

Tracking No. 17020039

**CONTRACT DOCUMENTS**

**CITY OF LINCOLN and  
LANCASTER COUNTY, NEBRASKA**

**Annual Supply  
Reflective Sign Sheeting  
State of Nebraska Contract No. 14698 OC**

**Contractor:  
3M Company  
Traffic Safety Systems  
3M Center Bldg 235-3A-09  
Saint Paul, MN 55144-1000  
(651) 736-4218**

**CITY OF LINCOLN and LANCASTER COUNTY, NEBRASKA  
CONTRACT**

THIS CONTRACT, made and entered into by and between **3M Company, Traffic Safety Systems, 3M Center Bldg 235-3A-09, Saint Paul, MN 55144-1000** hereinafter called "Contractor", and the City of Lincoln, Nebraska, a municipal corporation, and the County of Lancaster, Nebraska, a political subdivision, hereinafter called the "Owners".

WHEREAS, Neb. Rev. Stat. § 23-3109(1)(d)(iii) allows for waiver of bidding requirements when the price has been established by a cooperative purchasing agreement by which supplies, equipment, or services are procured in accordance with a contract established by another governmental entity or group of governmental entities if the contract was established in accordance with the laws and regulations applicable to the establishing governmental entity or, if a group, the lead governmental entity; and

WHEREAS, Lincoln Municipal Code §2.18.030(c) allows the City of Lincoln to join with other units of government for cooperative purchasing; and

WHEREAS, the Owners through local inter-governmental cooperative purchasing have chosen to participate in the contract between the State of Nebraska and 3M Company, for Reflective Sign Sheeting, State of Nebraska Contract No. 14698 OC, which was prepared in accordance with the State of Nebraska's usual and customary laws, procedures and policies, and has approved and adopted said documents connected with said, Work, to-wit:

for all materials and equipment necessary to supply and deliver Reflective Sign Sheeting for the Owners' various departments, agencies and divisions as the Owners may determine in compliance with the prices as established via the Contract between the State of Nebraska and 3M Company, State of Nebraska Contract No. 14698, executed on January 11, 2017.

WHEREAS, the Contractor, in response to the Owners' request to participate in said contract, has submitted to the Owners, an offer approving Owners participation under the same pricing structure, terms and conditions as the State of Nebraska Contract No. 14698, with only those exceptions stated herein; and

WHEREAS, the State of Nebraska, in the manner usual and customary to their laws, policies and procedures has opened, read, examined, and canvassed the Proposals submitted in response to the proposal request, and as a result of such canvass has determined and declared the Contractor to be the lowest responsible bidder for the said Work for the sum or sums named in the State of Nebraska and 3M Company, Contract No. 14698 OC a copy thereof being attached to and made a part of this Contract; and

NOW, THEREFORE, in consideration of the sums to be paid to the Contractor and the mutual covenants herein contained, the Contractor and the Owners hereby agree as follows:

1. The Contractor agrees to (a) furnish all tools, equipment, supplies, superintendence, transportation, and other accessories, services, and facilities necessary to provide Reflective Sign Sheeting for the Owner's various departments, agencies and divisions as the Owners may determine.
2. Term of the Contract. The initial term of this contract is upon execution through January 31, 2018.
  - 2.1 Upon conclusion of the initial term, the contract has the option of five (5) additional one (1) year renewals.
  - 2.2 Any renewal of the contract will be under the same terms and conditions as the original agreement.

3. Pricing. Pricing for these services are pursuant to the Contract between the State of Nebraska and 3M Company, Contract No. 14698 OC a copy thereof being attached to and made a part of this Contract.

**The Owners will pay for products/service, according to the proposal pricing as included with the State of Nebraska and 3M Company, Contract No. 14698 OC a copy thereof being attached to and made a part of this Contract. The Owners shall order on an as-needed basis for the duration of the contract. The total cost of products or services for City Departments shall not exceed \$15,000.00 during the contract term without approval by the City of Lincoln. The total cost of products or services for County agencies shall not exceed \$8,000.00 during the contract term without approval by the Lancaster County Board of Commissioners.**

- 3.1 Terms of payment shall be *net* thirty (30) days for all services meeting Owners Specifications and approval. Each location will have a separate account number and billing address. The Owners may choose to pay the vendor using an Electronic Funds Transfer. If this option is used, any discounts available to the State of Nebraska shall be made available to the Owners.
4. Owner Inclusion. It is understood and agreed by all parties that "Owner/s" shall include the City of Lincoln and Lancaster County, Nebraska. Whenever in the Contract documents, including the instructions to bidders, specifications, insurance requirements, bonds, and terms and conditions or any other documents which are a part of the Contract, a singular entity is referenced (i.e., "the City" or "the County") it shall mean the "Owners" encompassing the City of Lincoln and Lancaster County, Nebraska.
5. Termination. This Contract may be terminated by the following:
- 8.1 Termination for Convenience. Either party may terminate this Contract upon fourteen (14) days written notice to the other party for any reason without penalty.
- 8.2 Termination for Cause. The Owners may terminate the Contract for cause if the Contractor:
- 8.2.1 Refuses or fails to supply the proper labor, materials and equipment necessary to provide Reflective Sign Sheeting.
- 8.2.2 Disregards Federal, State or local laws, ordinances, regulations, resolutions or orders.
- 8.2.3 Otherwise commits a substantial breach or default of any provision of the Contract Document. In the event of a substantial breach or default the Owners will provide the Contractor written notice of said breach or default and allow the Contractor ten (10) days from the date of the written notice to cure such breach or default. If said breach or default is not cured within ten (10) days from the date of notice, then the contract shall terminate.
6. The parties agree that the terms and conditions of this Contract shall prevail and govern in the case of any such inconsistent or additional terms in the Agreement between the State of Nebraska and 3M Company, Contract No. 14698 OC.

The Contract Documents comprise the Contract, and consist of the following:

1. Contract Agreement
2. State of Nebraska and 3M Company, Contract No. 14698 OC
3. Tax forms

This Contract Agreement together with the other Contract Documents herein above mentioned, form this Contract, and are a part of the Contract as if hereto attached.

The Contractor and the Owners hereby agree that all the terms and conditions of this Contract shall be binding upon themselves, and their heirs, administrators, executors, legal and personal representatives, successors, and assigns.

IN WITNESS WHEREOF, the Contractor and the Owners do hereby execute this contract upon completion of signatures on:

Vendor Signature Page  
City of Lincoln Signature Page  
Lancaster County Signature Page

Vendor Signature Page

CONTRACT  
Annual Supply  
Reflective Sign Sheeting  
State of Nebraska Contract No. 14698 OC  
City of Lincoln and Lancaster County, Nebraska  
3M Company

EXECUTION BY CONTRACTOR

IF A CORPORATION:

Attest:

*Matthew Leibel*  
Secretary *Matthew Leibel* Seal  
*Contract Administrator*



3M Company  
Name of Corporation  
3M Center, Bldg 225-4N-14, St. Paul, MN 55144-1000  
Address  
By: *Denise McMahon*  
Duly Authorized Official Denise McMahon  
Contract Administrator  
Legal Title of Official

IF OTHER TYPE OF ORGANIZATION:

\_\_\_\_\_  
Name of Organization  
  
\_\_\_\_\_  
Type of Organization  
  
\_\_\_\_\_  
Address  
  
By: \_\_\_\_\_  
Member  
  
By: \_\_\_\_\_  
Member

IF AN INDIVIDUAL:

\_\_\_\_\_  
Name  
  
\_\_\_\_\_  
Address  
  
\_\_\_\_\_  
Signature

City of Lincoln Signature Page

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**CONTRACT**  
**Annual Supply**  
**Reflective Sign Sheeting**  
**State of Nebraska Contract No. 14698 OC**  
**City of Lincoln and Lancaster County, Nebraska**  
**3M Company**

EXECUTION BY THE CITY OF LINCOLN, NEBRASKA

ATTEST:

City Clerk

*Teresa J. Meier*



CITY OF LINCOLN, NEBRASKA

*[Signature]*  
Public Works and Utilities Director

Approved by Directorial Order No. 16631

dated Feb 28, 2017

**Lancaster County Signature Page**

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**CONTRACT  
Annual Supply  
Reflective Sign Sheeting  
State of Nebraska Contract No. 14698 OC  
City of Lincoln and Lancaster County, Nebraska  
3M Company**

**EXECUTION BY LANCASTER COUNTY, NEBRASKA**

Contract Approved as to Form:

**The Board of County Commissioners of  
Lancaster, Nebraska**

\_\_\_\_\_  
Deputy Lancaster County Attorney

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

dated \_\_\_\_\_







## ADDITIONAL REMARKS SCHEDULE

AGENCY Willis of Minnesota, Inc.		NAMED INSURED 3M Company 3M Insurance Department Bldg 224-5S-29 St. Paul, MN 55144	
POLICY NUMBER See First Page		EFFECTIVE DATE: See First Page	
CARRIER Old Republic Insurance Company	NAIC CODE 24147-001		

**ADDITIONAL REMARKS**

**THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,  
 FORM NUMBER: 25      FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE**

for or which may be purchased by Additional Insureds.

Waiver of Subrogation applies in favor of Additional Insureds with respects to Workers Compensation, as permitted by law.

**THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.**

**ADDITIONAL INSURED – DESIGNATED  
PERSON OR ORGANIZATION**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

**SCHEDULE**

**Name Of Additional Insured Person(s) Or Organization(s):**

All Persons Or Organizations As Required by Contract or Agreement

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

**A. Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

1. In the performance of your ongoing operations; or
2. In connection with your premises owned by or rented to you.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

**B. With respect to the insurance afforded to these additional insureds, the following is added to Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

**IL 10 (12/06) OLD REPUBLIC INSURANCE COMPANY**

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED AMENDMENT**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

As respects any person(s) or organization(s) included as an additional insured with whom you have agreed in a written contract, agreement or permit to provide primary insurance on a non-contributory basis, this insurance will be primary to and non-contributing with any other insurance available to such person(s) or organization(s).

GL 143 008 0309

POLICY NUMBER: MWC 306927 00

**WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT**

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

**ANY PERSON OR ORGANIZATION THAT THE NAMED INSURED HAS AGREED UNDER WRITTEN CONTRACT TO OBTAIN A WAIVER OF SUBROGATION FROM ITS WORKERS' COMPENSATION INSURER.**

DATE OF ISSUE: 03-23-16



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
02/24/2017

Page 1 of 2

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER  Willis of Minnesota, Inc. c/o 26 Century Blvd. P. O. Box 305191 Nashville, TN 37230-5191	CONTACT NAME:		
	PHONE (A/C. NO. EXT):	877-945-7378	FAX (A/C. NO.): 888-467-2378
	E-MAIL ADDRESS:	certificates@willis.com	
	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A:	Old Republic Insurance Company	24147-001
INSURED  3M Company 3M Insurance Department Bldg 224-5S-29 St. Paul, MN 55144	INSURER B:		
	INSURER C:		
	INSURER D:		
	INSURER E:		
	INSURER F:		

**COVERAGES**

CERTIFICATE NUMBER: 25250067

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL NSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR	Y		MWZY 309966	3/1/2017	3/1/2020	EACH OCCURRENCE \$ 5,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ 5,000,000 GENERAL AGGREGATE \$ 5,000,000 PRODUCTS - COMP/OP AGG \$ 5,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY			MWTB 309964	3/1/2017	3/1/2020	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$
A	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	Y MWC309963 00	3/1/2017	3/1/2018	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 2,000,000 E.L. DISEASE - EA EMPLOYEE \$ 2,000,000 E.L. DISEASE - POLICY LIMIT \$ 2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: State of Nebraska Contract 14698 OC; Start date: date of execution through 1/31/2018

Regarding "General Liability" only, 3M Company hereby grants Additional Insured status to City of Lincoln and Lancaster County, limited to the conditions and terms of the State of Nebraska Contract 14698 OC, and limited to the operations of 3M Company. This Certificate of Liability is valid from date of execution to 1/31/2018.

General Liability policy shall be Primary and Non-Contributory with any other insurance in force

**CERTIFICATE HOLDER****CANCELLATION**

City of Lincoln Lancaster County 555 South 10th Street Lincoln, NE 68508	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 



## ADDITIONAL REMARKS SCHEDULE

AGENCY Willis of Minnesota, Inc.		NAMED INSURED 3M Company 3M Insurance Department Bldg 224-5S-29 St. Paul, MN 55144	
POLICY NUMBER See First Page		EFFECTIVE DATE: See First Page	
CARRIER Old Republic Insurance Company	NAIC CODE 24147-001		

**ADDITIONAL REMARKS**

**THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,  
 FORM NUMBER: 25      FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE**

for or which may be purchased by Additional Insureds.

Waiver of Subrogation applies in favor of Additional Insureds with respects to Workers Compensation, as permitted by law.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

## ADDITIONAL INSURED – DESIGNATED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

### SCHEDULE

**Name Of Additional Insured Person(s) Or Organization(s):**

All Persons Or Organizations As Required by Contract or Agreement

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

**A. Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

1. In the performance of your ongoing operations; or
2. In connection with your premises owned by or rented to you.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

**B. With respect to the insurance afforded to these additional insureds, the following is added to Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

**IL 10 (12/06) OLD REPUBLIC INSURANCE COMPANY**

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED AMENDMENT**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

As respects any person(s) or organization(s) included as an additional insured with whom you have agreed in a written contract, agreement or permit to provide primary insurance on a non-contributory basis, this insurance will be primary to and non-contributing with any other insurance available to such person(s) or organization(s).

