long Run - Over 40 Rolls - 200 Yard Rolls	1 Roll	\$ 563.50	\$ 563.50
DMV 29	7 Color - Short Run - Up to 40 Rolls - 200 Yard Rolls	1 Roll	\$ 1,253.00	\$ 1,253.00
DMV 30	7 Color - Long Run - Over 40 Rolls - 200 Yard Rolls	1 Roll	\$ 563.50	\$ 563.50
DMV 31	8 Color - Short Run - Up to 40 Rolls - 200 Yard Rolls	1 Roll	\$ 1,340.50	\$ 1,340.50
DMV 32	8 Color - Long Run - Over 40 Rolls - 200 Yard Rolls	1 Roll	\$ 563.50	\$ 563.50
			Subtotal	\$ 17,234.00

PRI4656 - Reflective License Plate Materials - Bid Form

Item #	Description	Est. Oder Qty.	Unit Price	Total
	Licens Plate Material			
DMV 33	12-1/16" X 300 Yards - White	18 Rolls	\$ 801.00	\$ 14,418.00
DMV 34	7-1/6" X 200 Yards - White	1 Roll	\$ 311.50	\$ 311.50
DMV 35	See Specifications	560 Rolls	\$ 228.30	\$ 127,853.60
DMV 36	See Specifications	100 Decals	\$ 0.082	\$ 8.20
DMV 37	See Specifications	29 Rolls	\$ 180.84	\$ 5,244.36
DMV 38	See Specifications	100 Decals	\$ 0.065	\$ 6.50
DMV 39	See Specifications	87 Rolls	\$ 242.46	\$ 21,094.02
DMV 40	See Specifications	100 Decals	\$ 0.242	\$ 24.20
DMV 41	See Specifications	24 Rolls	\$ 447.34	\$ 10,736.16
DMV 42	See Specifications	100 Decals	\$ 0.447	\$ 44.70
DMV 43	See Specifications	1 Roll	\$ 0	\$ 0
Misc. 5460-3"	Misc. Decal, 3"X50 Yards	1 Roll	\$ 41.25	\$ 41.25
Misc. 5460-4"	Misc. Decal, 4"X50 Yards	1 Roll	\$ 55.00	\$ 55.00
			Subtotal	\$ 179,837.49

GRAND TOTAL	\$ 412,531.49
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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 owned 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 exceed 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.

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, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, 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.

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. Vendors should visit www.state.wv.us/admin/purchase/privacy for the Notice of Agency Confidentiality Policies.

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

Vendor’s Name: Avery Dennison Corporation

Authorized Signature: X [Signature] Date: 12/14/07

PRODUCT DATA BULLETIN

Stock Color Availability: (custom colors available upon request)

Photometric Performance:

Product	Color	Minimum Reflectivity Level*
L-3050	White	50

*CPL at 0.2° observation angle and -4° entrance angle

Colors & Specification Limits (Daytime):

Color	1		2		3		4		Luminance (Y%)	
	x	y	x	y	x	y	x	y	Min	Max
White	0.305	0.315	0.335	0.345	0.325	0.355	0.295	0.325	35	—

The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System measured with Standard Illuminant D65 (geometry 45/0°).

Solvent Resistance:

When properly processed and applied, the film is resistant to most common solvents. When tested according to LS-300C, Section 3.6.2, immersion in the following solvents for the specified length of time the film shows no deterioration:

Solvent	Time	Solvent	Time
Kerosene	10 minutes	Xylene	1 minute
Turpentine	10 minutes	Methyl Alcohol	1 minute
Toluene	1 minute		

Approved Screen Printing Inks:

Ink Supplier*	Ink Series	Ink System
Nazdar	System II	Solvent Based
Nazdar	Gloss Vinyl (GV)	Solvent Based
Sericol	TMI II	Solvent Based

*Ink available in custom colors

Approved Inking Systems:

Ink Supplier*	Ink Series	Ink System
Nazdar	CD-381	Solvent Based
Coates	J	Solvent Based
ITW	Foil Stamping	Thermal Transfer
Kurz	Foil Stamping	Thermal Transfer

*Ink available in custom colors

Additional Information:

Preprinted Graphics:	L-3050 Series license plate sheeting can be made available with custom printed graphics.
Watermark/Security Mark:	L-3050 Series license plate sheeting can also be made available with Avery SecureMark™ for security purposes.

Converting Information:	<ul style="list-style-type: none"> NOTE: L-3050 reflective sheeting should not be exposed to oven temperatures above 220°F. For best results, aluminum substrate should be heated prior to lamination to 70-90°F (21-32° C)
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PRODUCT DATA BULLETIN

	<ul style="list-style-type: none">• Tension on the sheeting during the lamination process needs to be kept at a minimum to avoid overstretching the material. The sheeting will not perform properly when the stretch exceeds 3%.• After lamination, allow a minimum of a 24 hour dwell at 50°F (10°C) before embossing.• Embossing configurations differ, Pre-test Avery L-3050 with your specific system prior to full production.• Maximum embossing depth of L-3050 is 0.085" (2.1mm)• Temperature exposure for curing inks should be in accordance with the instructional bulletin and in accordance with the oven profile established with your technical representative, but should never exceed a temperature of 220°F.
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- *Allow license plates to cool to room temperature prior to stacking and packaging the plates*

warranty. All Avery Dennison products are sold with the understanding that Purchaser has independently determined the suitability of such products for its purposes. Avery Dennison products are warranted to be free from defects in material and workmanship for either one year (or the period stated on the specific product information literature in effect at time of delivery, if longer) from date of shipment if said product is properly stored and applied. It is expressly agreed and understood that Avery Dennison's sole obligation and Purchaser's exclusive remedy under this warranty, under any other warranty, express or implied, or otherwise, shall be limited to repair or replacement of defective product without charge at Avery Dennison's plant or at the location of product (at Avery Dennison's election), or in the event replacement or repairs is not commercially practical, to Avery Dennison's issuing Purchaser a credit reasonable in light of the defect in the product.

Avery Dennison's liability for defective products shall not exceed the purchase price paid therefore by Purchaser and in no event shall Avery Dennison be responsible for any incidental or consequential damages whether foreseeable or not, caused by defects in such product, whether such damage occurs or is discovered before or after replacement or credit, and whether or not such damage is caused by Avery Dennison's negligence.

NO EXPRESS WARRANTIES AND NO IMPLIED WARRANTIES, WHETHER OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE, OR OTHERWISE (EXCEPT AS TO TITLE), OTHER THAN THOSE EXPRESSLY SET FORTH ABOVE WHICH ARE MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, SHALL APPLY TO PRODUCTS SOLD BY AVERY DENNISON. AVERY DENNISON SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER SUCH WARRANTIES. NO WAIVER, ALTERATION, ADDITION OR MODIFICATION OF THE FOREGOING CONDITIONS SHALL BE VALID UNLESS MADE IN WRITING AND MANUALLY SIGNED BY AN OFFICER OF AVERY DENNISON.

L-3050 is protected by the following US Patent: 6,350,036



WARRANTY
To Government Agencies
For
AVERY DENNISON ® L-3050 Series Reflective Number Plate Sheeting
Used in the manufacture of Motor Vehicle Number Plates

Avery Dennison Corporation ("Avery Dennison") warrants that its Avery Dennison® L-3050 Series Reflective Number Plate Sheeting when used in the manufacture of number plates subject to normal number plate installation on motor vehicles and subject to normal motor vehicle exhaust fumes in open road conditions and processed in accordance with specified manufacturing procedures and process guidelines shall remain legible after 10-years of field service when photographed by a police camera which is in good working condition.

If within the first 5 (five) years of field exposure for the number plate, the reflective sheeting deteriorates due to natural causes to the extent that the number plate fails to provide at least 30% of the original specified CPL requirements, the manufacturing costs relating to any plate not meeting that requirement shall be met by Avery Dennison.

If between 5 (five) and 10 (ten) years of field exposure for the number plate, the reflective sheeting deteriorates due to natural causes to the extent that the number plate inhibits its identification functionality, the manufacturing costs relating to any plate not meeting this additional requirement shall be met on a pro-rata basis by Avery Dennison.

WARRANTY CONDITIONS. This warranty shall be effective only if all of the following conditions are met:

The failure must have resulted solely from a manufacturing defect or deterioration of the reflective sheeting due to natural causes when utilized under normal number plate applications on motor vehicles. Without limiting the generality of the foregoing, there is no warranty for the failure of the reflective sheeting due to improper number plate manufacturing, improper storage, handling, or installation, or failure of the number plate substrate, or vandalism or malicious mischief. Slight color fading, cracking, chalking, edge lifting, or slight reduction in gloss or reflectivity will not materially detract from appearance and does not constitute a breach of warranty.