GL 143 008 0309

*MWZY 309966 3M Company 03/01/2017 - 03/01/2020*



POLICY NUMBER: MWC 306927 00

**WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT**

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

**ANY PERSON OR ORGANIZATION THAT THE NAMED INSURED HAS AGREED UNDER WRITTEN CONTRACT TO OBTAIN A WAIVER OF SUBROGATION FROM ITS WORKERS' COMPENSATION INSURER.**

DATE OF ISSUE: 03-23-16

# STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau  
1526 K Street, Suite 130  
Lincoln, Nebraska 68508

Telephone: (402) 471-6500  
Fax: (402) 471-2089

**CONTRACT NUMBER**  
**14698 OC**

PAGE 1 of 5	ORDER DATE 01/06/17
BUSINESS UNIT 46070025	BUYER ANNETTE WALTON (AS)
VENDOR NUMBER: 501869	
VENDOR ADDRESS:  3M COMPANY TRAFFIC SAFETY SYSTEMS 3M CENTER BLDG 235-3A-09 SAINT PAUL MN 55144-1000	

AN AWARD HAS BEEN MADE TO THE CONTRACTOR NAMED ABOVE FOR THE FURNISHING OF MATERIALS AND/OR SERVICES AS LISTED BELOW FOR THE PERIOD:

**FEBRUARY 01, 2017 THROUGH JANUARY 31, 2019**

NO ACTION ON THE PART OF THE CONTRACTOR NEEDS TO BE TAKEN AT THIS TIME. ORDERS FOR THE MATERIALS AND/OR SERVICES WILL BE MADE AS NEEDED BY THE VARIOUS AGENCIES OF THE STATE.

THIS CONTRACT IS NOT AN EXCLUSIVE CONTRACT TO FURNISH THE MATERIALS AND/OR SERVICES SHOWN BELOW, AND DOES NOT PRECLUDE THE PURCHASE OF SIMILAR MATERIALS AND/OR SERVICES FROM OTHER SOURCES.

THE STATE RESERVES THE RIGHT TO EXTEND THE PERIOD OF THIS CONTRACT BEYOND THE TERMINATION DATE WHEN MUTUALLY AGREEABLE TO THE CONTRACTOR AND THE STATE OF NEBRASKA.

Original/Bid Document 5455 OF

Contract to supply and deliver Reflective Sign Sheeting to the State of Nebraska as per the attached specifications for the contract period February 1, 2017 through January 31, 2019. The contract may be renewed for two (2) additional two (2) year periods when mutually agreeable to the vendor and the State of Nebraska.

Vendor Contact: Denise McMahon, Contract Administrator  
Phone: 651-736-4218  
Fax: 1-888-246-9793  
E-Mail: tbidgroup@mmm.com

(cp 1/6/17)

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
1	FILM TRANSPARENT RED 48 50YD 600SF RL 3M 1172C 48	10.0000	RL	414.0000
2	FILM TRANSPARENT BLUE 48 50YD 600SF RL 3M 1175C 48	10.0000	RL	414.0000
3	FILM TRANSPARENT GREEN 48 50YD 600SF RL 3M 1177C 48	10.0000	RL	414.0000
4	SHEETING BARRICADE 12 50YD 150SF RL 3M 334L 12	10.0000	RL	177.0000
5	SHEETING BARRICADE 12 50YD 150SF RL 3M 334R 12	10.0000	RL	177.0000

  
BUYER  
1/10/17  
MATERIEL ADMINISTRATOR

# STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau  
1526 K Street, Suite 130  
Lincoln, Nebraska 68508

Telephone: (402) 471-6500  
Fax: (402) 471-2089

**CONTRACT NUMBER**  
**14698 OC**

PAGE 2 of 5	ORDER DATE 01/06/17
BUSINESS UNIT 46070025	BUYER ANNETTE WALTON (AS)
VENDOR NUMBER: 501869	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
6	SHEETING PRISMATIC WHITE 24 50YD 300SF RL 3M 3430 24	10.0000	RL	207.0000
7	SHEETING FLUORES. ORANG 12.75 100YD 318.75SF RL 3924S 12.75	10.0000	RL	506.8100
8	SHEETING FLUORES. ORANG. 18 50YD 225SF RL 3M 3924S 18	20.0000	RL	357.7500
9	SHEETING FLUORES. ORANG. 24 50YD 300SF RL 3M 3924S 24	40.0000	RL	477.0000
10	SHEETING FLUORES. ORANG. 30 50YD 375SF RL 3M 3924S 30	10.0000	RL	596.2500
11	SHEETING FLUORES. ORANG. 36 50YD 450SF RL 3M 3924S 36	50.0000	RL	715.5000
12	SHEETING FLUORES. ORANG. 48 50YD 600SF RL 3M 3924S 48	150.0000	RL	954.0000
13	SHEETING HI INTENS WHITE 1 50YD 12.5SF RL 3M 3930 1	250.0000	RL	10.0000
14	SHEETING HI INTENS WHT 12.75 100YD 318.75SF RL 3930 12.75	10.0000	RL	255.0000
15	SHEETING HI INTENS WHT 21 50YD 262.5SF RL 3M 3930 21	10.0000	RL	210.0000
16	SHEETING HI INTENS WHT 24 50YD 300SF RL 3M 3930 24	150.0000	RL	240.0000
17	SHEETING HI INTENS WHT 3 50YD 37.55SF RL 3M 3930 3	10.0000	RL	30.0000
18	SHEETING HI INTENS WHT 30 50YD 375SF RL 3M 3930 30	150.0000	RL	300.0000
19	SHEETING HI INTENS WHT 36 50YD 450SF RL 3M 3930 36	50.0000	RL	360.0000
20	SHEETING HI INTENS WHT 48 50YD 600SF RL 3M 3930 48	75.0000	RL	480.0000

  
BUYER INITIALS

# STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau  
1526 K Street, Suite 130  
Lincoln, Nebraska 68508

Telephone: (402) 471-6500  
Fax: (402) 471-2089

**CONTRACT NUMBER**  
**14698 OC**

PAGE 3 of 5	ORDER DATE 01/06/17
BUSINESS UNIT 46070025	BUYER ANNETTE WALTON (AS)
VENDOR NUMBER: 501869	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
21	SHEETING HI INTENS BLUE 12.75 100YD 318.75SF RL 3935 12.75	10.0000	RL	255.0000
22	SHEETING HI INTENS BLUE 36 50YD 450SF RL 3M 3935 36	10.0000	RL	360.0000
23	SHEETING HI INTENS BLUE 48 50YD 600SF RL 3M 3935 48	10.0000	RL	480.0000
24	SHEETING HI INTENS GRN 12.75 100YD 318.75SF RL 3937 12.75	100.0000	RL	255.0000
25	SHEETING HI INTENS GRN 16 50YD 200SF RL 3M 3937 16	10.0000	RL	160.0000
26	SHEETING HI INTENS GRN 18 50YD 225SF RL 3M 3937 18	50.0000	RL	180.0000
27	SHEETING HI INTENS GRN 24 50YD 300SF RL 3M 3937 24	40.0000	RL	240.0000
28	SHEETING HI INTENS GRN 30 50YD 375SF RL 3M 3937 30	40.0000	RL	300.0000
29	SHEETING HI INTENS GRN 36 50YD 450SF RL 3M 3937 36	40.0000	RL	360.0000
30	SHEETING HI INTENS GRN 48 50YD 600SF RL 3M 3937 48	40.0000	RL	480.0000
31	SHEETING HI INTENS BRN 12.75 100YD 318.75SF RL 3939 12.75	10.0000	RL	255.0000
32	SHEETING HI INTENS BRN 24 50YD 300SF RL 3M 3939 24	10.0000	RL	240.0000
33	SHEETING HI INTENS BRN 30 50YD 375SF RL 3M 3939 30	10.0000	RL	300.0000
34	SHEETING HI INTENS BRN 36 50YD 450SF RL 3M 3939 36	10.0000	RL	360.0000
35	SHEETING HI INTENS BRN 40 3M 3939 40	10.0000	RL	480.0000

  
BUYER INITIALS

# STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau  
1526 K Street, Suite 130  
Lincoln, Nebraska 68508

Telephone: (402) 471-6500  
Fax: (402) 471-2089

**CONTRACT NUMBER**  
**14698 OC**

PAGE 4 of 5	ORDER DATE 01/06/17
BUSINESS UNIT 46070025	BUYER ANNETTE WALTON (AS)
VENDOR NUMBER: 501869	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
36	SHEETING YELLOW DG3 12.75 3M 4081 12.75	40.0000	RL	669.3800
37	SHEETING YELLOW DG3 18 3M 4081 18	100.0000	RL	472.5000
38	SHEETING YELLOW DG3 24 3M 4081 24	100.0000	RL	630.0000
39	SHEETING YELLOW DG3 30 3M 4081 30	40.0000	RL	787.5000
40	SHEETING YELLOW DG3 36 3M 4081 36	75.0000	RL	945.0000
41	SHEETING YELLOW DG3 48 3M 4081 48	100.0000	RL	1,260.0000
42	SHEETING YELLOW GREEN DG3 36 3M 4083 36	10.0000	RL	945.0000
43	SHEETING WHITE DG3 48 3M 4090 48	10.0000	RL	1,260.0000
44	SHEETING GREEN DG3 12.75 3M 4097 12.75	20.0000	RL	669.3800
45	SHEETING GREEN DG3 48 3M 4097 48	10.0000	RL	1,260.0000
46	SHEETING VINYL BLACK 1 3M 7725 12 1	50.0000	RL	6.7500
47	SHEETING VINYL BLACK 18 3M 7725 12 18	50.0000	RL	121.5000
48	SHEETING VINYL BLACK 2 3M 7725 12 2	10.0000	RL	13.5000
49	SHEETING VINYL BLACK 24 3M 7725 12 24	20.0000	RL	162.0000
50	SHEETING VINYL BLACK 30 3M 7725 12 30	50.0000	RL	202.5000

  
BUYER INITIALS

# STATE OF NEBRASKA CONTRACT AWARD

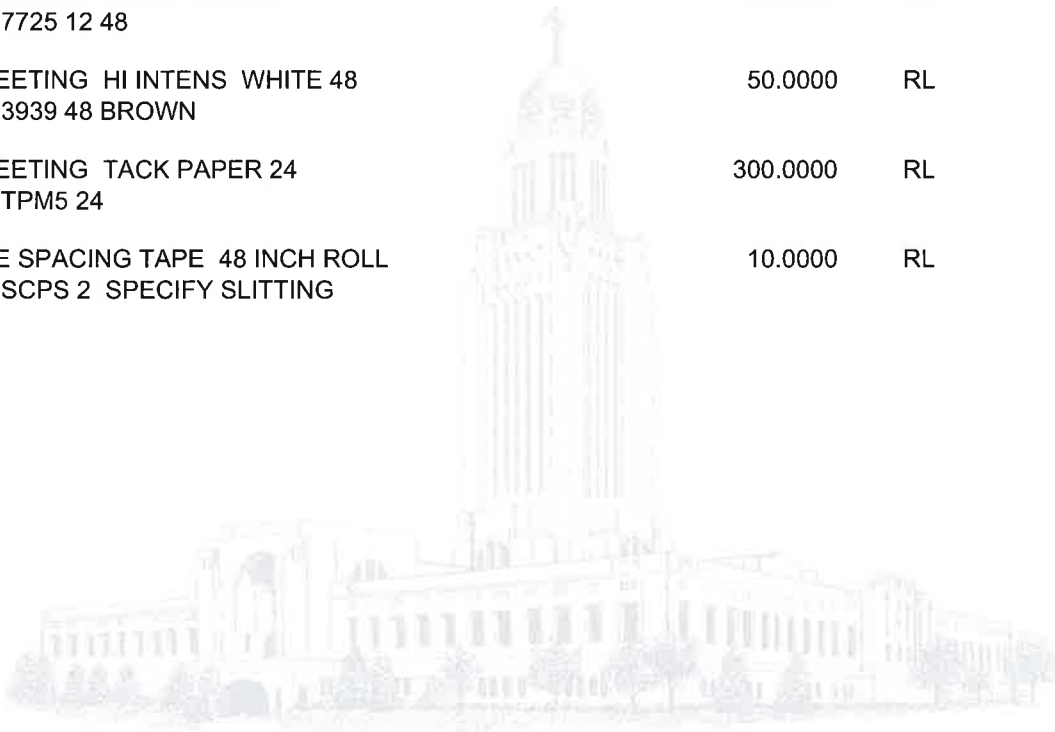
State Purchasing Bureau  
1526 K Street, Suite 130  
Lincoln, Nebraska 68508

Telephone: (402) 471-6500  
Fax: (402) 471-2089

**CONTRACT NUMBER**  
**14698 OC**

PAGE 5 of 5	ORDER DATE 01/06/17
BUSINESS UNIT 46070025	BUYER ANNETTE WALTON (AS)
VENDOR NUMBER: 501869	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
51	SHEETING VINYL BLACK 36 3M 7725 12 36	75.0000	RL	243.0000
52	SHEETING VINYL BLACK 48 3M 7725 12 48	100.0000	RL	324.0000
53	SHEETING HI INTENS WHITE 48 3M 3939 48 BROWN	50.0000	RL	480.0000
54	SHEETING TACK PAPER 24 3M TPM5 24	300.0000	RL	150.0000
55	PRE SPACING TAPE 48 INCH ROLL 3M SCPS 2 SPECIFY SLITTING	10.0000	RL	180.0000



  
BUYER INITIALS

# State of Nebraska - INVITATION TO BID CONTRACT

Return to:  
State Purchasing Bureau  
1526 K Street, Suite 130  
Lincoln, Nebraska 68508

Telephone: 402-471-6500  
Fax: 402-471-2089

Date	10/13/16	Page	1 of 5
Solicitation Number	5455 OF		
Opening Date and Time	11/15/16	2:00 pm	
Buyer	ANNETTE WALTON (AS)		

## DESTINATION OF GOODS

CORRECTIONS - CORNHUSKER STATE INDSTR  
800 PIONEERS BLVD  
LINCOLN NE 68502

Per Nebraska's Transparency in Government Procurement Act, DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

\_\_\_\_ NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. "Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this ITB.

\_\_\_\_ I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. §73-107 and wish to have preference, if applicable, considered in the award of this contract.

Contract to supply and deliver Reflective Sign Sheeting to the State of Nebraska as per the attached specifications for a two (2) year period from date of award. The contract may be renewed for two (2) additional two (2) year periods when mutually agreeable to the vendor and the State of Nebraska.

(cp 10-12-16)

## INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
1	FILM, TRANSPARENT, RED,48 50YD/600SF/RL, 3M 1172C-48	10.0000	RL	\$414.00	\$4,140.00
2	FILM, TRANSPARENT, BLUE,48 50YD/600SF/RL, 3M 1175C-48	10.0000	RL	\$414.00	\$4,140.00
3	FILM, TRANSPARENT, GREEN,48 50YD/600SF/RL, 3M 1177C-48	10.0000	RL	\$4.14.00	\$4,140.00
4	SHEETING, BARRICADE, 12 50YD/150SF/RL, 3M 334L-12 3M 3334L	10.0000	RL	\$177.00	\$1,770.00

## BIDDER MUST COMPLETE THE FOLLOWING

DISCOUNT PAYMENT TERMS: 0 % 30 DAYS

By signing this Invitation to Bid form, the bidder guarantees compliance with the provisions stated in this Invitation to Bid, agrees to the terms and conditions unless otherwise agreed to (see Section III) and certifies that bidder maintains a drug free work place environment. Vendor will furnish the items requested within 20-30 days after receipt of order. Failure to enter Delivery Date may cause quotation to be REJECTED.

Sign Here Denise McMahon  
(Authorized Signature MANDATORY - MUST BE SIGNED IN INK)

Enter Contact Information Below

VENDOR# 501869  
VENDOR: 3M Company  
Address: 3M Center, Bldg 225-4N-14  
St. Paul, MN 55144-1000

Contact Denise McMahon, Contract Administrator  
Telephone 651-736-4218  
Facsimile 1-888-246-9793  
Email tbidgroup@mmm.com

# State of Nebraska - INVITATION TO BID CONTRACT

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## DESTINATION OF GOODS

CORRECTIONS - CORNHUSKER STATE INDSTR  
800 PIONEERS BLVD  
LINCOLN NE 68502

## INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
5	SHEETING, BARRICADE, 12 50YD/150SF/RL, 3M 334R-12 3M 3334R	10.0000	RL	<u>\$177.00</u>	<u>\$1,770.00</u>
6	SHEETING, PRISMATIC, WHITE,24 50YD/300SF/RL, 3M 3430-24	10.0000	RL	<u>\$207.00</u>	<u>\$2,070.00</u>
7	SHEETING, FLUORES. ORANG 12.75 100YD/318.75SF/RL, 3M 3924S-12.75	10.0000	RL	<u>\$506.81</u>	<u>\$5,068.10</u>
8	SHEETING, FLUORES. ORANG. 18 50YD/225SF/RL,3M 3924S-18	20.0000	RL	<u>\$357.75</u>	<u>\$7,155.00</u>
9	SHEETING, FLUORES. ORANG. 24 50YD/300SF/RL, 3M 3924S-24	40.0000	RL	<u>\$477.00</u>	<u>\$19,080.00</u>
10	SHEETING, FLUORES. ORANG. 30 50YD/375SF/RL,3M 3924S-30	10.0000	RL	<u>\$596.25</u>	<u>\$5,962.50</u>
11	SHEETING, FLUORES. ORANG. 36 50YD/450SF/RL, 3M 3924S-36	50.0000	RL	<u>\$715.50</u>	<u>\$35,775.00</u>
12	SHEETING, FLUORES. ORANG. 48 50YD/600SF/RL, 3M 3924S-48	150.0000	RL	<u>\$954.00</u>	<u>\$143,100.00</u>
13	SHEETING, HI INTENS, WHITE, 1 50YD/12.5SF/RL, 3M 3930-1	250.0000	RL	<u>\$10.00</u>	<u>\$2,500.00</u>
14	SHEETING, HI INTENS, WHT,12.75 100YD/318.75SF/RL, 3M 3930-12.75	10.0000	RL	<u>\$255.00</u>	<u>\$2,550.00</u>
15	SHEETING, HI INTENS, WHT,21 50YD/262.5SF/RL, 3M 3930-21	10.0000	RL	<u>\$210.00</u>	<u>\$2,100.00</u>
16	SHEETING, HI INTENS, WHT,24 50YD/300SF/RL, 3M 3930-24	150.0000	RL	<u>\$240.00</u>	<u>\$36,000.00</u>
17	SHEETING, HI INTENS, WHT,3 50YD/37.5SF/RL, 3M 3930-3	10.0000	RL	<u>\$30.00</u>	<u>\$300.00</u>
18	SHEETING, HI INTENS, WHT,30 50YD/375SF/RL, 3M 3930-30	150.0000	RL	<u>\$300.00</u>	<u>\$45,000.00</u>
19	SHEETING, HI INTENS, WHT,36 50YD/450SF/RL, 3M 3930-36	50.0000	RL	<u>\$360.00</u>	<u>\$18,000.00</u>



# State of Nebraska - INVITATION TO BID CONTRACT

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**DESTINATION OF GOODS**  
CORRECTIONS - CORNHUSKER STATE INDSTR  
800 PIONEERS BLVD  
LINCOLN NE 68502

## INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
20	SHEETING, HI INTENS, WHT, 48 50YD/600SF/RL, 3M 3930-48	75.0000	RL	<u>\$480.00</u>	<u>\$36,000.00</u>
21	SHEETING, HI INTENS, BLUE, 12.75 100YD/318.75SF/RL, 3935-12.75	10.0000	RL	<u>\$255.00</u>	<u>\$2,550.00</u>
22	SHEETING, HI INTENS, BLUE, 36 50YD/450SF/RL, 3M 3935-36	10.0000	RL	<u>\$360.00</u>	<u>\$3,600.00</u>
23	SHEETING, HI INTENS, BLUE, 48 50YD/600SF/RL, 3M 3935-48	10.0000	RL	<u>\$480.00</u>	<u>\$4,800.00</u>
24	SHEETING, HI INTENS, GRN, 12.75 100YD/318.75SF/RL, 3937-12.75	100.0000	RL	<u>\$255.00</u>	<u>\$25,500.00</u>
25	SHEETING, HI INTENS, GRN, 16 50YD/200SF/RL, 3M 3937-16	10.0000	RL	<u>\$160.00</u>	<u>\$1,600.00</u>
26	SHEETING, HI INTENS, GRN, 18 50YD/225SF/RL, 3M 3937-18	50.0000	RL	<u>\$180.00</u>	<u>\$9,000.00</u>
27	SHEETING, HI INTENS, GRN, 24 50YD/300SF/RL, 3M 3937-24	40.0000	RL	<u>\$240.00</u>	<u>\$9,600.00</u>
28	SHEETING, HI INTENS, GRN, 30 50YD/375SF/RL, 3M 3937-30	40.0000	RL	<u>\$300.00</u>	<u>\$12,000.00</u>
29	SHEETING, HI INTENS, GRN, 36 50YD/450SF/RL, 3M 3937-36	40.0000	RL	<u>\$360.00</u>	<u>\$14,400.00</u>
30	SHEETING, HI INTENS, GRN, 48 50YD/600SF/RL, 3M 3937-48	40.0000	RL	<u>\$480.00</u>	<u>\$19,200.00</u>
31	SHEETING, HI INTENS, BRN, 12.75 100YD/318.75SF/RL, 3939-12.75	10.0000	RL	<u>\$255.00</u>	<u>\$2,550.00</u>
32	SHEETING, HI INTENS, BRN, 24 50YD/300SF/RL, 3M 3939-24	10.0000	RL	<u>\$240.00</u>	<u>\$2,400.00</u>
33	SHEETING, HI INTENS, BRN, 30 50YD/375SF/RL, 3M 3939-30	10.0000	RL	<u>\$300.00</u>	<u>\$3,000.00</u>
34	SHEETING, HI INTENS, BRN, 36	10.0000	RL	<u>\$360.00</u>	<u>\$3,600.00</u>

# State of Nebraska - INVITATION TO BID CONTRACT

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Buyer	ANNETTE WALTON (AS)		

## DESTINATION OF GOODS

CORRECTIONS - CORNHUSKER STATE INDSTR  
800 PIONEERS BLVD  
LINCOLN NE 68502

## INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
	50YD/450SF/RL, 3M 3939-36				
35	SHEETING, HI INTENS, BRN, 40 3M 3939-48	10.0000	RL	<u>\$480.00</u>	<u>\$4,800.00</u>
36	SHEETING, YELLOW DG3, 12.75 3M 4081-12.75	40.0000	RL	<u>\$669.38</u>	<u>\$26,775.20</u>
37	SHEETING, YELLOW DG3, 18 3M 4081-18	100.0000	RL	<u>\$472.50</u>	<u>\$47,250.00</u>
38	SHEETING, YELLOW DG3, 24 3M 4081-24	100.0000	RL	<u>\$630.00</u>	<u>\$63,000.00</u>
39	SHEETING, YELLOW DG3, 30 3M 4081-30	40.0000	RL	<u>\$787.50</u>	<u>\$31,500.00</u>
40	SHEETING, YELLOW DG3, 36 3M 4081-36	75.0000	RL	<u>\$945.00</u>	<u>\$70,875.00</u>
41	SHEETING, YELLOW DG3, 48 3M 4081-48	100.0000	RL	<u>\$1,260.00</u>	<u>\$126,000.00</u>
42	SHEETING, YELLOW GREEN DG3, 36 3M 4083-36	10.0000	RL	<u>\$945.00</u>	<u>\$9,450.00</u>
43	SHEETING, WHITE DG3, 48 3M 4090-48	10.0000	RL	<u>\$1,260.00</u>	<u>\$12,600.00</u>
44	SHEETING, GREEN DG3, 12.75 3M 4097-12.75	20.0000	RL	<u>\$669.38</u>	<u>\$13,387.60</u>
45	SHEETING, GREEN DG3, 48 3M 4097-48	10.0000	RL	<u>\$1,260.00</u>	<u>\$12,600.00</u>
46	SHEETING, VINYL, BLACK, 1 3M 7725-12-1	50.0000	RL	<u>\$6.75</u>	<u>\$337.50</u>
47	SHEETING, VINYL, BLACK, 18 3M 7725-12-18	50.0000	RL	<u>\$121.50</u>	<u>\$6,075.00</u>
48	SHEETING, VINYL, BLACK, 2 3M 7725-12-2	10.0000	RL	<u>\$13.50</u>	<u>\$135.00</u>

# State of Nebraska - INVITATION TO BID CONTRACT

Return to:  
State Purchasing Bureau  
1526 K Street, Suite 130  
Lincoln, Nebraska 68508

Telephone: 402-471-6500  
Fax: 402-471-2089

Date	10/13/16	Page	5 of 5
Solicitation Number	5455 OF		
Opening Date and Time	11/15/16	2:00 pm	
Buyer	ANNETTE WALTON (AS)		

## DESTINATION OF GOODS

CORRECTIONS - CORNHUSKER STATE INDSTR  
800 PIONEERS BLVD  
LINCOLN NE 68502

## INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
49	SHEETING, VINYL, BLACK,24 3M 7725-12-24	20.0000	RL	<u>\$162.00</u>	<u>\$3,240.00</u>
50	SHEETING, VINYL, BLACK,30 3M 7725-12-30	50.0000	RL	<u>\$202.50</u>	<u>\$10,125.00</u>
51	SHEETING, VINYL, BLACK,36 3M 7725-12-36	75.0000	RL	<u>\$243.00</u>	<u>\$18,225.00</u>
52	SHEETING, VINYL, BLACK,48 3M 7725-12-48	100.0000	RL	<u>\$324.00</u>	<u>\$32,400.00</u>
53	SHEETING, HI INTENS, WHITE,48 3M 3930-48 3M 3939-48 Brown, per Addendum 1	100.0000	RL	<u>\$480.00</u>	<u>\$24,000.00</u>
				50 rolls per Addendum 1	
54	SHEETING, TACK PAPER 24 3M TPM5-24	300.0000	RL	<u>\$150.00</u>	<u>\$45,000.00</u>
55	PRE-SPACING TAPE, 48" ROLL 3M SCPS-2, SPECIFY SLITTING	10.0000	RL	<u>\$180.00</u>	<u>\$1,800.00</u>

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## GLOSSARY OF TERMS

**Acceptance Test Procedure:** Benchmarks and other performance criteria, developed by the State of Nebraska or other sources of testing standards, for measuring the effectiveness of products or services and the means used for testing such performance.

**Addendum:** Something to be added or deleted to an existing document; a supplement.

**After Receipt of Order (ARO):** After Receipt of Order

**Agency:** Any state agency, board, or commission other than the University of Nebraska, the Nebraska State colleges, the courts, the Legislature, or any other office or agency established by the Constitution of Nebraska.

**Agent/Representative:** A person authorized to act on behalf of another.

**Amend:** To alter or change by adding, subtracting, or substituting.

**Amendment:** A written correction or alteration to a document.

**Appropriation:** Legislative authorization to expend public funds for a specific purpose. Money set apart for a specific use.

**ASTM:** ASTM International is a globally recognized leader in the development and delivery of voluntary consensus standards. Today, over 12,000 ASTM standards are used around the world to improve product quality, enhance health and safety, strengthen market access and trade, and build consumer confidence. members create the test methods, specifications, classifications, guides and practices that support industries and governments worldwide. ASTM standards can be found at:  
<https://www.astm.org/Standard/standards-and-publications.html>

**Award:** All purchases, leases, or contracts which are based on competitive bids will be awarded according to the provisions in the Invitation to Bid. The State reserves the right to reject any or all bids, wholly or in part, or to award to multiple bidders in whole or in part. The State reserves the right to waive any deviations or errors that are not material, do not invalidate the legitimacy of the bid, and do not improve the bidder's competitive position. All awards will be made in a manner deemed in the best interest of the State.

**Bid/Proposal:** The offer submitted by a vendor in a response to written solicitation.

**Bid Bond:** An insurance agreement, accompanied by a monetary commitment, by which a third party (the surety) accepts liability and guarantees that the vendor will not withdraw the bid.

**Bidder:** A vendor who submits an offer bid in response to a written solicitation.

**Business:** Any corporation, partnership, individual, sole proprietorship, joint-stock company, joint venture, or any other private legal entity.

**Business Day:** Any weekday, except State-recognized holidays.

CSI: Cornhusker State Industries

**Calendar Day:** Every day shown on the calendar including Saturdays, Sundays, and State/Federal holidays.

**Cancellation:** To call off or revoke a purchase order without expectation of conducting or performing it at a later time.

**Central Processing Unit (CPU):** Any computer or computer system that is used by the State to store, process, or retrieve data or perform other functions using Operating Systems and applications software.

**Change Order:** Document that provides amendments to an executed purchase order.

**Collusion:** An agreement or cooperation between two or more persons or entities to accomplish a fraudulent, deceitful, or unlawful purpose.