Avery Dennison has published instructional bulletins pertaining to the storage, handling, and cleaning of sheeting, approved number plate substrates, and sheeting application procedures (collectively, the "Procedures"). The sheeting must have been processed and applied to blank number plate substrates in accordance with the Procedures, as such may be amended from time to time. The claim procedures promulgated by Avery Dennison must be followed, and failure to follow such procedures shall void this warranty. Replacement sheeting carries only the unexpired warranty of the sheeting it replaces.

WARRANTY LIMITATIONS. The remedies provided under this warranty are exclusive. Avery Dennison shall not be liable for any direct, indirect, incidental or consequential damages or specific relief, and, except as specifically provided herein, in no event shall Avery Dennison's liability hereunder exceed the value of the Avery Dennison product giving rise to liability.. **THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHERS. ANY AND ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED.**



Avery Dennison Corporation, Reflective Products Division
6565 West Howard Street, Niles, Illinois 60714, USA



M74 Applicator Registry System

Stocked Spare Parts List

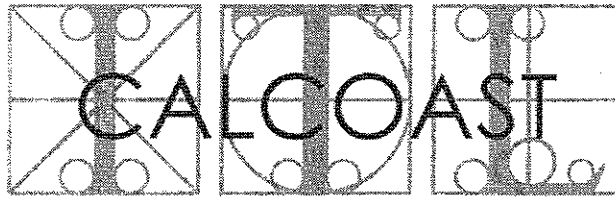
The following is a list of stocked spare parts that are commonly available for next day delivery.

Part #	Description
Assembly 83084 – Frame, Applicator	
61246-P	Spring, E0500-055-5000
83669-P	Cylinder
83670-P	Cylinder
Assembly 83086 – Drive, Applicator	
25327-P	Coupling, Half .625 Bore
83895-P	Clutch
83330-BM	Roll, Rubber Upper Nip
Assembly 83088 – Controls, Electrical	
01129-AP	Relay, 3PDT 115V
16615-P	Relay, 4PDT 24VDC
16646-P	Fuse, Slow Blow 02 Amp
16656-P	Fuse, Slow Blow 15 Amp
17995-P	Contact, Latch
82707-P	Fuse, Slow Blow .5 Amp
Assembly 83091 – Ribbon, Control 500WWAL	
08317-AP	Switch, Limit w/ Arm
Assembly 86003 – Sensors / Switches / Camera	
23246-P	Sensor, Prox 10-30VDC NO
31453-P	Sensor, Convergent .65"
31720-P	Switch, Limit
42384-AP	Switch, Limit
80585-P	Sensor, Anti-Glare

John R. Wald Company

Avery Dennison Key Personnel for CLP and Validation Business

Name	Title	Experience	Education
Anita Juby	Global Technical Marketing Manager - License Plates	Avery Dennison 24 years Six Sigma and DFSS	BS - Chemical Engineering Masters of Business Administration
Michael Hannington	Senior Research and Development Engineer	Avery Dennison 30 years	AA- Science Six Sigma
Yasu Masaka	Governement Bid Manager	Avery Dennison 8 years, 18 years experience in the reflective sheeting market	Master of Business Administration - Marketing
Charles Douglass	Technical Marketing Support	Avery Dennison 4 years 21 years graphics market	BS- Chemistry
Scott Spaller	Quality Manager - Reflective	Avery Dennison 13 years	ASQ member Six Sigma, ELS
Murali Dodla	Process Engineer - Reflective	Avery Dennison 4 years	Masters Industrial Engineering
Toni Perkins	Process Engineer - Reflective	Avery Dennison 9 months 17 years automotive experience	BS- Manufacturing Systems Engineering
Business Partners			
JR Wald	Applicator Equipment Manufacturer	Over 80 years supplying License Plate equipment	
Moore Wallace an RR Donnelly Company	Validation Decal	Over 35 years Label printing and converting	
SGS Southern Graphic Systems	Graphic Design	Over 60 years experince in graphic design	



INDUSTRIAL TESTING LABORATORY

Report No. 051110-01A

Page 1 of 9

TEST REPORT

Report Date: 04 August 2006

Test Component: Avery Dennison L-3050 Silver/White License Plate Retroreflective Sheeting (Reflectivity Level 3)

Submitted by: Avery Dennison
Niles, IL 60714

Test Laboratory: Calcoast - ITL
Emeryville, CA 94608

Products Tested: L-3050 Silver/White License Plate Sheeting

SUMMARY

Specification: L-S-300C Federal Specification Sheeting and Tape,
Reflective: Nonexposed Lens
Sheeting Type I, Class 1 Backing, Reflectivity Level 3

- 3.4.3 Adhesion, initialPassed
- 3.4.4 Liner RemovalPassed
- 3.5 ColorPassed
- 3.6.1 FlexibilityPassed
- 3.6.2 Solvent ResistancePassed
- 3.6.3 Impact ResistancePassed
- 3.6.4 Retroreflective Photometric Performance (RPP)Passed
- 3.6.5 Artificial Accelerated WeatheringPassed
- 3.6.5.1 RainfallPassed
- 3.6.6 Resistance to Heat, Cold, and HumidityPassed
- 3.6.7 ShrinkagePassed
- 3.6.8 Fungus ResistancePassed
- 3.6.9 Specular GlossPassed

Supplemental Tests

- 2200 Hour Xenon Accelerated WeatheringPassed

Signature of Responsible Laboratory Official

Douglas G. Cummins
Photometric Engineer

Report No.: 051110-01A

TEST DATA SHEET

Project: Avery Dennison L-3050 Silver/White License Plate
Retroreflective Sheeting (Reflectivity Level 3)

3.4.3 Adhesion, initial

Requirement: L-S-300C 3.4.3

Test Method: L-S-300C 4.4.4

Two (2) 2"x6" sheeting samples were subjected to a temperature of 71°C and a pressure of 2.5 psi for 4 hours. After returning to thermal equilibrium at standard conditions, a 1"x6" specimen was cut from each conditioned sample. 4" each of the two (2) 1"x6" sheeting samples were bonded to 0.040" thick degreased and acid-etched 6061-T6 aluminum panels. After conditioning, a 0.79kg weight was hung from the free end of sample 90° to the panel. After 5 minutes, the peel distance was measured.

Product	Color	Peel Distance		Maximum
		1	2	
L-3050	White	0"	0"	2.0"

Product meets Adhesion requirements.

3.4.4 Liner Removal

Requirement: L-S-300C 3.4.4

Test Method: L-S-300C 4.4.4

Samples exposed to accelerated storage conditions of 71°C at 2.5psi for 4 hours.

Product	Color	Results
L-3050	White	Liner easily removed without assistance and did not break, tear, or remove adhesive.

Product meets Liner Removal requirements.

3.5 Daytime Color

Requirement: L-S-300C Table 1A (Reflectivity 3 Sheeting)

Test Method: L-S-300C 4.4.8, ASTM E308, E1347, E1349, E991, E1164
(Illuminant C, 2° Observer, Annular 45/0 Geometry)
Average of 8 reads, each read oriented 45° apart

Instrument: Hunterlab Colorflex A60 Spectrocolorimeter (No SCF available)

Product	Color	x	y	Y		
				Measured	Minimum	Maximum
L-3050	White	0.3095	0.3189	46.68	35.0	-

Product meets Daytime Color requirements.

see 3.6.5 Colorfastness for Color Chart.

TEST DATA SHEET

Project: Avery Dennison L-3050 Silver/White License Plate
Retroreflective Sheeting (Reflectivity Level 3)

3.6.1 Flexibility

Requirement: L-S-300C 3.6.1
Test Method: L-S-300C 4.4.5

Samples prepared by removing protective liner and liberally applying talc on adhesive side. Samples then bent around 1/8" diameter mandrel by grasping long ends of sample and placing center of sample at the mandrel with adhesive side contacting mandrel, then pulling long ends downward and together within 1 second until material had a 180° bend at its center. Samples tested in three (3) orientations - 0°, 45°, and 90° as defined for coefficient of retroreflection.

Product	Color	Results		
		0°	45°	90°
L-3050	White	No cracking.	No cracking.	No cracking.

Product meets Flexibility requirements.

3.6.2 Solvent Resistance

Requirement: L-S-300C 3.6.2
Test Method: L-S-300C 4.4.6

Sample sheeting was mounted to a 1"x6" aluminum panel for each solvent. Half of panel (approximately 3") was immersed in the solvent for the indicated time then removed and allowed to dry. A towel was used to wipe remaining solvent off sample then the sample was examined.