**Commodities:** Any equipment, material, supply or goods; anything movable or tangible that is provided or sold.

**Commodities Description:** Detailed descriptions of the items to be purchased; may include information necessary to obtain the desired quality, type, color, size, shape, or special characteristics necessary to perform the work intended to produce the desired results.

**Competition:** The effort or action of two or more commercial interests to obtain the same business from third parties.

**Confidential Information:** Unless otherwise defined below, "Confidential Information" shall also mean proprietary trade secrets,

academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and serve no public purpose (see Neb. Rev. Stat. §84-712.05(3)). In accordance with Nebraska Attorney General Opinions 92068 and 97033, proof that information is proprietary requires identification of specific, named competitor(s) who would be advantaged by release of the information and the specific advantage the competitor(s) would receive.

**Contract:** An agreement between two or more parties creating obligations that are enforceable or otherwise recognizable at law; the writing that sets forth such an agreement.

**Contract Administration:** The management of the contract which includes and is not limited to contract signing, contract amendments and any necessary legal actions.

**Contract Management:** The management of day to day activities at the agency which includes and is not limited to ensuring deliverables are received, specifications are met, handling meetings and making payments to the Contractor.

**Contract Period:** The duration of the contract.

**Contractor:** Any individual or entity having a contract or awarded purchase order to furnish commodities or services.

**Cooperative Purchasing:** The combining of requirements of two or more political entities to obtain advantages of volume purchases, reduction in administrative expenses or other public benefits.

**Copyright:** A property right in an original work of authorship fixed in any tangible medium of expression, giving the holder the exclusive right to reproduce, adapt and distribute the work.

**Critical Program Error:** Any Program Error, whether or not known to the State, which prohibits or significantly impairs use of the Licensed Software as set forth in the documentation and intended in the contract.

**Customer Service:** The process of ensuring customer satisfaction by providing assistance and advice on those products or services provided by a Contractor.

**Default:** The omission or failure to perform a contractual duty.

**Deviation:** Any proposed change(s) or alteration(s) to either the terms and conditions or deliverables within the scope of the written solicitation or contract.

**Evaluation:** The process of examining an offer after opening to determine the vendor's responsibility, responsiveness to requirements, and to ascertain other characteristics of the offer that relate to determination of the successful award.

**Evaluation Committee:** Committee(s) appointed by the requesting agency that advises and assists the procuring office in the evaluation of bids/proposals (offers made in response to written solicitations).

**Extension:** Continuance of a contract for a specified duration upon the agreement of the parties beyond the original Contract Period. Not to be confused with "Renewal Period".

**Free on Board (F.O.B.) Destination:** The delivery charges are included in the quoted price and prepaid by the vendor. Vendor is responsible for all claims associated with damages during delivery of product.

**Free on Board (F.O.B.) Point of Origin:** The delivery charges are not included in the quoted price and are the responsibility of the agency. Agency is responsible for all claims associated with damages during delivery of product.

**Foreign Corporation:** A foreign corporation that was organized and chartered under the laws of another state, government, or country.

**Installation Date:** The date when the procedures described in "Installation by Contractor", and "Installation by State", as found in the RFP, ITB (written solicitation) or contract are completed.

**Invitation to Bid:** A written solicitation utilized for obtaining competitive offers.

**Late Bid/Proposal:** An offer received after the Opening Date and Time.

**Licensed Software Documentation:** The user manuals and any other materials in any form or medium customarily provided by the Contractor to the users of the Licensed Software which will provide the State with sufficient information to operate, diagnose, and maintain the Licensed Software properly, safely, and efficiently.

**Mandatory/Must:** Required, compulsory, or obligatory.

**May:** Discretionary, permitted; used to express possibility.

**Module (see System):** A collection of routines and data structures that perform a specific function of software.

**Must:** See Shall/Will/Must.

NDOR: Nebraska Department of Roads

**National Institute for Governmental Purchasing (NIGP):** National Institute of Governmental Purchasing – Source used for assignment of universal commodity codes to goods and services.

**Open Market Purchase:** Authorization may be given to an agency to purchase items above direct purchase authority due to the unique nature, price, quantity, location of the using agency, or time limitations by the AS Materiel Division, State Purchasing Bureau.

**Opening Date and Time:** Specified date and time for the public opening of received, labeled, and sealed formal bids.

**Operating System:** The control program in a computer that provides the interface to the computer hardware and peripheral devices, and the usage and allocation of memory resources, processor resources, input/output resources, and security resources.

**Outsourcing:** The contracting out of a business process which an organization may have previously performed internally or has a new need for, to an independent organization from which the process is purchased back.

**Payroll & Financial Center (PFC):** Electronic procurement system of record.

**Performance Bond:** An insurance agreement, accompanied by a monetary commitment, by which a third party (the surety) accepts liability and guarantees that the Contractor fulfills any and all obligations under the contract.

**Platform:** A specific hardware and Operating System combination that is different from other hardware and Operating System combinations to the extent that a different version of the Licensed Software product is required to execute properly in the environment established by such hardware and Operating System combination.

**Pre-Bid/Pre-Proposal Conference:** A meeting scheduled for the purpose of clarifying a written solicitation and related expectations.

**Product:** Something that is distributed commercially for use or consumption and that is usually (1) tangible personal property, (2) the result of fabrication or processing, and (3) an item that has passed through a chain of commercial distribution before ultimate use or consumption.

**Program Error:** Code in Licensed Software which produces unintended results or actions, or which produces results or actions other than those described in the specifications. A program error includes, without limitation, any Critical Program Error.

**Program Set:** The group of programs and products, including the Licensed Software specified in the RFP, plus any additional programs and products licensed by the State under the contract for use by the State.

**Project:** The total scheme, program, or method worked out for the accomplishment of an objective, including all documentation, commodities, and services to be provided under the contract.

**Proposal:** See Bid/Proposal.

**Proprietary Information:** Proprietary information is defined as trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and service no public purpose (see Neb. Rev. Stat. § 84-712.05(3)). In accordance with Attorney General Opinions 92068 and 97033, proof that information is proprietary requires identification of specific named competitor(s) advantaged by release of the information and the demonstrated advantage the named competitor(s) would gain by the release of information.

**Protest/Grievance:** A complaint about a governmental action or decision related to an Invitation to Bid or resultant contract, brought by a vendor who has timely submitted a bid response in connection with the award in question, to AS Materiel Division or another designated agency with the intention of achieving a remedial result.

**Public Proposal/Bid Opening:** The process of opening correctly submitted offers at the time and place specified in the written solicitation and in the presence of anyone who wished to attend.

**Recommended Hardware Configuration:** The data processing hardware (including all terminals, auxiliary storage, communication, and other peripheral devices) to the extent utilized by the State as recommended by the Contractor.

**Release Date:** The date of public release of the written solicitation to seek offers

**Renewal Period:** Optional contract periods subsequent to the original Contract Period for a specified duration with previously agreed to terms and conditions. Not to be confused with Extension.



**Request for Information (RFI):** A general invitation to vendors requesting information for a potential future solicitation. The RFI is typically used as a research and information gathering tool for preparation of a solicitation.

**Request for Proposal (RFP):** A written solicitation utilized for obtaining competitive offers.

**Responsible Bidder:** A bidder who has the capability in all respects to perform fully and lawfully all requirements with integrity and reliability to assure good faith performance.

**Responsive Bidder:** A bidder who has submitted a bid which conforms to all requirements of the solicitation document.

**Shall/Will/Must:** An order/command; mandatory.

**Should:** Expected; suggested, but not necessarily mandatory.

**Software License:** Legal instrument with or without printed material that governs the use or redistribution of licensed software.

**Sole Source – Commodity:** When an item is available from only one source due to the unique nature of the requirement, its supplier, or market conditions.

**Sole Source – Services:** A service of such a unique nature that the vendor selected is clearly and justifiably the only practical source to provide the service. Determination that the vendor selected is justifiably the sole source is based on either the uniqueness of the service or sole availability at the location required.

**Specifications:** The detailed statement, especially of the measurements, quality, materials, and functional characteristics, or other items to be provided under a contract.

**System (see Module):** Any collection or aggregation of two (2) or more Modules that is designed to function, or is represented by the Contractor as functioning or being capable of functioning, as an entity.

**Termination:** Occurs when either party, pursuant to a power created by agreement or law, puts an end to the contract prior to the stated expiration date. All obligations which are still executory on both sides are discharged but any right based on prior breach or performance survives.

**Trade Secret:** Information, including, but not limited to, a drawing, formula, pattern, compilation, program, device, method, technique, code, or process that (a) derives independent economic value, actual or potential, from not being known to, and not being ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (b) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy (see Neb. Rev. Stat. § 87-502(4)).

**Trademark:** A word, phrase, logo, or other graphic symbol used by a manufacturer or vendor to distinguish its product from those of others, registered with the U.S. Patent and Trademark Office.

**Upgrade:** Any change that improves or alters the basic function of a product of service.

**Vendor:** An individual or entity lawfully conducting business in the State of Nebraska, or licensed to do so, who seeks to provide goods or services under the terms of a written solicitation.

**Vendor Performance Report:** A report issued to the Contractor by State Purchasing Bureau when products or services delivered or performed fail to meet the terms of the purchase order, contract, and/or specifications, as reported to State Purchasing Bureau by the agency. The State Purchasing Bureau shall contact the Contractor regarding any such report. The vendor performance report will become a part of the permanent record for the Contractor. The State may require vendor to cure. Two such reports may be cause for immediate termination.

**Will:** See Shall/Will/Must.

**Work Day:** See Business Day.

**I. SCOPE OF THE INVITATION TO BID (ITB)**

The State of Nebraska, Administrative Services (AS), Materiel Division, State Purchasing Bureau (hereafter known as State Purchasing Bureau or SPB), is issuing this Invitation To Bid, Number 5455 OF for the purpose of selecting a qualified Contractor to provide Reflective Sign Sheeting.

A contract resulting from this Invitation To Bid will be issued approximately for a period of two (2) years effective the date of award. The contract has the option to be renewed for two (2) additional two (2) year periods as mutually agreed upon by all parties.

**ALL INFORMATION PERTINENT TO THIS INVITATION TO BID CAN BE FOUND ON THE INTERNET AT:**  
<http://das.nebraska.gov/materiel/purchasing.html>

**A. SCHEDULE OF EVENTS**

The State expects to adhere to the tentative procurement schedule shown below. It should be noted, however, that some dates are approximate and subject to change.

	<b>ACTIVITY</b>	<b>DATE/TIME</b>
1.	Release Invitation To Bid	October 13, 2016
2.	Last day to submit written questions	October 26, 2016
3.	State responds to written questions through Invitation To Bid "Addendum" and/or "Amendment" to be posted to the Internet at: <a href="http://das.nebraska.gov/materiel/purchasing.html">http://das.nebraska.gov/materiel/purchasing.html</a>	October 28, 2016
4.	Bid opening Location: State Purchasing Bureau 1526 K Street, Suite 130 Lincoln, NE 68508	November 15, 2016 2:00 PM Central Time
5.	Review for conformance of mandatory requirements	November 15, 2016
6.	Review period	TBD
7.	Post "Letter of Intent to Award" to Internet at: <a href="http://das.nebraska.gov/materiel/purchasing.html">http://das.nebraska.gov/materiel/purchasing.html</a>	TBD
8.	Contract finalization period	TBD
9.	Contract award	TBD
10.	Contract start date	TBD

**II. PROCUREMENT PROCEDURES**

**A. PROCURING OFFICE AND CONTACT PERSON**

Procurement responsibilities related to this Invitation To Bid reside with the State Purchasing Bureau. The point of contact for the procurement is as follows:

Name: Annette Walton  
Agency: State Purchasing Bureau  
Address: 1526 K Street, Suite 130  
Lincoln, NE 68508

**B. GENERAL INFORMATION**

The Invitation To Bid (ITB) is designed to solicit bids from qualified vendors who will be responsible for providing Reflective Sign Sheeting at a competitive and reasonable cost. Bids that do not conform to the mandatory items as indicated in the Invitation To Bid will not be considered.

Bids shall conform to all instructions, conditions, and requirements included in the Invitation To Bid. Prospective Bidders are expected to carefully examine all documentation, schedules, and requirements stipulated in this Invitation To Bid, and respond to each requirement in the format prescribed.

In addition to the provisions of this Invitation To Bid and the awarded bid, which shall be incorporated by reference in the contract, any additional clauses or provisions required by the terms and conditions will be included as an amendment to the contract.

A fixed-price contract will be awarded as a result of this Invitation to Bid.

**C. COMMUNICATION WITH STATE STAFF AND EVALUATORS**

From the date the Invitation To Bid is issued until a determination is announced regarding the contract award, contact regarding this project between potential Contractors and individuals employed by the State is restricted to only written communication with the staff designated above as the point of contact for this Invitation To Bid. Bidders shall not have any communication with, or attempt to communicate with or influence in any way, any evaluator involved in this ITB.

Once a Contractor is preliminarily selected, as documented in the intent to award, that Contractor is restricted from communicating with State staff until a contract is signed. The following exceptions to these restrictions are permitted:

1. Written communication with the person(s) designated as the point(s) of contact for this Invitation To Bid or procurement;
2. Contacts made pursuant to any pre-existing contracts or obligations; and
3. State-requested presentations, key personnel interviews, clarification sessions or discussions to finalize a contract.

Violations of these conditions may be considered sufficient cause to reject a Bidder's bid and/or selection irrespective of any other condition. No individual member of the State or employee of the State is empowered to make binding statements regarding this Invitation To Bid. The Buyer will issue any clarifications or opinions regarding this Invitation To Bid in writing.

**D. WRITTEN QUESTIONS AND ANSWERS**

Any explanation desired by a Bidder regarding the meaning or interpretation of any Invitation To Bid provision must be submitted in writing to the State Purchasing Bureau and clearly marked "ITB Number 5455 OF; Reflective Sign Sheeting Questions". It is preferred that questions be sent via e-mail to [as.materielpurchasing@nebraska.gov](mailto:as.materielpurchasing@nebraska.gov). Questions may also be sent by facsimile to 402-471-2089, and must include a cover sheet clearly indicating that the transmission is to the attention of Annette Walton, showing the total number of pages transmitted, and clearly marked "ITB Number 5455 OF Reflective Sign Sheeting Questions".

It is recommended that Bidders submit questions sequentially numbered and include the Invitation To Bid reference and page number using the following format:

<u>Question Number</u>	<u>ITB Section References</u>	<u>ITB Page Number</u>	<u>Question</u>

Written answers will be provided through an addendum to be posted on the Internet at <http://das.nebraska.gov/materiel/purchasing.html> on or before the date shown in the Schedule of Events.

**E. SUBMISSION OF BIDS**

The following describes the requirements related to bid submission, bid handling, and review by the State.

To facilitate the evaluation process, one (1) original of the entire bid should be submitted. Bids must be submitted by the bid due date and time. **A separate sheet must be provided that clearly states which sections, if applicable, have been submitted as proprietary or have copyrighted materials.** All proprietary information the Bidder wishes the State to withhold must be submitted in accordance with the instructions outlined in Section III, Proprietary Information. If a recipient phone number is required for delivery purposes, 402-471-6500 should be used. The Invitation To Bid number must be included in all correspondence.

**F. IMPORTANT NOTICE LANGUAGE**

Bid responses should include the completed Form A, Bidder Contact Sheet. Bids must reference the Invitation To Bid number and be sent to the specified address. Please note that the address label should appear as specified in Section II part A on the page of the calendar or bidder's bid response packet. Rejected late bids will be returned to the bidder unopened.

**IMPORTANT NOTICE:** Pursuant to Neb. Rev. Stat. § 84-602.02, all State contracts in effect as of January 1, 2014 will be posted to a public website beginning July 1, 2014. All non-proprietary or non-confidential information as defined by State Law **WILL BE POSTED FOR PUBLIC VIEWING.**

**G. DISCOUNTS**

Prices quoted shall be inclusive of ALL trade discounts. Cash discount terms of less than thirty (30) days will not be considered as part of the bid. Cash discount periods will be computed from the date of receipt of a properly executed claim voucher or the date of completion of delivery of all items in a satisfactory condition, whichever is later.

**H. PRICE ADJUSTMENTS DURING CONTRACT TERM**

Any request for a price adjustment must be submitted in writing to the State Purchasing Bureau, a minimum of thirty (30) days prior to proposed effective date of increase, and must show cause with supporting documentation (such as notification letter from manufacturer). Further documentation may be required by the State, to authenticate the increase (such as manufacturer invoices). Failure to supply any requested supporting documentation may be grounds to cancel the contract. The State further reserves the right to reject any proposed price increase(s), cancel the contract and re-bid if determined to be in the best interest of the State. The State will be given full proportionate benefit of any decrease for the term of the contract. No price increases are to be billed to any State Agencies without prior written approval by the State Purchasing Bureau. Contract supplier or suppliers may honor pricing and extend the contract to political sub-divisions, cities, and counties. Terms and conditions of the contract must be met by political sub-divisions, cities, and counties.

**I. PAYMENT**

Payment will be made by the responsible agency in accordance with the State of Nebraska Prompt Payment Act, Neb. Rev. Stat. §§ 81-2401 through 81-2408. The State may request that payment be made electronically instead of by state warrant.

**J. BID EXECUTION**

Bids must be signed in ink by the Bidder on the State of Nebraska's Invitation To Bid form. All bids must be typewritten or in ink on the State of Nebraska's Invitation To Bid form. Erasures and alternations must be initialed by the Bidder in ink. No telephone or voice bids will be accepted. Failure to comply with these provisions may result in the rejection of the bid.

**K. BID OPENING**

The sealed bids will be publicly opened and the bidding entities announced on the date, time, and location shown in the Schedule of Events. Bids will be available for viewing by those present at the bid opening. Vendors may also contact the State to schedule an appointment for viewing bids after the Intent to Award has been posted to the website.

**L. ELECTRONIC DOCUMENTS/FACSIMILE SUBMISSIONS**

The State Purchasing Bureau will not accept electronic responses to an Invitation To Bid for a commodity contract at any dollar amount. However, an exception applies to one-time purchase bids under \$25,000. These one-time purchase bids may be submitted by electronic means, but cannot exceed ten (10) pages.

Sealed responses to an Invitation To Bid that contain a two party bid, may include electronic pages transmitted between the two parties, but these documents cannot be submitted to the State Purchasing Bureau by electronic means. No direct electronic solicitation responses will be accepted for a commodity contract of any estimated value.

**M. VALID BID TIME**

Bids shall be firm for a minimum of sixty (60) calendar days after the opening date, unless otherwise stipulated by either party in the Invitation To Bid.

**N. ALTERNATE/EQUIVALENT BIDS**

Bidder may offer bids which are at variance from the express specifications of the Invitation To Bid. The State reserves the right to consider and accept such bids if, in the judgment of the State Procurement Manager, the bid will result in goods and/or services equivalent to or better than those which would be supplied in the original bid specifications. Bidders must indicate on the Invitation To Bid the manufacturer's name, number and shall submit with their bid, sketches, descriptive literature and/or complete specifications. Reference to literature submitted with a previous bid will not satisfy this provision. Bids which do not comply with these requirements are subject to rejection. In the absence of any stated deviation or exception, the bid will be accepted as in strict compliance with all terms, conditions and specification, and the Bidder shall be held liable therefore.

**O. LATE BIDS**

Bids received after the time and date of the bid opening will be considered late bids. Rejected late bids will be returned to the Bidder unopened. The State is not responsible for bids that are late or lost due to mail service inadequacies, traffic, or any other reason(s).

**P. NO BID**

If not submitting a bid, respond by returning the Invitation To Bid form explaining the reason in the space provided. NOTE: To qualify as a respondent, Bidder must submit a "NO BID" and it must be received no later than the stated bid opening date and time.

**Q. LUMP SUM OR ALL OR NONE BIDS**

The State reserves the right to purchase item-by-item, by groups or as a total when the State may benefit by so doing. Bidders may submit a bid on an "all or none" or "lump sum" basis, but should also submit a bid on an item-by-item basis. The term "all or none" means a conditional bid which requires the purchase of all items on which bids are offered and Bidder declines to accept award on individual items; a "lump sum" bid is one in which the Bidder offers a lower price than the sum of the individual bids if all items are purchased but agrees to deliver individual items at the prices quoted.

**R. REJECTION OF BIDS**

The State reserves the right to reject any or all bids, wholly or in part, or to award to multiple Bidders in whole or in part. The State reserves the right to waive any deviations or errors that are not material, do not invalidate the legitimacy of the bid and do not improve the Bidder's competitive position. All awards will be made in a manner deemed in the best interest of the State. The State reserves the right to reject any or all bids and re-advertise for bids; and further reserves the right to waive any informality or irregularity.

**S. EVALUATION OF BIDS**

All responses to this Invitation To Bid which fulfill all mandatory requirements will be evaluated for conformance to requested specifications. Elements that may also be considered include but are not limited to:

1. The ability, capacity, and skill of the Bidder to deliver and implement the system or project, or provide the requested goods, that meet the requirements of the Invitation to Bid;
2. The character, integrity, reputation, judgment, experience, and efficiency of the Bidder;
3. Whether the Bidder can perform the contract within the specified time frame;
4. The quality of Bidder performance on prior contracts; and
5. Such other information that may be secured and that has a bearing on the decision to award the contract.

**T. BID TABULATIONS**

Bid tabulations are available on the website at:

[http://www.nebraska.gov/das/materiel/purchasing/bid\\_tab\\_search/consearch.cgi](http://www.nebraska.gov/das/materiel/purchasing/bid_tab_search/consearch.cgi).

Bid tabulations will not be provided by telephone or facsimile. Bid files may be examined, after the evaluation period is over, during normal business hours by appointment.

**U. MANDATORY REQUIREMENTS**

The bids will first be examined to determine if all mandatory requirements listed below have been addressed to warrant further evaluation. Bids not meeting mandatory requirements will be excluded from further evaluation. The mandatory requirement items are as follows:

1. Invitation To Bid for Commodity Contract form, signed in ink; and
2. The completed Invitation To Bid document.

**V. REFERENCE CHECKS**

The State reserves the right to check any reference(s), regardless of the source of the reference information, including but not limited to, those that may be identified by the company in the bid, those indicated through the explicitly specified contacts, those that are identified during the review of the bid, or those that result from communication with other entities involved with similar projects. The State may use a third party to conduct reference checks.

**W. RECYCLING**

As outlined in Neb. Rev. Stat. § 81-15,159, a preference shall be given to those Bidders that provide products, materials, or supplies which are manufactured or produced from recycled material or that can be readily reused or recycled after its normal use. Preference will also be given to purchases of corn-based biodegradable plastics and road deicers. No preference shall be given if such preference would result in the purchase of products, materials, or supplies that are of inadequate quality or of substantially higher cost.

**X. SECRETARY OF STATE/TAX COMMISSIONER REGISTRATION REQUIREMENTS**

All Bidders should be authorized to transact business in the State of Nebraska. All Bidders are expected to comply with all Nebraska Secretary of State Registration requirements. It is the responsibility of the Bidder to comply with any registration requirements pertaining to types of business entities (e.g. person, partnership, foreign or domestic limited liability company, association, or foreign or domestic corporation or other type of business entity). The Bidder who is the recipient of an Intent to Award will be required to certify that it has complied and produce a true and exact copy of its current (within ninety (90) calendar days), valid Certificate of Good Standing or Letter of Good Standing; or in the case of a sole proprietorship, provide written documentation of sole proprietorship. This must be accomplished prior to the award of the contract. Construction Contractors are expected to meet all applicable requirements of the Nebraska Contractor Registration Act and provide a current, valid certification of registration. Further, all Bidders shall comply with any and all other applicable Nebraska statutes regarding transacting business in the State of Nebraska. Bidders should submit the above certification(s) with their bid.

**Y. RESIDENT BIDDER**

Pursuant to Neb. Rev. Stat. §§ 73-101.01 through 73-101.02, a Resident Bidder shall be allowed a preference against a Nonresident Bidder from a state which gives or requires a preference to Bidders from that state. The preference shall be equal to the preference given or required by the state of the Nonresident Bidders. Where the lowest responsible bid from a resident bidder is equal in all respects to one from a nonresident bidder from a state which has no preference law, the resident bidder shall be awarded the contract. The provision of this preference shall not apply to any contract for any project upon which federal funds would be withheld because of the provisions of this preference.

**Z. EVALUATION CRITERIA AND AWARD**

The State of Nebraska reserves the right to evaluate bids in a manner, and utilizing methods, selected in the State of Nebraska's best interest and discretion. The State of Nebraska may waive informalities or irregularities in bids if the waiver is in the best interest of the State of Nebraska and such waiver does not prejudice other bidders in the State of Nebraska's discretion. After evaluation of the bids, the State of Nebraska may take, in the State's discretion, one or more of the following actions:

- Accept or reject a portion of or all of a bid;
- Accept or reject all bids;
- Withdraw the Invitation to Bid;
- Elect to rebid the Invitation to Bid;
- Award single lines or multiple lines to one or more bidders; or,
- Award one or more complete contracts.

The State of Nebraska reserves the right to make awards that are in the best interest of the State of Nebraska. The State of Nebraska may consider, but is not limited to, one or more of the following award criteria:

- Price;
- Location;
- Quality;

Delivery time; and,  
State contract management requirements or costs.

By submitting a bid in response to this Invitation to Bid, the Bidder grants to the State the right to contact or arrange a visit in person with any or all of the Bidder's clients.

Once an Intent to Award decision has been determined, it will be posted to the Internet at:  
<http://das.nebraska.gov/materiel/purchasing.html/>

**AA. POLITICAL SUB-DIVISIONS**

The Contractor may extend the contract to political sub-divisions. conditioned upon the honoring of the prices charged to the State. Terms and conditions of the Contract must be met by political sub-divisions. Under no circumstances shall the State be contractually obligated or liable for any purchases by political sub-divisions or other public entities not authorized by Neb. Rev. Stat. § 81-145, listed as "all officers of the state, departments, bureaus, boards, commissions, councils, and institutions receiving legislative appropriations." A listing of Nebraska political subdivisions may be found at the website of the Nebraska Auditor of Public Accounts.

**BB. VIOLATION OF TERMS AND CONDITIONS**

Violation of the terms and conditions contained in this Invitation To Bid or any resultant contract, at any time before or after the award, shall be grounds for action by the State which may include, but is not limited to, the following:

1. Rejection of a bidder's proposal;
2. Withdrawal of the Intent to Award
3. Termination of the resulting contract.
4. Legal action.
5. Suspension of the bidder from further bidding with the State for the period of time relative to the seriousness of the violation, such period to be within the sole discretion of the State.

**III. INVITATION TO BID - TERMS AND CONDITIONS**

By signing the "Invitation To Bid" form, the Bidder guarantees compliance with the provisions stated in this Invitation To Bid, agrees to the Terms and Conditions unless otherwise agreed to, and certifies Bidder maintains a drug free work place environment.

Bidders are expected to closely read the Terms and Conditions and provide a binding signature of intent to comply with the Terms and Conditions; provided, however, a Bidder may indicate any exceptions to the Terms and Conditions by one (1) clearly identifying the term or condition by subsection, and two (2) including an explanation for the Bidder's inability to comply with such term or condition which includes a statement recommending terms and conditions the Bidder would find acceptable. Rejection in whole or in part of the Terms and Conditions may be cause for rejection of a Bidder's bid. Bidders must include completed Section III with their ITB response.

The State of Nebraska is soliciting bids in response to the ITB. The State of Nebraska will not consider bids that propose the substitution of the bidder's contract, agreements, or terms for those of the State of Nebraska's. Any License, Service Agreement, Customer Agreement, User Agreement, Bidder Terms and Conditions, Document, or Clause purported or offered to be included as a part of this ITB must be submitted as individual clauses, as either a counter-offer or additional language, and each clause must be acknowledged and accepted in writing by the State. If the Bidder's clause is later found to be in conflict with the ITB or resulting contract the Bidder's clause shall be subordinate to the ITB or resulting contract.

**A. GENERAL**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The contract resulting from this Invitation To Bid shall incorporate the following documents:

1. Amendment to Contract Award with the most recent dated amendment having the highest priority;
2. Contract Award and any attached Addenda;
3. The Invitation To Bid form and the Contractor's Bid Response signed in ink
4. Amendments to ITB and any Questions and Answers; and
5. The original ITB document and any Addenda.