Solvent	Immersion Time	Result
Kerosene	10 minutes	No evidence of puckering, blistering, or dissolving of the exterior film and adhesive.
Turpentine	10 minutes	No evidence of puckering, blistering, or dissolving of the exterior film and adhesive.
Toluol (Toluene)	1 minute	Sheeting felt "gummy" initially after immersion and drying. Immersed area of sheeting indistinguishable from non-immersed area after 24 hours. No evidence of puckering, blistering, or dissolving of the exterior film and adhesive.
Xylol (Xylene)	1 minute	Sheeting felt "gummy" initially after immersion and drying. Immersed area of sheeting indistinguishable from non-immersed area after 24 hours. No evidence of puckering, blistering, or dissolving of the exterior film and adhesive.
Methyl Alcohol	1 minute	No evidence of puckering, blistering, or dissolving of the exterior film and adhesive.

Product meets Solvent Resistance requirements.

TEST DATA SHEET

Project: Avery Dennison L-3050 Silver/White License Plate
Retroreflective Sheeting (Reflectivity Level 3)

3.6.3 Impact Resistance

Requirement: L-S-300C 3.6.3
Test Method: L-S-300C 4.4.13

Samples mounted to 0.040" thick 6061-T6 aluminum and subjected to a 10 in-lb impact from a mass with a steel 5/8" diameter round tip.

Product	Color	Results
L-3050	White	No cracking or delamination outside impact area.

Product meets Impact Resistance requirements.

3.6.4 Retroreflective Photometric Performance

Requirement: L-S-300C Table IV (Reflectivity 3 Sheeting)
Test Method: L-S-300C 4.4.7, ASTM E810
Projector: Hoffman GPS-102 (Illuminant A, 1.08 fc, 30" diameter)

Coefficient of Retroreflection (R_A) determined by measuring three (3) 3"x6" samples, each mounted on a 0.040" thick 6061-T6 aluminum panel, at two rotation angles ($\epsilon=0^\circ$ and $\epsilon=90^\circ$) and averaging. $\epsilon=0^\circ$ arbitrarily chosen.

Units: Candela per footcandle per square foot (Candela per Lux per square meter)

0.2° Observation Angle									
Entrance Angle:		-4°				+30°			
Prod.	Color	0°	90°	R_A	Min R_A	0°	90°	R_A	Min R_A
L-3050	White	69.1	69.1	69.1	50.0	50.8	50.0	50.4	12.0

0.5° Observation Angle									
Entrance Angle:		-4°				+30°			
Prod.	Color	0°	90°	R_A	Min R_A	0°	90°	R_A	Min R_A
L-3050	White	40.8	40.9	40.8	15.0	34.7	34.4	34.6	6.0

2.0° Observation Angle									
Entrance Angle:		-4°				+30°			
Prod.	Color	0°	90°	R_A	Min R_A	0°	90°	R_A	Min R_A
L-3050	White	5.2	5.2	5.2	4.0	4.1	4.0	4.0	2.2

Product meets Retroreflective Photometric Performance requirements for Reflectivity 3 Sheeting.

TEST DATA SHEET

Project: Avery Dennison L-3050 Silver/White License Plate
Retroreflective Sheeting (Reflectivity Level 3)

3.6.5 Resistance to Accelerated Weathering

RRP

Requirement: 50% of L-S-300C Table IV , 0.2° Observation Only
Test Method: L-S-300C 4.4.9.3; ASTM E810, G152 Cycle 1
Projector: Hoffman GPS-102 (Illuminant A, 1.08 fc, 30" diameter)

Post 2200 hour ASTM G152 (Carbon-Arc) Artificial Accelerated Weathering

Units: Candela per footcandle per square foot (Candela per Lux per square meter)

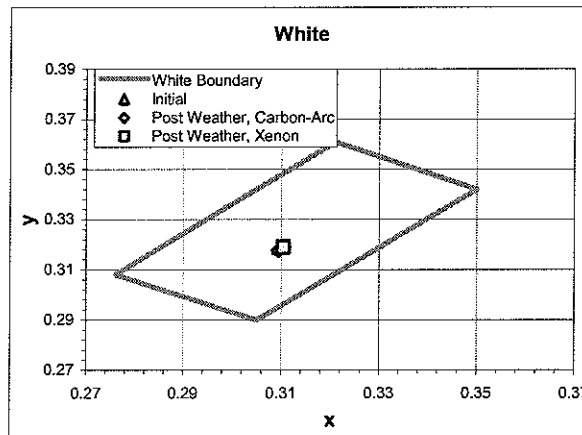
Entrance Angle:		-4°				+30°			
Prod.	Color	0°	90°	R _A	Min R _A	0°	90°	R _A	Min R _A
L-3050	White	65.7	65.7	65.7	25.0	46.3	45.7	46.0	6.0

Colorfastness

Requirement: L-S-300C 3.6.5
Test Method: L-S-300C 4.4.9.1 (Visual),
ASTM E308, E1347, E1349, E991, E1164
(Illuminant C, 2° Observer, Annular 45/0 Geometry)
Average of 8 reads, each read oriented 45° apart
Instrument: Hunterlab Colorflex A60 Spectrocolorimeter (No SCF available)

Post 2200 hour ASTM G152 (Carbon-Arc) and supplemental 2200 hour ASTM G155 (Xenon) Artificial Accelerated Weathering

Product Color	Weathering	x	y	Y			Visual Evaluation
				Meas	Min	Max	
L-3050 White	Carbon-Arc	0.3094	0.3178	46.53	35.0	-	Excellent
	Xenon	0.3104	0.3191	48.05	35.0	-	Excellent



Samples show no appreciable cracking, scaling, pitting, blistering, edge lifting, or curling, or more than 1/32" shrinkage or expansion. Samples can not be removed from aluminum panels without damage.

Product meets Accelerated Weathering requirements for Reflectivity 3 Sheeting.

TEST DATA SHEET

Project: Avery Dennison L-3050 Silver/White License Plate
Retroreflective Sheeting (Reflectivity Level 3)

3.6.5.1 Rainfall

Requirement: L-S-300C 3.6.5.1, RRP reduced no more than 10%
-4° Entrance / 0.2° Observation Only
Test Method: L-S-300C 4.4.9.4, ASTM E810
Projector: Hoffman GPS-102 (Illuminant A, 1.08 fc, 30" diameter)

Post 2200 hour ASTM G152 (Carbon-Arc) and supplemental 2200 hour ASTM G155 (Xenon) Artificial Accelerated Weathering

Product Color	Weathering	Candela per footcandle per square foot		
		Dry	Wet	% Reduction
L-3050 White	Carbon-Arc	65.7	64.5	-1.8%
	Xenon	65.9	65.2	-1.1

Product meets Rainfall requirements.

3.6.6 Resistance to Heat, Cold, and Humidity

Requirement: L-S-300C 3.6.6
Test Method: L-S-300C 4.4.10

Samples were mounted to an aluminum test panel and subjected to the following conditions in an air-circulating temperature chamber. Following each condition the samples were returned to standard conditions for 2 hours then examined. The same panel was used for each test condition.

Condition	Duration	Result
71°C	24 hours	Reflective material does not crack, peel, chip, or delaminate from the aluminum test panel.
-57°C	72 hours	Reflective material does not crack, peel, chip, or delaminate from the aluminum test panel.
25°C, 100% R.H.	24 hours	Reflective material does not crack, peel, chip, or delaminate from the aluminum test panel.

Product meets Resistance to Heat, Cold, and Humidity requirements.

3.6.7 Shrinkage

Requirement: L-S-300C 3.6.7
Test Method: L-S-300C 4.4.11

Product	Color	Side	10 minutes		24 hours	
			Measured	Maximum Allowed	Measured	Maximum Allowed
L-3050	White	1	N/C	1/32"	N/C	1/8"
		2	N/C		N/C	
		3	N/C		N/C	
		4	N/C		N/C	

N/C indicates no change.

Product meets Shrinkage requirements.

TEST DATA SHEET

Project: Avery Dennison L-3050 Silver/White License Plate
Retroreflective Sheeting (Reflectivity Level 3)

3.6.8 Fungus Resistance

Requirement: L-S-300C 3.6.8, Table IV (Reflectivity 3 Sheeting)
Test Method: L-S-300C 4.4.12, 4.4.7; ASTM E810

Three (3) samples were exposed to Aspergillus niger culture for 14 days placed firmly on an agar medium.