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to Contract Award with the most recent dated amendment having the highest priority, 2) Contract Award and any attached Addenda, 3) the signed Invitation To Bid form and the Contractor's Bid Response 4) Amendments to ITB and any Questions and Answers, 5) the original ITB document and any Addenda.

Any ambiguity in any provision of this contract which shall be discovered after its execution shall be resolved in accordance with the rules of contract interpretation as established in the State of Nebraska.

Once bids are opened they become the property of the State of Nebraska and will not be returned.

**B. DEBARMENT**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The contractor, by signature to the Invitation To Bid, certifies that the contractor is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any federal department or agency from



participating in transactions (debarred). The contractor also agrees to include the above requirements in any and all subcontracts into which it enters. The contractor also agrees to include the above requirements in any and all subcontracts into which it enters. The contractor shall immediately notify the Department if, during the term of this contract, contractor becomes debarred. The Department may immediately terminate this contract by providing contractor written notices if contractor becomes debarred during the term of this contract.

**C. SPECIFICATIONS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

Any manufacturer's names, trade names, brand names, information and/or catalog numbers listed in a specification are for reference and not intended to limit competition, but will be used as the standard by which equivalent material offered will be judged. The State Procurement Manager will be the sole judge of equivalency. The Bidder may offer any brands which meets or exceeds the specification. When a specific product is required, the Invitation to Bid will so state. Any item bid is to be the latest current model under standard production at the time of order. No used or refurbished equipment will be accepted, unless otherwise stated.

**D. SAMPLES**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

When requested, samples shall be furnished at the Bidder's expense prior to the opening of the bid, unless otherwise specified. Each sample must be labeled clearly and identify the Bidder's name, the Invitation To Bid number and the item number. Samples submitted must be representative of the commodities or equipment which would be delivered if awarded the bid. The State of Nebraska reserves the right to request samples even though this may not have been set forth in the Invitation To Bid. Samples not destroyed in testing will be returned at Bidder's expense, if requested, or will be donated to a public institution.

**E. PERFORMANCE AND DEFAULT**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The State reserves the right to require a performance bond from the successful Bidder, as provided by law, without expense to the State. Otherwise, in case of default of the Contractor, the State may procure the articles from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

**F. DRUG POLICY**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			3M's drug policy follows Federal regulations

Bidder certifies that it maintains a drug free workplace environment to ensure worker safety and workplace integrity. Contractor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

**G. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The Contractor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Contractors of the State of Nebraska, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §§ 48-1101 t 48-1125). The Contractor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Contractor shall insert a similar provision in all subcontracts for services to be covered by any contract resulting from this Invitation To Bid.

**H. PERMITS, REGULATIONS, LAWS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			3M will only be supplying materials to the State and/or its political subdivisions

The Contractor shall procure and pay for all permits, licenses, and approvals necessary for the execution of the contract. The Contractor shall comply with all applicable local, state, and federal laws, ordinances, rules, orders, and regulations.

**I. COOPERATION WITH OTHER CONTRACTORS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The State may already have in place or choose to award supplemental contracts related to this Invitation To Bid or any portion thereof.

1. The State reserves the right to award the contract jointly between two or more potential Contractors, if such an arrangement is in the best interest of the State.
2. The Contractor shall agree to cooperate with such other Contractors, and shall not commit or permit any act which may interfere with the performance of work by any other Contractor.
3. The State reserves the right to award multiple contracts or to award line by line contract.

**J. CONTRACTOR RESPONSIBILITY**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The Contractor is solely responsible for fulfilling the contract, with responsibility for all services offered and products to be delivered as stated in the Invitation To Bid, the Contractor's bid, and the resulting contract. The Contractor shall be the sole point of contact regarding all contractual matters.

**K. CONTRACT CONFLICTS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DM			

Contractor shall insure that contracts or agreements with sub-contractors and agents, and the performance of services in relation to this contract by sub-contractors and agents, does not conflict with this contract.

**L. FUNDING OUT CLAUSE OR LOSS OF APPROPRIATIONS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The State may terminate the contract, in whole or in part, in the event funding is no longer available. The State's obligation to pay amounts due for fiscal years following the current fiscal year is contingent upon legislative appropriation of funds for the contract. Should said funds not be appropriated, the State may terminate the contract with respect to those payments for the fiscal years for which such funds are not appropriated. The State will give the Contractor written notice thirty (30) calendar days prior to the effective date of any termination, and advise the Contractor of the location of any related equipment. All obligations of the State to make payments after the termination date will cease and all interest of the State in any related equipment will terminate.

**M. RIGHT TO AUDIT**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			Please see 3M's attached Explanations letter

Contractor shall establish and maintain a reasonable accounting system that enables the State to readily audit contract. The State and its authorized representatives shall have the right to audit, to examine, and to make copies of or extracts from all financial and related records (in whatever form they may be kept, whether written, electronic, or other) relating to or pertaining to this contract kept by or under the control of the Contractor, including, but not limited to those kept by the Contractor, its employees, agents, assigns, successors, and Subcontractors. Such records shall include, but not be limited to, accounting records, written policies and procedures; all paid vouchers including those for out-of-pocket expenses; other reimbursement supported by invoices; ledgers; cancelled checks; deposit slips; bank statements; journals; original estimates; estimating work sheets; contract amendments and change order files; backcharge logs and supporting documentation; insurance documents; payroll documents; timesheets; memoranda; and correspondence.

Contractor shall, at all times during the term of this contract and for a period of five (5) years after the completion of this contract, maintain such records, together with such supporting or underlying documents and materials. The Contractor shall at any time requested by the State, whether during or after completion of this contract and at Contractor's own expense make such records available for inspection and audit (including copies and extracts of records as required) by the State. Such records shall be made available to the State during normal business hours at the Contractor's office or place of business. In the event that no such location is available, then the financial records, together with the supporting or underlying documents and records, shall be made available for audit at a time and location that is convenient for the State. Contractor shall ensure the State has these rights with Contractor's assigns, successors, and Subcontractors, and the obligations of these rights shall be explicitly included in any subcontracts or agreements formed between the Contractor and any Subcontractors to the extent that those subcontracts or agreements relate to fulfillment of the Contractor's obligations to the State.

Costs of any audits conducted under the authority of this right to audit and not addressed elsewhere will be borne by the State unless certain exemption criteria are met. If the audit identifies overpricing or overcharges (of any nature) by the Contractor to the State in excess of one-half of one percent (.5%) of the total contract billings, the Contractor shall reimburse the State for the total costs of the audit. If the audit discovers substantive findings related to fraud, misrepresentation, or non-performance, the Contractor shall reimburse the State for total costs of audit. Any adjustments and/or payments that must be made as a result of any such audit or inspection of the Contractor's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of the State's findings to Contractor.

**N. CONFLICT OF INTEREST**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			Please see 3M's attached Explanations letter

By submitting a bid, Bidder certifies that there does not now exist any relationship between the Bidder and any person or entity which is or gives the appearance of a conflict of interest related to this Invitation To Bid or project.

The Bidder certifies that it shall not take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the performance of its services hereunder or which creates an actual or appearance of conflict of interest.

The Bidder certifies that it will not employ any individual known by Bidder to have a conflict of interest.

**O. BID PREPARATION COSTS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The State shall not incur any liability for any costs incurred by Bidders in replying to this Invitation To Bid, including any activity related to bidding on this Invitation To Bid.

**P. ERRORS AND OMISSIONS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The Bidder shall not take advantage of any errors and/or omissions in this Invitation To Bid or resulting contract. The Bidder must promptly notify the State of any errors and/or omissions that are discovered.

**Q. ASSIGNMENT BY THE STATE**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The State shall have the right to assign or transfer the contract or any of its interests herein to any agency, board, commission, or political subdivision of the State of Nebraska. There shall be no charge to the State for any assignment hereunder.

**R. ASSIGNMENT BY THE CONTRACTOR**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The Contractor may not assign, voluntarily or involuntarily, the contract or any of its rights or obligations hereunder (including without limitation rights and duties of performance) to any third party, without the prior written consent of the State, which will not be unreasonably withheld.

**S. GOVERNING LAW**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The contract shall be governed in all respects by the laws and statutes of the State of Nebraska. Any legal proceedings against the State of Nebraska regarding this Invitation To Bid or any resultant contract shall be brought in the State of Nebraska administrative or judicial forums as defined by State law. The Contractor must be in compliance with all Nebraska statutory and regulatory law.

**T. ATTORNEY'S FEES**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Contractor agrees to pay all expenses of such action, as permitted by law, including attorney's fees and costs, if the State is the prevailing party.

**U. ADVERTISING**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The Contractor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its services are endorsed or preferred by the State. News releases pertaining to the project shall not be issued without prior written approval from the State.

**V. NOTIFICATION**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

During the bid process, all communication between the State and a Bidder shall be between the Bidder's representative clearly noted in its bid and the buyer noted in Section II Part A., Procuring Office and Contact Person, of this ITB. Bidder is at all times to keep its point of contact updated with the most current information. After the award of the contract, all notices under the contract shall be deemed duly given upon delivery to the staff designated as the point of contact for this ITB, in person, or upon delivery by U.S. Mail, facsimile, or e-mail. Each Bidder should provide in its bid the name, title, and complete address of its designee to receive notices.

1. Except as otherwise expressly specified herein, all notices, requests, or other communications shall be in writing and shall be deemed to have been given if delivered personally or mailed, by U.S. Mail, postage prepaid, return receipt requested, to the parties at their respective addresses set forth above, or at such other addresses as may be specified in writing by either of the parties. All notices, requests, or communications shall be deemed effective upon personal delivery or three (3) calendar days following deposit in the mail.
2. Whenever the Contractor encounters any difficulty which is delaying or threatens to delay its timely performance under the contract, the Contractor shall immediately give notice thereof in writing to the State reciting all relevant information with respect thereto. Such notice shall not in any way constitute a basis for an extension of the delivery schedule or be construed as a waiver by the State of any of its rights or remedies to which it is entitled by law or equity or pursuant to the provisions of the contract. Failure to give such notice, however, may be grounds for denial of any request for an extension of the delivery schedule because of such delay.

Either party may change its address for notification purposes by giving notice of the change, and setting forth the new address and an effective date.

For the duration of the contract, all communication between Contractor and the State regarding the contract shall take place between the Contractor and individuals specified by the State in writing. Communication about the contract between Contractor and individuals not designated as points of contact by the State is strictly forbidden.

**W. EARLY TERMINATION**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The contract may be terminated as follows:

1. The State and the Contractor, by mutual written agreement, may terminate the contract at any time.
2. The State, in its sole discretion, may terminate the contract for any reason upon thirty (30) calendar days written notice to the Contractor. Such notice shall not relieve the Contractor of warranty or other obligations incurred under the terms of the contract. In the event of cancellation the Contractor shall be entitled to payment for those products received and accepted by the State.
3. The State may terminate the contract immediately for the following reasons:
  - a. if directed to do so by statute;
  - b. Contractor has made an assignment for the benefit of creditors, has admitted in writing its inability to pay debts as they mature, or has ceased operating in the normal course of business;
  - c. a trustee or receiver of the Contractor or of any substantial part of the Contractor's assets has been appointed by a court;

- d. fraud, misappropriation, embezzlement, malfeasance, misfeasance, or illegal conduct pertaining to performance under the contract by its Contractor, its employees, officers, directors, or shareholders;
- e. an involuntary proceeding has been commenced by any party against the Contractor under any one of the chapters of Title 11 of the United States Code and (i) the proceeding has been pending for at least sixty (60) calendar days; or (ii) the Contractor has consented, either expressly or by operation of law, to the entry of an order for relief; or (iii) the Contractor has been decreed or adjudged a debtor;
- f. a voluntary petition has been filed by the Contractor under any of the chapters of Title 11 of the United States Code;
- g. Contractor intentionally discloses confidential information;
- h. Contractor has or announces it will discontinue support or provision of the deliverable;
- i. second or subsequent documented "vendor performance report" form deemed acceptable by the State Purchasing Bureau; or
- j. Contractor engaged in collusion or ones' actions which could have provided Contractor an unfair advantage in obtaining this contract.

**X. BREACH BY CONTRACTOR**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The State may terminate the contract, in whole or in part, if the Contractor fails to perform its obligations under the contract in a timely and proper manner. The State may, by providing a written notice of default to the Contractor, allow the Contractor to cure a failure or breach of contract within a period of thirty (30) calendar days (or longer at State's discretion considering the gravity and nature of the default). Said notice shall be delivered by Certified Mail, Return Receipt Requested, or in person with proof of delivery. Allowing the Contractor time to cure a failure or breach of contract does not waive the State's right to immediately terminate the contract for the same or different contract breach which may occur at a different time. In case of default of the Contractor, the State may contract the goods from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

**Y. ASSURANCES BEFORE BREACH**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

If any document or deliverable required pursuant to the contract does not fulfill the requirements of the Intent To Bid/resulting contract, upon written notice from the State, the Contractor shall deliver assurances in the form of additional Contractor resources at no additional cost to the project in order to complete the deliverable, and to ensure that other project schedules will not be adversely affected.

**Z. ACCEPTANCE AND PAYMENT OF GOODS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

In the event that the Contractor fails to provide the goods requested by the State, the State will not pay for such products until the same has been received and accepted by the State.

**AA. FORCE MAJEURE**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

Neither party shall be liable for any costs or damages resulting from its inability to perform any of its obligations under the contract due to a natural disaster, or other similar event outside the control and not the fault of the affected party ("Force Majeure Event"). A Force Majeure Event shall not constitute a breach of the contract. The party so affected shall immediately give notice to the other party of the Force Majeure Event. The State may grant relief from performance of the contract if the Contractor is prevented from performance by a Force Majeure Event. The burden of proof for the need for such relief shall rest upon the Contractor. To obtain release based on a Force Majeure Event, the Contractor shall file a written request for relief with the State Purchasing Bureau. Labor disputes with the impacted party's own employees will not be considered a Force Majeure Event and will not suspend performance requirements under the contract.

**BB. PROHIBITION AGAINST ADVANCE PAYMENT**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

Payments shall not be made until contractual deliverable(s) are received and accepted by the State.