Units: Candela per footcandle per square foot (Candela per Lux per square meter)

0.2° Observation Angle									
Entrance Angle:		-4°				+30°			
Prod.	Color	0°	90°	R _A	Min R _A	0°	90°	R _A	Min R _A
L-3050	White	64.4	64.3	64.4	50.0	43.3	43.3	43.3	12.0

0.5° Observation Angle									
Entrance Angle:		-4°				+30°			
Prod.	Color	0°	90°	R _A	Min R _A	0°	90°	R _A	Min R _A
L-3050	White	41.6	41.8	41.7	15.0	31.3	31.3	31.3	6.0

2.0° Observation Angle									
Entrance Angle:		-4°				+30°			
Prod.	Color	0°	90°	R _A	Min R _A	0°	90°	R _A	Min R _A
L-3050	White	6.4	6.4	6.4	4.0	4.9	4.9	4.9	2.2

No fungal growth, surface texturing, or pitting on any samples. Could not remove sheeting from panel without damage.

Product meets Fungus Resistance requirements.

3.6.9 Specular Gloss (85°)

Requirement: L-S-300C 3.6.9
Test Method: L-S-300C 4.4.14, ASTM D523 (85°)

Gloss was measured across three (3) orientations ($\epsilon=0^\circ, 45^\circ, \text{ and } 90^\circ$) and averaged.

Product	Color	Measured				Minimum
		0°	45°	90°	Avg	
L-3050	White	94.0	93.4	97.1	94.8	40

Product meets Specular Gloss requirements.

Report No.: 051110-01A

TEST DATA SHEET

Project: Avery Dennison L-3050 Silver/White License Plate
Retroreflective Sheeting (Reflectivity Level 3)

Supplemental 2200 Hour Xenon Accelerated Weathering

Requirement: 50% of L-S-300C Table IV , 0.2° Observation Only
Test Method: L-S-300C 4.4.9.3, ASTM E810
Projector: Hoffman GPS-102 (Illuminant A, 1.08 fc, 30" diameter)

Three (3) 3"x6" samples, each mounted on a 0.040" thick 6061-T6 aluminum panel, were exposed for 2200 hours to Xenon Accelerated Weathering per ASTM G155, Cycle 1. After washing in a mild detergent solution and dried, samples' Coefficient of Retroreflection was measured at two rotation angles ($\epsilon=0^\circ$ and $\epsilon=90^\circ$) and averaged.

Units: Candela per footcandle per square foot (Candela per Lux per square meter)

Entrance Angle:		0.2° Observation Angle							
		-4°				+30°			
Prod.	Color	0°	90°	R _A	Min R _A	0°	90°	R _A	Min R _A
L-3050	White	66.0	65.8	65.9	25.0	48.3	47.7	48.0	6.0

Samples show no appreciable cracking, scaling, pitting, blistering, edge lifting, or curling, or more than 1/32" shrinkage or expansion.

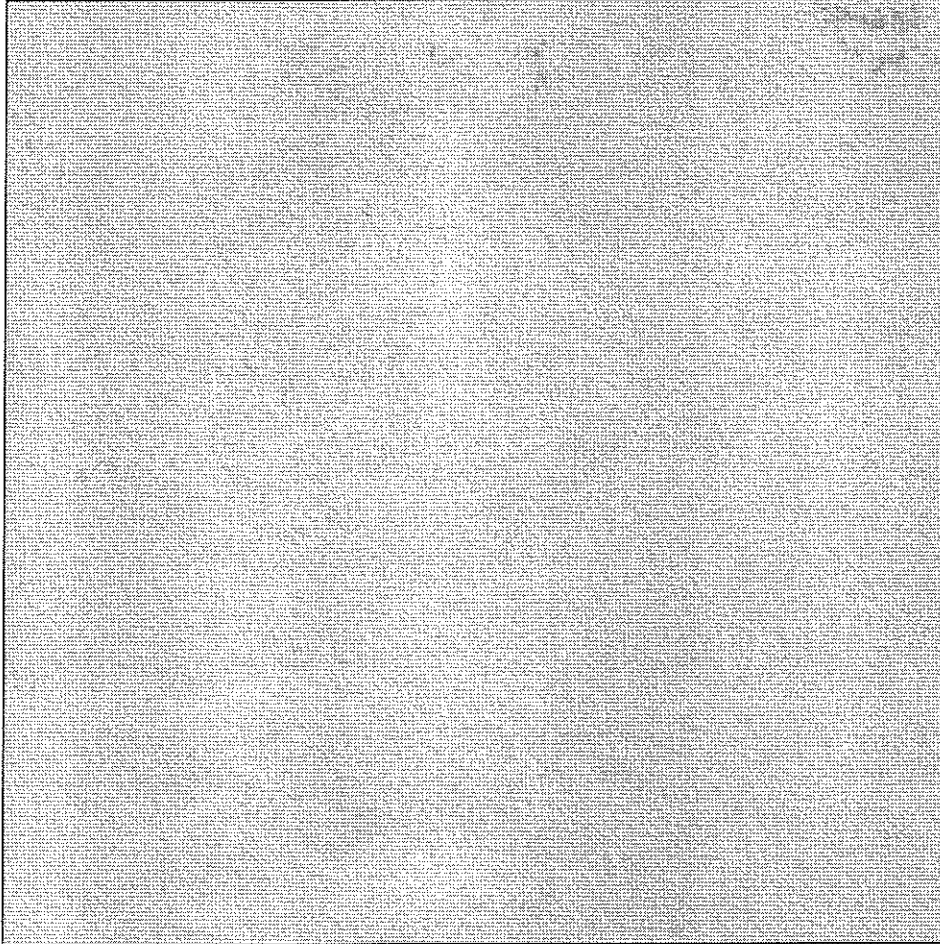
Product meets Supplemental Artificial Accelerated Weathering requirements.

Report No.: 051110-01A

TEST DATA SHEET

Project: Avery Dennison L-3050 Silver/White License Plate
Retroreflective Sheeting (Reflectivity Level 3)

Photographs



JRWALD APPLICATOR/REGISTRY System

MODEL M74 SPECIFICATIONS

The JRWald Applicator/Registry System is designed to be integrated into a new or existing license plate blanking system. The applicator component applies plain or graphic reflective sheeting of your choice to a metal substrate and then feeds and registers the sheeted substrate through the registry system into a blanking press. The system is preassembled on a structural frame, aligned and pre-wired for ease in shipping and installation.

Components supplied include an Applicator System and a Registry/Feed System.

APPLICATOR SYSTEM

The applicator is designed specifically for the application of a continuous length of wide web pressure sensitive material to a metal substrate. It uses driven nip rollers to drive the substrate through the applicator machine, thus applying no extra drag on the substrate.

The basis for the drive design is to compensate for registration drift without manual adjustments. The applicator checks each printed graphic for the proper pitch and automatically adjusts the web tension to compensate for any detected variance.

The applicator incorporates edge guides to control the tracking of the substrate as it moves through the application processes.

The complete system includes a heavy-duty modular base frame, application station with powered rewind reels, a web tensioner drive for the reflective material with guide rollers for precise product control.

REGISTRY/FEED SYSTEM

The Registry/Feed System is designed specifically for the registration of pre-printed reflective sheeting. Used in conjunction with the applicator, this registry system provides high quality license plate blanks consistently stroke after stroke.

The heart of the system is a servo-driven electronic roll feed, an extraordinarily versatile, field-proven, microprocessor controlled, servo driven, electronic roll feed. Feed lengths and speeds can be entered by operator or can be programmed directly from the remote console. A convenient console houses all operational controls. Precision geared drive enables power and speed to be optimized for greatest efficiency and reliability.

BACKED BY JRW BUMPER TO BUMPER SERVICE

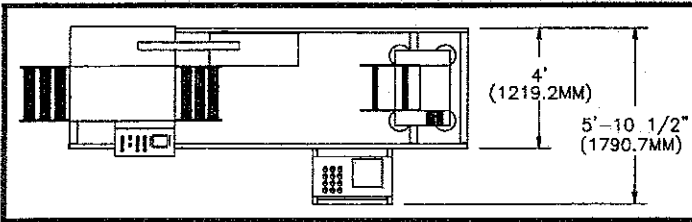
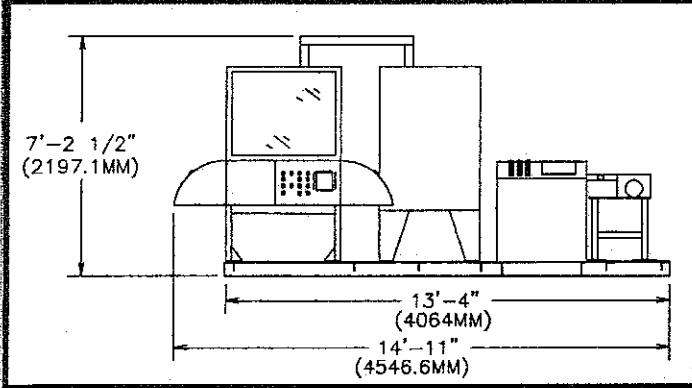
John R. Wald Company technicians are available to perform maintenance site visits and emergency repairs as required to keep the unit in production.