**CC. PAYMENT**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			Net 30 payment terms

State will render payment to Contractor when the terms and conditions of the contract and specifications have been satisfactorily completed on the part of the Contractor as solely determined by the State. Payment will be made by the responsible agency in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §§ 81-2401 through 81-2408). The State may require the Contractor to accept payment by electronic means such as ACH deposit. In no event shall the State be responsible or liable to pay for any goods provided by the Contractor prior to the Effective Date, and the Contractor hereby waives any claim or cause of action for any such claims.

**DD. INVOICES**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

Invoices for payments must be submitted by the Contractor to the agency requesting the goods with sufficient detail to support payment. Submit invoices to:

NE Dept. of Correctional Services (NDCS)  
 Accounts Payable  
 P.O. Box 94661  
 Lincoln, NE 68509-4661  
 Email: [dcsaccounts payable@nebraska.gov](mailto:dcsaccounts payable@nebraska.gov)



Phone: 402-479-5701

The terms and conditions included in the Contractor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract.

**EE. TAXES**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The State is not required to pay taxes of any kind and assumes no such liability as a result of this solicitation. Any property tax payable on the Contractor's equipment which may be installed in a state-owned facility is the responsibility of the Contractor.

**FF. SEVERABILITY**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the particular provision held to be invalid.

**GG. PROPRIETARY INFORMATION**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

Data contained in the bid and all documentation provided therein, become the property of the State of Nebraska and the data becomes public information upon opening the bid. If the Bidder wishes to have any information withheld from the public, such information must fall within the definition of proprietary information contained within Nebraska's public record statutes. **All proprietary information the Bidder wishes the State to withhold must be submitted in a sealed package, which is separate from the remainder of the bid, and provide supporting documents showing why such documents should be marked proprietary.** The separate package must be clearly marked PROPRIETARY on the outside of the package. **Bidders may not mark their entire Invitation To Bid as proprietary.** Pricing submitted in Bidder's ITB may not be marked as proprietary information. Failure of the Bidder to follow the instructions for submitting proprietary and copyrighted information may result in the information being viewed by other Bidders and the public. Proprietary information is defined as trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and serve no public purpose (see Neb. Rev. Stat. § 84-712.05(3)). In accordance with Attorney General Opinions 92068 and 97033, Bidders submitting information as proprietary may be required to prove specific, named competitor(s) who would be advantaged by release of the information and the specific advantage the competitor(s) would receive. Although every effort will be made to withhold information that is properly submitted as proprietary and meets the State's definition of proprietary information, the State is under no obligation to maintain the confidentiality of proprietary information and accepts no liability for the release of such information.

**HH. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION/COLLUSIVE BIDDING**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

By submission of this bid, the bidder certifies, that it is the party making the foregoing bid and that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and further that the bidder has not, directly or indirectly, submitted the bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

**II. PRICES**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
		DM	Please see 3M's attached Explanations letter

All prices, costs, and terms and conditions outlined in the proposal shall remain fixed and valid commencing on the opening date of the proposal until an award is made or the Request for Proposal is cancelled.

Price quoted shall be unit price and shall be firm for one (1) year from date of an award and are to be net; including transportation and delivery charges fully prepaid by the Bidder F.O.B. Destination as specified. No additional charges will be allowed for packing, handling, fuel surcharge, or partial delivery costs. Any request for an increase must be submitted in writing to the State Purchasing Bureau a minimum of 30 days prior to proposed effective date of increase, and must show cause and be accompanied by supporting documentation (such as notification letter from manufacturer). Further documentation may be required by the State to justify the increase. The State reserves the right to deny any requested price increase. No price increases are to be billed to any State Agencies prior to written amendment of the contract by the parties.

The State will be given full proportionate benefit of any price decrease during the term of the contract. Contractor represents and warrants that all prices for services, now or subsequently specified, are as low as and no higher than prices which the Contractor has charged or intends to charge customers other than the State for the same or similar products and services of the same or equivalent quantity and quality for delivery or performance during the same periods of time. If, during the term of the contract, the Contractor shall reduce any and/or all prices charged to any customers other than the State for the same or similar products or services specified herein, the Contractor shall make an equal or equivalent reduction in corresponding prices for said specified products or services.

Contractor also represents and warrants that all prices set forth in the contract and all prices in addition, which the Contractor may charge under the terms of the contract, do not and will not violate any existing federal, state, or municipal law or regulations concerning price discrimination and/or price fixing. Contractor agrees to hold the State harmless from any such violation. Prices quoted shall not be subject to increase throughout the contract period unless specifically allowed by these specifications.

**JJ. ETHICS IN PUBLIC CONTRACTING**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

No Bidder shall pay or offer to pay, either directly or indirectly, any fee, commission compensation, gift, gratuity, or anything of value to any State officer, legislator, employee or evaluator based on the understanding that the receiving person's vote, actions, or judgment will be influenced thereby. No Bidder shall give any item of value to any employee of the State Purchasing Bureau or any evaluator.

Bidders shall be prohibited from utilizing the services of lobbyists, attorneys, political activists, or consultants to secure the contract. It is the intent of this provision to assure that the prohibition of state contact during the procurement process is not subverted through the use of lobbyists, attorneys, political activists, or consultants. It is the intent of the State that the process of evaluation of bids and award of the contract be completed without external influence. It is not the intent of this section to prohibit Bidders from seeking professional advice, for example consulting legal counsel, regarding terms and conditions of this Invitation To Bid or the format or content of their bid.

If the Bidder is found to be in non-compliance with this section of the Invitation To Bid, they may forfeit the contract if awarded to them or be disqualified from the selection process.

**KK. INDEMNIFICATION**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

**1. GENERAL**

The Contractor agrees to defend, indemnify, hold, and save harmless the State and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses ("the claims"), sustained or asserted against the State, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Contractor, its employees, Subcontractors, consultants, representatives, and agents, except to the extent such Contractor liability is attenuated by any action of the State which directly and proximately contributed to the claims.

**2. INTELLECTUAL PROPERTY**

The Contractor agrees it will, at its sole cost and expense, defend, indemnify, and hold harmless the indemnified parties from and against any and all claims, to the extent such claims arise out of, result from, or are attributable to, the actual or alleged infringement or misappropriation of any patent, copyright, trade secret, trademark, or confidential information of any third party by the Contractor or its employees, Subcontractors, consultants, representatives, and agents; provided, however, the State gives the Contractor prompt notice in writing of the claim. The Contractor may not settle any infringement claim that will affect the State's use of the Licensed Software without the State's prior written consent, which consent may be withheld for any reason.

If a judgment or settlement is obtained or reasonably anticipated against the State's use of any intellectual property for which the Contractor has indemnified the State, the Contractor shall, at the Contractor's sole cost and expense, promptly modify the item or items which were determined to be infringing, acquire a license or licenses on the State's behalf to provide the necessary rights to the State to eliminate the infringement, or provide the State with a non-infringing substitute that provides the State the same functionality. At the State's election, the actual or anticipated judgment may be treated as a breach of warranty by the Contractor, and the State may receive the remedies provided under this ITB.

**3. SELF-INSURANCE**

The State of Nebraska is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01 (Reissue 2008). If there is a presumed loss under the provisions of this agreement, Contractor may file a claim with the Office of Risk Management pursuant to Neb. Rev. Stat. §§ 81-8,829 – 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Section 81-8,294), Tort (Section 81-8,209), and Contract Claim Acts (Section 81-8,302), as outlined in Neb. Rev. Stat. § 81-8,209 *et seq.* and under any other provisions of law and accepts liability under this agreement to the extent provided by law.

**LL. ANTITRUST**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			3M proposes to insert the word “material” between the word “all” and “claims” in the first line of this provision.

The Contractor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.

**MM. EMPLOYEE WORK ELIGIBILITY STATUS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
DM			

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Contractor is an individual or sole proprietorship, the following applies:

1. The Contractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at <http://das.nebraska.gov/materiel/purchasing.html>  
The completed United States Attestation Form should be submitted with the Invitation To Bid response.
2. If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.
3. The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

**IV. SCOPE OF WORK**

The Bidder must provide the following information in response to this Invitation To Bid.

**A. SCOPE**

The State of Nebraska, Department of Correctional Services, Cornhusker State Industries is seeking a contract to provide Reflective Sign Sheeting that will be utilized in a Correctional setting to produce highway marking signs, in accordance with the attached specifications and contract conditions. The Reflective Sign Sheeting shall be of Type IV – a micro-prismatic retroreflective element sheeting (high intensity prismatic), type reflective fluorescent micro-prismatic sheeting, and Type Full Cube. The Reflective Sign Sheeting shall meet the requirements of ASTM D 4956 latest revision and supplements, as amended to or added to by this specification. The Type IV Reflective Sign Sheeting shall include, but not limited to the following colors: White, Yellow, Green, Red, Blue, Orange and Pre-stripped Orange/White (left and right). Pre-stripped sheeting shall meet the width of stripe requirements of the MUTCD. Reflective fluorescent micro prismatic sheeting shall be fluorescent Orange, Yellow-Green or Yellow. Full Cube sheeting shall be White, Yellow, Green, Red, Blue, Orange, Fluorescent Orange, Fluorescent Yellow-Green or Fluorescent Yellow.

Adhesive Backing: shall be class I and protected by an easily removable liner

It is the intent of this bid invitation to establish a contract to supply Reflective Sign Sheeting per the attached specifications from date of award for a period of two (2) years with the option to renew for two (2) additional two (2) year terms, for a total of six (6) years when mutually agreeable to the vendor and the State of Nebraska. The State reserves the right to extend the period of this contract beyond the end date when mutually agreeable to the vendor and the State of Nebraska.

All items bid shall be of the latest manufacture in production as of the date of the Invitation To Bid and be of proven performance and under standard design complete as regularly advertised and marketed. All necessary materials for satisfactory performance of the supplies shall be incorporated into the Reflective Sign Sheeting whether or not they may be specifically mentioned below.

Complete specifications, manufacturer's descriptive literature and/or advertising data sheets with cuts or photographs may be required prior to an award and should be included with the bid on the IDENTICAL items proposed. Literature should be complete and the latest published. Any information necessary to show compliance with these specifications not given on the manufacturer's descriptive literature and/or advertising data sheets should be supplied in writing on or attached to the bid document. If manufacturer's specifications sheets, descriptive literature, advertising data sheets or information necessary to show compliance with these specifications is not supplied in writing on or attached to the bid document, the Bidder will be required to submit requested information within three (3) business days of a written request. Failure to submit requested descriptive literature or advertising data sheets may be grounds to reject the bid.

**B. AMENDMENT**

This Contract may be amended at any time in writing upon the agreement of both parties.

**C. REVISIONS**

In the event any product is discontinued or replaced with a newer version during the contract period, the State of Nebraska reserves the right to amend this contract to include the new product.

**Nebraska Department of Correctional Services  
Cornhusker State Industries  
Reflective Sign Sheeting  
Qualified Bidders**

The following vendors are the only pre-approved qualified suppliers of ASTM type IV, sheeting, Fluorescent Reflective Sign Sheeting, and Full Cube Sheeting to the Nebraska Department of Correctional Services, Cornhusker State Industries.

1. 3M Traffic Control Materials Division  
3M Center Building  
3130 Lexington Avenue South  
St. Paul, MN 55133-3211
  
2. Avery Dennison  
Reflective Products Division  
6565 W. Howard Street  
Niles, IL 60714

Qualification for approval was determined by the Department of Roads, Traffic Engineering Division based on the following criteria:

1. Ability to provide all required colors of reflective sheeting including reflective fluorescent orange, yellow-green and yellow, and also all process inks required.
2. Rolled sheeting available in variety of width up to 48".
3. Have provided the Department of Roads adequate samples of reflective sheeting and inks for testing and evaluation.
4. Satisfactory acceptance from Sign Shop Evaluation of sheeting handling, application, trimming, and screen printing.
5. One-part process inks.

## **APPROVED BRANDS AND APPROVAL PROCESS (PRE-QUALIFICATION)**

Products bid must be the brand(s) as specified above and within the specifications. The State of Nebraska will not be accepting alternatives to the brands specified for contract award(s). In order to submit a bid for this solicitation, the bidder's proposed product for Reflective Sign Sheeting materials must be an "Approved Brand" by the Nebraska Department of Roads. Products that are not on the "Approved Brand" list will not be considered for this Invitation to Bid (ITB)

Avery Dennison and 3M Traffic Control Materials Division are considered "Approved Brands" which have previously been tested by the Nebraska Department of Roads for meeting specification requirements.

### **Procedure for Pre-Approval/Pre-Qualification**

If a vendor/supplier has a product which is not pre-approved by the Department of Roads, Traffic Engineering Division the vendor/supplier may contact Matt Neemann, NDOR for information concerning the approval process, [matt.neemann@nebraska.gov](mailto:matt.neemann@nebraska.gov)

To be eligible for use by the State of Nebraska, Department of Roads, prospective Reflective Sign Sheeting suppliers must do the following:

- Submit samples to be tested according to NDR D 4956 – Testing of Retroreflective Sign Sheeting (3 year testing process) can be viewed at NE Dept. of Roads web site.
- Have all MUTCD standard sign colors, including florescent colors
- Utilize a one-part ink process

The Department of Roads new products approval procedure can be found on the bottom of the page at: <http://www.transportation.nebraska.gov/mat-n-tests/aplist.htm>

## **MANUFACTURERS REFLECTIVE SIGN SHEETING CURRENTLY APPROVED IS:**

Type IV Reflective Sheeting:

- 3M – 3930 Series
- Avery Dennison – T6500 Series

Type Fluorescent Orange Sheeting

- 3M – 3924 Series
- Avery Dennison – W-7514 Series
- Avery Dennison – W-9514 Series

Type Fluorescent Yellow and Yellow/Green Series:

- 3M – 3980 Series
- Avery Dennison – T7500 Fluorescent Series
- Avery Dennison – T-9500 Fluorescent Series

Type Full Cube

- 3M- 4000 Series
- Avery Dennison – T-11500 OmniCube

A list of the Department of Roads most current acceptable brands list for sign sheeting can be found: <http://www.transportation.nebraska.gov/mat-n-tests/newapl/transportationsafety/trafficcontroldevices/contractorfurnishedsignsheeting.pdf>

**V. INVITATION TO BID - TECHNICAL SPECIFICATIONS**

**A. BIDDER INSTRUCTIONS**

Bidder must respond to each of the following statements. Specifications listed are minimum conditions that must be met in order for a Bidder to qualify for the award.