The JRWald Applicator/Registry System will not only pay for itself and eventually generate large savings, but will be backed by a company that is . . .

the world leader in the manufacture of license plate equipment

JRWALD

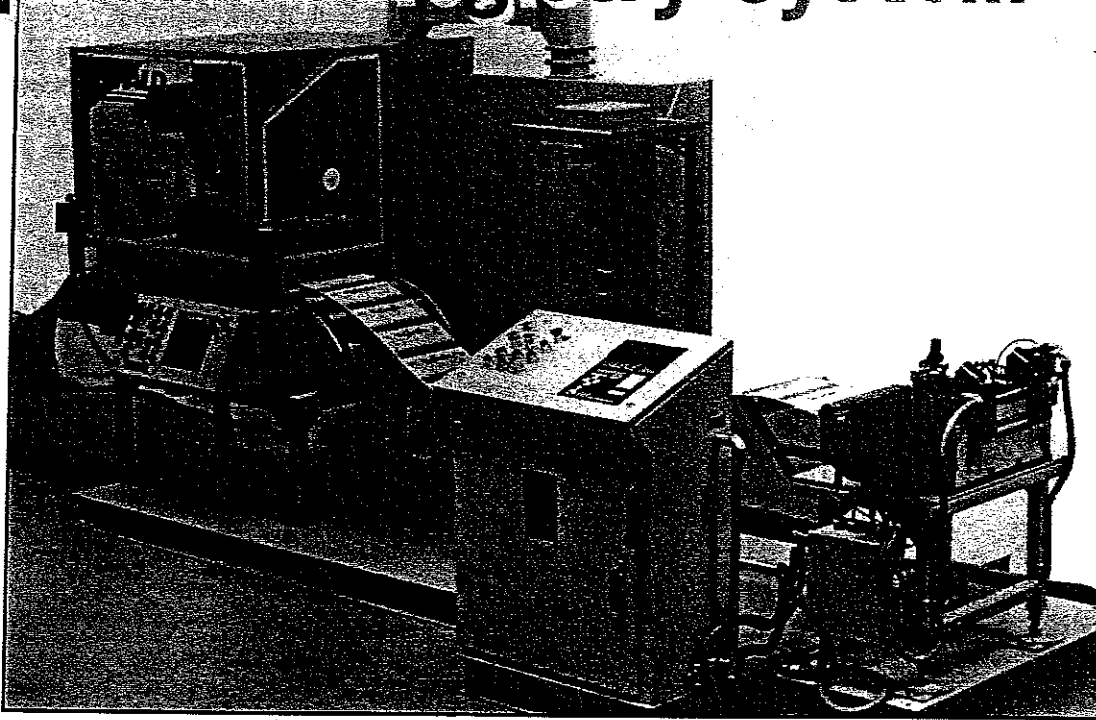
John R. Wald Company, Inc.
 Industrial Park, P.O. Box 392, Huntingdon, PA 16652
 1-800-221-WALD or (814) 643-3908
 FAX: (814)643-5300 e-mail: jrwald@vicon.net



SPECIFICATIONS

Dimensions	Length: 14'11" Width: 5'11" Height: 7'2"
Air Requirements	2 CFM@ 60 PSI clean, dry air
Voltage Requirements	115 Volt/1 Phase 15 Amp Service
Application Rate	Up to 60' per minute (90-120 plates per minute)
Supply Roll Capacity	16" Diameter on 3" Core, 7" to 16" Wide
Substrate Capacity	7" to 16" Wide
Feed Length Tolerance	Programmed length +.002"/-.002" Feed to Sensor +.015"/-.015"
Operator Controls	Programmable graphic lengths Low roll sensors Broken web sensors Graphic sensor error alarms

JRWald Graphic License Plate Applicator/Registry System

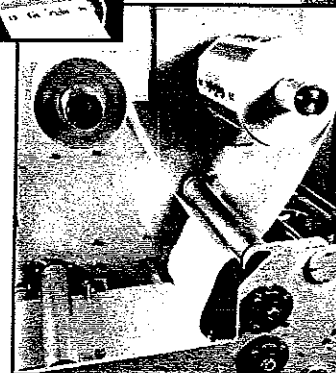
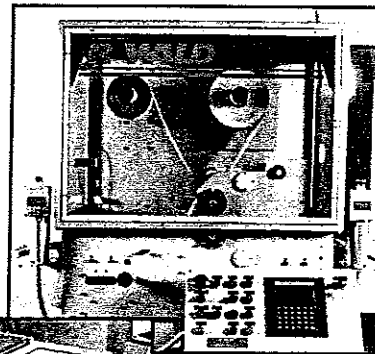


The John R. Wald Company Applicator/Registry System is the most advanced state-of-the-art applicator system on the market today.

- Designed to be integrated into a new or existing license plate blanking system
- Compatible with *ALL TYPES OF SHEETING BRANDS* (plain or graphic)
- Provides high quality automobile or motorcycle license plate blanks consistently stroke after stroke

Other features include:

- High Output
- Accurate Positioning
- Rapid Set-Up
- High Performance
- Low Scrap



APPLICATOR/REGISTRY

SPECIFICATION
Graphic License Plate
Application/Feed-Registry System (Single Head)

This specification covers the components that are required to be integrated into a license plate blanking system for the purpose of applying graphic reflective sheeting to a metal substrate and providing for feed and registry into a blanking press using a drop through die system.

The system will be preassembled on a structural frame, rough aligned and prewired such that the unitized system can be shipped to the point of installation and installed in a short time period.

Components as supplied follows:

A. Applicator System

The applicator is designed specifically for the application of a continuous length of wide web pressure sensitive material to a metal substrate. The applicator will use driven nip rollers to drive the substrate through the applicator machine, thus applying no extra drag on the substrate. The applicator must be capable of a variety of program capabilities:

Auto-Stretch Mode

Compensating for registration drift without manual adjustments. The applicator will check each printed graphic for the proper pitch and automatically adjust the web tension and stretch to compensate for the detected variance.

Manual-Stretch Mode

Compensating for registration drift is operator programmable and is capable of being manually adjusted during run mode of applicator. A fixed percent stretch is programmed to operate until manually changed.

No-Stretch Mode

No compensating for registration drift. In this mode, the applicator will apply the graphic sheeting as it is printed on the backer paper. This mode is also required for plain white or non-graphic sheeting.

The applicator shall incorporate edge guides for controlling the tracking of the substrate as it moves through the application processes.

The applicator shall be a complete system which includes a heavy-duty modular base frame, application station with powered rewind reels, a web tensioner drive for the reflective material with guide rollers for precise product control.

System Operation

The aluminum or steel substrate will be provided by the existing equipment to the applicator/laminator system with an infeed loop. The loop will have a high level sensor, which will sound an alarm and stop the machine drive if the infeed loop gets too tight.

The applicator/laminator machine will also produce an outfeed loop with high and low level sensors for automatic loop monitoring. If the loop gets too big, the applicator/laminator machine will stop. If it gets too tight and past the high limit, the machine will sound an alarm

and signal the host machine of a loop error. To ensure smooth operation with a minimum of on/off cycles, the speed of the nip rollers will be controlled by an ultra-sonic loop control. On machine startup, the operator will verify the reflective material is threaded and tacked to the substrate properly and the edge guides are adjusted for the proper product position. The system will only operate if the web guide, tensioner, and nip rollers are closed, the machine guards are in place, and supply rolls are present.

The web passes from the supply loop to the web tensioner assembly. Top roller of the web tensioner is where the PS material is separated from the liner material. The liner then passes directly to the powered rewind reel, while the PS material passes from the web tensioner roller to the nip roller, where is applied to the substrate.

Convenience Package for Each Station

This convenience package consists of an end of roll detection system and a low roll detection system. The low supply roll detection system will visually signal the machine operator when the supply is near empty. The end of roll detection system will stop the machine and, visually and audibly signal the machine operator at end of roll.

Specifications

Dimensions	Length: 69.50" Width: 44" Height: 70"
(Applicator only, electrical enclosure is separate.)	
Substrate Elevation	36"
Air Requirements	2 CFM @ 60 PSI clean, dry air
Voltage Requirements	115 Volt/1 Phase 15 Amp Service
Application Rate	Up to 60' per minute
Supply Roll Capacity	16" Diameter on 3" Core, 7" to 16" Wide
Substrate Capacity	7" to 16" Wide

Cascade Roller Stock Supports required for Infeed and Outfeed of machine

Machine to be Left to Right Feed

- One (1) Heavy-Gauge, Stainless Steel Base Frame
- One (1) Infeed & Outfeed Loop Controls Package with Alarm and Host System Notification for Faults
- One (1) Supply Reels with Quick Change Web Guides and Air Expanded Mandrels
- One (1) Nip Roller Assembly
- One (1) Nip Roller Drive System

- One (1) Driven Rewind Reel with Air Expanded Mandrels
- One (1) Encoder and Photoelectric Registration Sensor
- One (1) Web Tensioner Drive for Reflective Material
- One (1) Machine Guarding Package with Safety Interlocks
- One (1) Machine Mounted Operator Control Console
- One (1) Electrical Enclosure
- One (1) Allen Bradley Programmable Controller

B. Registry/Feed System

The Registry System is designed specifically for the registration of pre-printed graphic reflective sheeting within a typical drop through style blanking die. Used in conjunction with the Applicator System, this registry/feed system shall provide high quality license plate blanks consistently stroke after stroke.

The system is a Servo Driven Electronic Roll Feed. The roll feed shall be field-proven, microprocessor controlled. Feed lengths and speeds can be entered by operator or can be programmed directly by job number from a remote computer. A convenient console houses all operational controls. Precision geared drive enables power and speed to be optimized for greatest efficiency and reliability. Features of the feed include:

- | | |
|----------------------|---|
| High Output | Up to 120 SPM |
| Accurate Positioning | ServoMotor and encoder feedback enable roll positioning accuracy to ± 0.002 " or better for any programmable length (plain sheeting) or ± 0.015 " for feed to sensor length (graphic). |
| Rapid Set-Up | Dial-in feed length and speed feature, in addition to forward/reverse jog controls, enable operating parameters to be set and stock threaded with fingertip control. The jog-to-length feature especially speeds progressive die threadup. |
| Compact and Flexible | Entire feed takes on more space than mechanical roll feed and considerably less than air feeds of similar capacity. Designed for attachment to any side of press or free standing cabinet. |
| Performance | Speed up to 120 strokes per minute (SPM) minute in feed – to – sensor mode with a feed length of 6.125 inches. Maximum programmable length is 999.999 inches. Maximum stock width is 12.125 inches and maximum material thickness is .125 inches. |

ServoMax unit includes standard features as high-performance, low inertia servo motor with a proprietary microprocessor control. An optical encoder continuously monitors position of the feed and speed is tracked by an internal tachometer. Unit will be provided with a free standing cabinet, hardened adjustable edge guides and pre-programmed optimized accel/decl ramp. Both rolls will be driven. Adjustable roll pressure will be provided. Unit will comply with ANSI B11.18 standards, including Pinch point guarding, NFPA-79 electrical code, NEMA-12 enclosure, 110 volt operator controls, and fused disconnect switch.

- Feed to Sensor** This interface will allow for constant registration of stock in precise relationship to some registration mark, such as a prepunched hole, or notch, printed or decaled symbol or graphic.
- Up-Curl Device** This device will provide pre-press upcurl of material substrate to reduce the possibility of feed failure within the progressive die. Up-curl is required to ensure quality blanks and consistent blanking production.
- Sensor Locating Tunnel** The tunnel will be provided to accurately locate the feed sensor in relation to the material substrate registration mark. It will also provide for controlling material backlash or substrate die arc. Once adjusted to location, the sensor will be secured into place to ensure consistent feed registration.

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Retro-Reflective Validation Decals

Background

Increased costs associated with producing and distributing license plates for vehicles used on public highways on an annual basis, has most states issuing new plates only as needed or with several years between each issue. Instead of issuing new plates every year, states now issue registration stickers also known as validation decals.

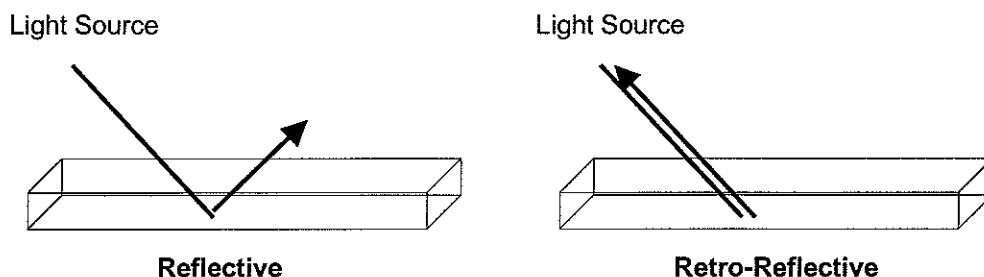
Registration is a method of collecting fees used to maintain public roadways or support safety programs. It can also insure the vehicles and crafts have passed periodic safety or environmental inspections. The decals must be small so they can be applied easily and fit within a small area so they do not cover other important information, yet they must be readily identifiable both day and night over appreciable distances. Some decals carry unique serial or validation numbers so they must print on-demand. They must be readily authenticated, survive outdoor environments directly exposed to all weather conditions and be non-transferable. Once applied the decals can not be removed intact and re-applied to another plate or craft. How can you economically meet these requirements?

Solution

Avery Dennison Retro-Reflective LV-0700 Series Validation Decal films give converters a simple and economical solution. These are retro-reflective label materials manufactured with a proprietary, enclosed lens system which reflects light back towards the original light source, making them readily visible to the viewer day or night. Standard reflective surfaces, like a mirror, reflect light away at an angle opposite to the angle where the light struck the surface. Retro-reflective surfaces reflect light back at nearly the same angle the light entered.

The surface of the material can be printed using conventional flexography, letterpress or screen printing technology, and will accept high performance, resin based thermal transfer ribbons. Also, the LV-0700 Series Validation Decal films can be adapted for electronic variable information printing processes (toner based laser printing) through converter applied and qualified surface coatings and imaging systems.

NOTE: Converters and end users must pre-qualify all printing inks, print processes, ribbons, toners and equipment to insure durability and desired performance for specific decal applications.



The LV-0700 Series decal products are engineered to provide five year outdoor durability and our destructible enough to insure tamper-evidence and non-transferability without obvious

Technical Marketing Bulletin

Retro-Reflective Validation Decals

damage. Product is available in six standard colors (white, red, blue, green, orange and yellow). They are combined with an aggressive, low temperature pressure sensitive acrylic adhesive that allows the decals to be applied at temperatures as low as -10°F (-23°C).

Product Details

Face Film:	A high gloss retro-reflective polymer with an average thickness of 4 mils. The film incorporates glass beads to form an enclosed lens system
Adhesive:	"CT Perm" is a low temperature permanent pressure sensitive adhesive with minimum application temperature of -10°F (-23°C), and a service temperature range of -40°F to 180°F (-40°C to +82°C).
Release Liner:	Available with either a 50# SCK for roll-to-roll applications, or a 90# StaFlat® liner (with gray Avery logo back print) for sheet or roll-to-sheet applications.



For enhanced security, all colors are available with Avery Dennison's standard 'official' watermark. The watermark is a below surface, overt, non-directional reading image, designed to deter counterfeit replication. Standard available watermark:

Custom watermarks employing the same technology are also possible. Contact your Avery Dennison sales representative to discuss the details of your application.

Typical Performance Data

Physical Properties:

Outdoor Durability	Avery Dennison Retro-reflective LV-0700 Series Validation Decal films are warranted for 5 years when properly processed and applied.
Minimum Surface & Ambient Air Application Temperature	-10°F (-23°C) when properly processed and applied.
Application Surface	Flat surfaces only. Not recommended for unpainted stainless steel. Always pretest your specific substrate prior to actual application. Note: Wet method of application is not recommended for Avery Dennison V-0700 reflective films.
Service Temperature Range	-40°F to 180°F (-40°C to 82°C)

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Retro-Reflective Validation Decals

Typical Performance Data (continued)

Physical Properties:

Typical 180° Adhesion Off Stainless Steel	3.5 lb/inch, 15 minute dwell
Typical Film Caliper (w/adhesive)	3.5 to 4.5 mils (89 µm to 114 µm)
Shelf Life	One year when stored at the following temperature and conditions: 68° - 77°F (20° - 25°C) and 50% ± 5%± R.H.
Other Tests:	Avery Dennison Retro-Reflective LV-0700 Series Validation Decal films meet all other requirements set forth in ASTM D 4956 including shrinkage, flexibility, liner removal, adhesion, Impact resistance, specular gloss and outdoor weathering.

Application and Converting Information

Matrix represents limited printing technology evaluations on Avery Dennison® LV-0750-47 Commercial Grade White Reflective film.

Technology	Face	Liner	Inks	Ribbon	Printing	Rotary Die	Flatbed Die
Avery 64-06 Thermal Transfer printer	Yes	No	NA	2230, TTM 201	Durability tied to ribbon /clearcoat.		
Datamax Thermal Transfer printer	Yes	No	NA	AXR 600 Series	Durability tied to ribbon /clearcoat.		
Flexographic	Yes	Yes	Pre-qualify	NA	Sample stock to ink manufacture for ink type.	Requires hardened rotary dies.	
Screen	Yes	Yes	Maribu PU, Visprox 2000, Avery 7TS	NA	Sheeting is 3 year. Print lifetime print technology dependent.	Requires hardened rotary dies.	Requires "single bevel" edges steel rule dies.
Letterpress	Yes	Yes	Pre-qualify	NA	Sample stock to ink manufacture for ink type.	Requires hardened rotary dies.	Requires "single bevel" edges steel rule dies.

Please note: it is the responsibility of the converter and end user to confirm acceptability of these and/ or any other print technologies and systems considered for the intended end use.

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Retro-Reflective Validation Decals

Standard Colors

Avery Dennison produces standard commercial colors for the LV-0700 series validation decal material. The LV-700 series validation material is certified to meet color specification and photometric reflectivity set forth in Commercial Vehicle Safety Alliance. All colors are available with or without the "Official" watermark, on 50# SCK or 90# StaFlat® liners.

Color:	1		2		3		4		Reflectance min. %
	x	y	x	y	x	y	x	y	Y
White	0.303	0.290	0.365	0.354	0.340	0.378	0.278	0.316	35
Green	0.115	0.300	0.200	0.490	0.297	0.360	0.242	0.265	14
Lemon Yellow	0.403	0.508	0.440	0.550	0.504	0.457	0.455	0.462	34
Yellow	0.447	0.472	0.480	0.512	0.536	0.456	0.500	0.420	29
Yellow Green	0.180	0.320	0.180	0.500	0.280	0.460	0.280	0.360	18
Orange	0.502	0.398	0.573	0.425	0.627	0.368	0.535	0.360	18
Blue	0.105	0.240	0.232	0.250	0.240	0.200	0.180	0.140	8
Magenta	0.465	0.235	0.465	0.285	0.520	0.285	0.520	0.235	9
Red	0.552	0.358	0.630	0.370	0.695	0.305	0.601	0.310	6
Gold	0.415	0.390	0.415	0.445	0.458	0.455	0.458	0.390	19

Photometric Performance

Minimum Coefficient of Retro-Reflection (R_A) ($cd / lx / m^2$)

Observation Angle	Entrance Angle	White	Orange	Yellow	Lemon Yellow	Yellow Green	Green	Red	Magenta	Blue	Gold
0.2°	-4°	50	6	30	28	24	28	10	12	14	30
	40°	15	2	8	11	8	8	3	3	5	10

Outdoor Weather Resistance

Samples were subjected to 1200 hours of artificial weathering according to ASTM G155, Method A, Cycle 1, Type B Xenon Arc Weatherometer. All color samples showed no appreciable color shift, discoloration, cracking, crazing, flaking, blistering, or dimensional change.

Independent Verification

To insure Fasson® Brand Retro-Reflective Validation Decal materials meet the requirements of state vehicle validation decals, an independent laboratory conducted performance tests using some of the more critical performance criteria. CALCOAST Industrial Testing Laboratory tested Avery Dennison LV-700 commercial grade reflective film for performance to Federal Specification LS-300C, the Colorado Department of Revenue Specifications for Imaged Retro-Reflective Validation Stickers, and Avery Dennison specifications. Results of their finding are summarized below in table below.

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Retro-Reflective Validation Decals

CALCOAST Industrial Testing Laboratory, Test Report # 040520-04F

Test Parameter	Specification	Result
Retro Reflection	AD LV-700 ¹	Pass
Color (daytime)	AD LV-700	Pass
Color (nighttime)	AD LV-700	Pass
Gloss	AD LV-700	Pass
Rainfall	LS-300C ²	Pass
Accelerated Aging	LS-300C	Pass
Accelerated Storage	LS-300C & CDoR ³	Pass
Low Temperature Application	LS-300C	Pass
Cleaning Solvent Resistance	CDoR	Pass
Solvent Resistance- Soaked	LS-300C	Pass
Wet Abrasion Resistance	CdoR	Pass
Abrasion Resistance	AD LV-700	Pass

¹. Avery Dennison LV-700 Commercial Grade Reflective Film specifications.

². Federal Specification LS-300C; Reflective Sheeting and Tape, Non-Exposed Lens (7/74).

³. Colorado Department of Revenue Specifications for Imaged Retro Reflective Validation Stickers (5/00).

Additional Information

- **Angled, "High-Speed" Web Splices**
Enables reliable matrix stripping and reduced registration waste.
- **High Performance Adhesive at an Optimized Coat Weight**
Significantly reduces production downtime normally spent cleaning sticky buildup on press during converting and subsequent label dispensing.
- **50# SCK Products**
Roll Lengths up to 3600 Feet in slit widths between 10-12 Inches
Roll Lengths up to 3000 Feet in slit widths between 6-10 Inches
Roll Lengths up to 1500 Feet in slit widths less than 6 Inches (min. slit width 4 inches)
- **90# StaFlat® Products**
Roll Lengths up to 2250 Feet in slit widths between 10-12 Inches
Roll Lengths up to 1800 Feet in slit widths between 6-10 Inches
Roll Lengths up to 1200 Feet in slit widths less than 6 Inches (min. slit width 4 inches)

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Retro-Reflective Validation Decals

Product List

Spec#	Facestock	Liner	Watermark
27995	4 Mil LV-0750 White Validation Decal	50# SCK	No
27244	4 Mil LV-0758 Red Validation Decal	50# SCK	No
27246	4 Mil LV-0754 Orange Validation Decal	50# SCK	No
27242	4 Mil LV-0751 Yellow Validation Decal	50# SCK	No
24250	4 Mil LV-0757 Green Validation Decal	50# SCK	No
27248	4 Mil LV-0755 Blue Validation Decal	50# SCK	No
25300	4 Mil LV-0752 Lemon Yellow Validation Decal	50# SCK	No
25302	4 Mil LV-0756 Yellow Green Validation Decal	50# SCK	No
25301	4 Mil LV-0759 Magenta Validation Decal	50# SCK	No
25303	4 Mil LV-0753 Gold Validation Decal	50# SCK	No
27252	4 Mil LV-0750-47 White Val Decal w/ Official Watermark	50# SCK	Yes
27245	4 Mil LV-0758-47 Red Val Decal w/ Official Watermark	50# SCK	Yes
27247	4 Mil LV-0754-47 Orange Val Decal w/ Official Watermark	50# SCK	Yes
27243	4 Mil LV-0751-47 Yellow Val Decal w/ Official Watermark	50# SCK	Yes
27251	4 Mil LV-0757-47 Green Val Decal w/ Official Watermark	50# SCK	Yes
27249	4 Mil LV-0755-47 Blue Val Decal w/ Official Watermark	50# SCK	Yes
27253	4 Mil LV-0752-47 Lemon Yellow Validation Decal	50# SCK	Yes
27255	4 Mil LV-0756-47 Yellow Green Validation Decal	50# SCK	Yes
27254	4 Mil LV-0759-47 Magenta Validation Decal	50# SCK	Yes
27256	4 Mil LV-0753-47 Gold Validation Decal	50# SCK	Yes
27996	4 Mil LV-0790 White Validation Decal	90# StaFlat®	No
27999	4 Mil LV-0798 Red Validation Decal	90# StaFlat®	No
27801	4 Mil LV-0794 Orange Validation Decal	90# StaFlat®	No
27997	4 Mil LV-0791 Yellow Validation Decal	90# StaFlat®	No
27268	4 Mil LV-0797 Green Validation Decal	90# StaFlat®	No
27803	4 Mil LV-0795 Blue Validation Decal	90# StaFlat®	No
25330	4 Mil LV-0792 Lemon Yellow Validation Decal	90# StaFlat®	No
25332	4 Mil LV-0796 Yellow Green Validation Decal	90# StaFlat®	No
25331	4 Mil LV-0799 Magenta Validation Decal	90# StaFlat®	No
25333	4 Mil LV-0793 Gold Validation Decal	90# StaFlat®	No
27270	4 Mil LV-0790-47 White Val Decal w/ Official Watermark	90# StaFlat®	Yes
27800	4 Mil LV-0798-47 Red Val Decal w/ Official Watermark	90# StaFlat®	Yes
27802	4 Mil LV-0794-47 Orange Val Decal w/ Official Watermark	90# StaFlat®	Yes
27998	4 Mil LV-0791-47 Yellow Val Decal w/ Official Watermark	90# StaFlat®	Yes
27269	4 Mil LV-0797-47 Green Val Decal w/ Official Watermark	90# StaFlat®	Yes
27804	4 Mil LV-0795-47 Blue Val Decal w/ Official Watermark	90# StaFlat®	Yes
27280	4 Mil LV-0792-47 Lemon Yellow Validation Decal	90# StaFlat®	Yes
27282	4 Mil LV-0796-47 Yellow Green Validation Decal	90# StaFlat®	Yes
27281	4 Mil LV-0799-47 Magenta Validation Decal	90# StaFlat®	Yes
27283	4 Mil LV-0793-47 Gold Validation Decal	90# StaFlat®	Yes

These materials are designed to meet validation decal performance requirements of most states and agencies. However, it is the responsibility of the converter and end user to confirm acceptability of these products for the intended end use.

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Technical Marketing Bulletin

Retro-Reflective Validation Decals

Warranty Statement

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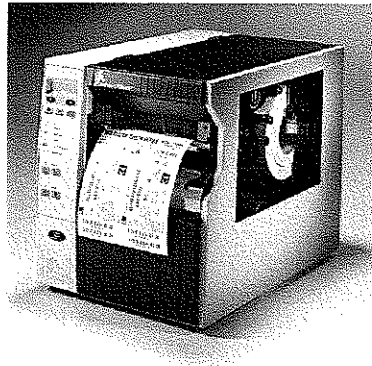
No representative or agent of AVERY DENNISON is authorized to give any guarantee or warranty or make any representation contrary to the above. No waiver, alteration, addition or modification of the foregoing conditions shall be valid unless made in writing and signed by an executive officer of AVERY DENNISON.

Validation Decal Equipment

Thermal transfer printer

Zebra 170XiIII Plus

The industrial-strength 170XiIII Plus has a 12-gauge steel frame 300 dpi print resolution and the ability to print labels up to 6.6 inches wide at eight inches per second (ips). Tough compliance labeling applications are no match for the 170XiIII Plus since it can easily print large numbers of AIAG ODETTE UCC-EAN-128 and other compliance labels on demand or in batches. Resin ribbons



Software – based on Bartender - customized for the labels used by the state

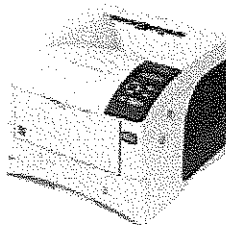
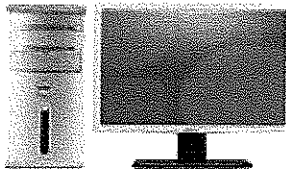
Refer to

<http://www.seagullscientific.com/ftp/brochures/BarTenderBrochure.pdf>

Computer & Printer

Dell - Inspiron

Kyocera FS4000





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170XIIIPlus



STANDARD FEATURES

- Print methods: Thermal transfer or direct thermal
- Construction: 12-gauge steel frame
- ZebraLink Solutions
- Single 32 bit 133 Mhz RISC processor
- 16 MB SDRAM; 4 MB non-volatile Flash memory
- Advanced media/ribbon counter
- Enhanced Alert notification -- monitors printhead condition
- 300 unique darkness settings
- USB 2.0 port
- Serial and parallel ports
- Multilingual backlit LCD display
- PCMCIA socket
- Transmissive and reflective media sensors
- Multi-level Element Energy Equalizer (E3) for superior print quality
- CompactFlash (up to 1 GB memory) for added label format/font storage
- Zebra printer driver for Win 95/98, Win ME, Win NT 4.0, Win 2000, and Win XP
- Unicode™ - Compliant

PRINTER SPECIFICATIONS

Resolution
 203 dpi (8 dots/mm)
 300 dpi (12 dots/mm)

Memory

- 16 MB SDRAM (12 MB available to user)
- 4 MB Flash (2 MB available to user)

Print width
 6.6" (168 mm) maximum

Print length
 39" (991 mm) maximum

Print speed
 203 dpi:
 12" (305 mm)/sec

300 dpi:
 8" (203 mm)/sec

Media sensors
 Reflective

RECENTLY VIEWED PRODUCTS
 No products have been viewed.

Transmissive

MEDIA CHARACTERISTICS

Maximum label and liner width

2" (51 mm) to 7.1" (180 mm)

Maximum roll diameter

8" (203 mm)

Core diameter

3" (76 mm)

Media thickness

.003" (.076 mm) to .012" (.305 mm)

Media types

continuous, die-cut, black mark

RIBBON CHARACTERISTICS

Outside diameter

3.2" (81.3 mm)

Standard length

1,476' (450 m) or 984' (300 m)

Ratio

3:1 and 2:1 media roll to ribbon ratios

Ribbon width

2" (51 mm) to 6.7" (170 mm)

Ribbon setup

Ribbon wound ink side out

ID Core

1.0" (25.4 mm)

OPERATING CHARACTERISTICS

Operating temperature

TT: Operating temperature 41° F (5° C) to 104° F (40° C) Thermal transfer

DT: Operating temperature 32° F (0° C) to 104° F (40° C) Direct thermal

Storage temperatures

-40° F (-40° C) to 140° F (60° C)

Operating humidity

20-85% non-condensing R.H.

Storage humidity

5-85% non-condensing R.H.

Electrical

Universal power supply with power-factor correction 90-264 VAC; 48-62 Hz

Agency approvals

- BSMI
- CCC
- CE

- C-Tick
- cUL
- EN55022 Class B
- EN55024
- EN6100-3-2,3
- FCC Class B
- GOST-R
- ICES-003 Class B
- IEC 60950-1 / EN60950
- NOM
- S Mark
- VCCI
- ZIK

PHYSICAL CHARACTERISTICS

Width

13.15" (334.4 mm)

Height

15.5" (393.7 mm)

Depth

19.5" (495 mm)

Weight

67 lbs (30.5 kg)

RELATED PRODUCTS

Options

- XML-enabled printing
- ZebraNet Print Servers
- IBM Twinax interface
- IBM Coax interface
- Rewind
- Cutter
- Bi-fold media door with clear panel
- Label peel
- Media supply spindle for 40 mm cores
- Scalable and international fonts
- PC cards
- Compact Flash (CF) cards
- Factory installed 64 MB (61 MB user available) Flash Memory option
- Applicator interface
- ZebraDesigner
- ZebraDesigner Pro
- ZebraDesigner for XML

Communication and Interface Capabilities

- USB 2.0 port (480 Mbits per second)
- RS-232C/422/485 multi-drop (optional adaptor)
- High-speed, bi-directional, IEEE 1284 parallel interface
- ZebraNet Wireless Print Server
- ZebraNet 10/100 Print Server (internal/external)
- ZebraNet PrintServer II (internal/external)
- IBM Twinax interface
- IBM Coax interface
- Applicator interface

PROGRAMMING LANGUAGES

Core programming languages

ZPL, ZPL II

BAR CODES/SYMBOLOGIES

Linear

Codabar
Code 11
Code 93
Code 39
EAN-8
EAN-13
Industrial 2-of-5
Interleaved 2-of-5
Logmars
MSI
Planet Code
Plessey
Postnet
Standard 2-of-5
UPC and EAN 2 or 5 digit extensions
UPC-A
UPC-E
Code 128 with subsets A/B/C and UCC case codes
ISBT-128

2-dimensional

Codablock
Code 49
Data Matrix
MaxiCode
PDF417
QR Code
RSS / GS1 DataBar family (12 barcodes)
TLC 39
MicroPDF
Aztec

Fonts and Graphics

- Bitmap fonts A through H and GS symbols are expandable up to 10 times, height and width independent
- Smooth scalable font (CG Triumvirate Bold Condensed) is expandable dot-by-dot, height and width independent
- IBM Code Page 850 International Characters
- Support user-defined fonts and graphics - including custom logos
- ZPLII drawing commands - including boxes, circles, and diagonal lines

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