"YES" response means the Bidder guarantees they can meet this condition.

"NO" response means the Bidder cannot meet this condition and will not be considered.

"NO & PROVIDE ALTERNATIVE" responses should be used only with a narrative response in the NOTES/COMMENTS section explaining in detail any deviation from the Bidder's ability to meet the condition, and an explanation of how this would be determined to be an acceptable alternative to meeting the condition. Alternatives must be detailed in such a way that allows such deviations to be fully evaluated. The State of Nebraska shall determine at its sole discretion whether or not the Bidder's alternative is an acceptable alternative.

**B. NON-COMPLIANCE STATEMENT**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. Read these specifications carefully. Any and all exceptions to these specifications must be written on or attached to quotation request. Any noncompliance may void your quotation. Non-compliance to any single specification can void your bid.
DM			2. It is the responsibility of Bidders to obtain information and clarifications as provided below. The State of Nebraska is not responsible for any erroneous or incomplete understandings or wrongful interpretations of this Invitation to Bid by any Bidder.
DM			3. No interpretation related to the meaning of bid specifications or other pre-bid documents will be made orally to any Bidder by the State of Nebraska. Any Invitation To bid interpretation must be put in writing and faxed by the Bidder to: the State Purchasing Bureau, Fax (402) 471-2089 or e-mailed to AS Materiel Purchasing <a href="mailto:as.materielpurchasing@nebraska.gov">as.materielpurchasing@nebraska.gov</a> by the last day to submit written questions that is specified in the Schedule of Events. (Inquiries received after the last day to submit written questions may not be addressed).
<b>NOTES/COMMENTS:</b>			



## Reflective Sheeting

### C. MINIMUM PERFORMANCE OF RETROREFLECTIVE

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. Type IV sheeting shall be as required in ASTM D4956. ASTM standards can be found at: <a href="https://www.astm.org/Standard/standards-and-publications.html">https://www.astm.org/Standard/standards-and-publications.html</a> .
DM			2. Fluorescent Orange sheeting shall meet or exceed the minimum coefficient of retroreflective values as shown in <b>Table 1.</b> (see below)
DM			3. Fluorescent Yellow-Green and Fluorescent Yellow sheeting shall meet or exceed the minimum coefficient of retroreflective values as shown in <b>Table 2.</b> (see below)
DM			4. Full Cube sheeting shall meet or exceed the minimum coefficient of retroreflective values as shown in <b>Table 3.</b> (see below)
<b>NOTES/COMMENTS:</b>			

<b>Table 1.</b> Minimum Coefficient of Retroreflection, Fluorescent Orange (Candelas per foot candle per sq. foot)			
Observation Angle	Entrance Angle	Fluorescent Orange	
0.2	-4	200	
0.2	30	92	
0.5	-4	80	
0.5	30	50	

<b>Table 2.</b> Minimum Coefficient of Retroreflection, Fluorescent Yellow-Green and Yellow (Candelas per foot candle per sq. foot)			
Observation Angle	Entrance Angle	Fluorescent Yellow-Green	Fluorescent Yellow
0.2	-4	325	240
0.2	30	200	150
0.5	-4	235	165
0.5	30	105	75

<b>Table 3.</b> Minimum Coefficient of Retroreflection, Full Cube (Candelas per foot candle per sq. foot)									
Observation Angle	Entrance Angle	White	Yellow	Red	Green	Blue	FYG	FY	FO
0.2	-4	570	425	114	57	26	455	340	170
0.2	30	215	160	43	21	10	170	130	64
0.5	-4	400	300	80	40	18	320	240	120
0.5	30	150	112	30	15	6.8	120	90	45
1.0	-4	120	90	24	12	5.4	96	72	36
1.0	30	45	34	9	4.5	2.0	36	27	14

**D. OPTICAL DESIGN OF RETROREFLECTIVE SHEETING - DAYTIME**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. The optical design of the sheeting shall be such that when measured at an entrance angle of $-4^\circ$ the fractional retro-reflectance within a $2^\circ$ observation angle cone, as defined in ASTM E808 as $R_T$ with $\alpha_{max} = 2^\circ$ , is at least 55%.
DM			2. <b>Daytime Color:</b> For type IV shall be as per ASTM D4956
DM			3. Daytime color of Fluorescent Orange, Yellow-Green and Yellow shall conform to the requirements of <b>Table 4</b> for chromaticity coordinates. (see below)
DM			4. Daytime Luminance/Maximum Spectral Radiance Factor for Fluorescent Orange, Yellow-Green and Yellow shall be in accordance with manufacturer's requirements to ensure the appearance of the fluorescent colors.
<b>NOTES/COMMENTS:</b>			

	1		2		3		4	
	x	y	x	y	x	y	x	y
Fluorescent Orange	.583	.416	.535	.400	.595	.351	.645	.355
Fluorescent Yellow-Green	.387	.610	.369	.546	.428	.496	.460	.540
Fluorescent Yellow	.479	.520	.446	.483	.512	.421	.557	.442

Note: the four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 standard colorimetric system measured with illuminant D65.

**E. OPTICAL DESIGN OF RETROREFLECTIVE SHEETING - NIGHTTIME**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. <b>Nighttime Color:</b> For type IV shall be as per ASTM D4956.
DM			2. Nighttime color of Fluorescent Orange, Yellow-Green and Yellow shall conform to the requirements of <b>Table 5</b> for chromaticity coordinates. (see below)
DM			3. Nighttime color for Fluorescent Yellow-Green and Yellow shall reflect a vibrant yellow color.
<b>NOTES/COMMENTS:</b>			

	1		2		3		4	
	x	y	x	y	x	y	x	y
Fluorescent Orange	.625	.375	.589	.376	.636	.330	.669	.331
Fluorescent Yellow-Green	.480	.520	.473	.490	.523	.440	.550	.449
Fluorescent Yellow	.554	.445	.526	.437	.569	.394	.610	.390

Note: the four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 standard colorimetric system measured with illuminant D65.

**F. SPECULAR GLOSS**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. The retroreflective sheeting shall have an 85° specular gloss of not less than 50 for Type IV and Reflective Fluorescent Orange sheeting. Fluorescent Green and Fluorescent Yellow should not have less than 40 when tested in accordance with ASTM D 523.
NOTES/COMMENTS:			

**G. ARTIFICIAL WEATHERING**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			2. Retroreflectivity measurements for reflective Fluorescent Orange shall be made at angles of 0.2 degrees observation, -4 ° degrees entrance and have a coefficient of retroreflection of not less than 50% of <b>Table 2 above</b> .
NOTES/COMMENTS:			

**H. GENERAL CHARACTERISTICS AND ROLL SIZES REQUIRED**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. High Intensity Green: Widths (inches) 12.75", 14", 16", 18", 24", 30", 36", 42" and 48"  Widths available if different from above:  _____
DM			2. High Intensity Yellow, Red, Blue & Brown: Widths (inches) 12.75", 18", 24", 30" 36" and 48"  Widths available if different from above:  _____
DM			3. High Intensity White: Widths (inches) 1", 2", 3", 12.75", 18", 21", 24", 30", 36", and 48"  Widths available if different from above:  _____
DM			4. Fluorescent Orange: Widths (inches) 12.75", 18", 24", 30", 36", and 48"

DM			Widths available if different from above:  _____
DM			5. Barricade Orange/White: Widths (inches) 12"  Widths available if different from above:  _____
DM			6. Opaque Vinyl: Widths (inches) 1", 2", 3", 18", 24", 30", 36", and 48"  Widths available if different from above:  _____
DM			7. Fluorescent Yellow: Widths (inches) 12.75", 18", 24", 30", 36" and 48"  Widths available if different from above:  _____
DM			8. Fluorescent Yellow -Green: Widths (inches) 21", 24", 30", and 36"  Widths available if different from above:  _____
DM			9. Full Cube: Widths (inches) 1", 2", 3", 12.75", 16", 18", 21", 24", 30", 36", and 48"  Widths available if different from above:  _____
DM			10. Should be available in either 50 or 100 yard rolls.
DM			11. Reflective sheeting to be furnished in continuous rolls. There should be no more than one(1) splice per roll, and shall be suitable for continuous application.
DM			12. Reflective sheeting shall be free from ragged edges, cracks, and extraneous materials.
DM			13. Shall be furnished/available in both rolls and sheets.
DM			14. Nominal roll sheeting sizes shall have the following actual widths; (see below) Nominal width of sign sheeting shall be used for all bidding, procurement and expense calculations.
<b>NOTES/COMMENTS:</b>			

Nominal roll sheeting sizes shall have the following actual widths:

Nominal Width	Actual Width	Tolerance
1"	Width + 1/32"	+/- 1/32"
2" to 6"	Width + 1/16"	+/- 1/16"
12" to 18" *	Width + 1/8"	+/- 1/16"
24" to 30"	Width + 1/4"	+/- 1/16"
36"	Width + 3/8"	+/- 1/16"
48"	Width + 1/2"	+/- 1/16"

\*12.75 sheeting width shall be the actual size of 12.75" ± 1/32".

**I. PACKAGING**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. Rolls of reflective sheeting shall be packaged in such a manner that damage to reflective sheeting does not occur.
DM			2. Roll width of 24" or wider will be packaged on roll per container.
DM			3. Rolls wider than 6" and 10 yards in length or longer shall be supported and suspended by the roll core within the cartons by means of plastic plugs or plugs with built-up and reinforced corrugated pads.
DM			4. Cut sheets shall be packaged flat between pressed composition boards or corrugated pads of the same dimensions as the sheets and shall be packed in accordance with commercially accepted standards and in accordance with recommendations of the sheeting manufacturer.
DM			5. All packages with damage to reflective sheeting will be rejected.
DM			6. The reflective sheeting as supplied, stored under normal conditions, shall be suitable for use for a minimum of one(1) year from date of purchase.
<b>NOTES/COMMENTS:</b>			

**J. QUALITY ASSURANCE**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. Prior to contract award, the vendor shall furnish a Certified Test Report conforming to the requirements stated below for all reflective sheeting supplied under these specifications. The report will be reviewed by Nebraska Department of Roads and Cornhusker State Industries.
DM			2. A Certified Test Report is a document containing a list of the dimensional, chemical and physical results obtained by an independent, approved testing organization from an actual test of the types of materials involved, and shall certify that the materials meet the requirements of the specifications and shall include the following information:
DM			a. Description of material
DM			b. State of Nebraska Bid Number / Order Number
DM			c. Date of Manufacture
DM			d. Date of testing
DM			e. Name of organization to which the material is consigned
DM			f. Quantity of material represented
DM			g. Means of identifying the consignment such as label, marking, lot number, etc.
DM			h. Date and method of shipment
DM			i. Name of organization performing tests

DM			3. The Certified Test Report shall be signed by an authorized and responsible agent for the organization supplying the material, and it shall be notarized.
NOTES/COMMENTS:			

**K. TECHNICAL SUPPORT**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. The vendor shall be responsible throughout the duration of the contract for providing Cornhusker State Industries with technical information relative to the type of equipment, or modifications to present equipment and the procedures, and the techniques necessary to apply the reflective sheeting in strict accordance with the sheeting manufacturer's recommendations.
DM			2. If deemed necessary by CSI, the bidder shall make available to the Sign Shop the services of a qualified representative of the sheeting manufacturer who shall furnish technical advice concerning application of the reflective sheeting.
NOTES/COMMENTS:			

**L. OPAQUE VINYL FILM AND ADDITIONAL REQUIREMENTS**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. Vendor/Contractor shall provide pressure sensitive opaque vinyl film for an over laminate film in the manufacturing of signs and be fully compatible with electronic computer sign cutting.
DM			2. Material specification shall be per manufacturers requirements and published product bulletin sheets. The Opaque black vinyl warranty shall be compatible with the warranty of reflective sheeting of the materials the vinyl is applied to.
DM			3. For black vinyl not used with reflective sheeting the warranty will be the same as the published product bulletin.
DM			4. The materials currently approved from each approved vendor are:  3M – Scotchcal ElectroCut Graphic Film Series 7725  Avery Dennison – A8 Opaque Overlay Film
	DM	Please see attached letter	5. <b>PERFORATED REFLECTIVE SHEETING</b> – the type IV, fluorescent, and full cube reflective sheeting have both edges perforated so that they are completely compatible for use in an electronic cutting apparatus.
	DM	Please see attached letter	6. The perforated reflective sheeting meets all requirements in previous sections, such as brightness, color, adhesive characteristics, photometry, packaging, etc.
DM			7. <b>PROCESS INKS</b> – the manufacturer of the sheeting being offered shall furnish at <b>no additional</b> charge the process inks in standard traffic colors, clears and thinners recommended for the sheeting to meet performance requirements of the specification. Vendor/Contractor shall further be responsible for technical assistance in the use of these inks.
DM			8. <b>SLIP SHEETS</b> – slip sheet paper, for use in packaging, storing or shipping finished signs, shall be furnished in rolls by the manufacturer at <b>no additional charge</b> , in at least equal square footage and in the same widths as the sheeting supplied.

DM			9. <b>WASHERS</b> – washer to protect the sign surface from damage by bolts or other fasteners shall be furnished by the manufacturer at <b>no additional charge</b> .
<b>NOTES/COMMENTS:</b>			

**M. ORDERS**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. Reflective Sign Sheeting shall be ordered on an “as needed” basis. Orders will be placed by fax, e-mail or internet (if available) All orders must reference a purchase order number and the purchase order number must be referenced on the packing slip and invoice.
DM			2. Bidder is responsible for identifying any order minimums or delivery limitations that may apply. Failure of bidder to note any special conditions or exceptions shall be deemed a waiver of any such condition or exception. Any order minimums, delivery limitations, special conditions, or exceptions specified may be an award consideration. The State will be the sole judge in determining the acceptability of any order minimums, delivery limitations, special conditions, or exceptions.
<b>NOTES/COMMENTS:</b>			

**N. WARRANTY**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. Type IV, Fluorescent and Full Cube Reflective sheeting will retain its effectiveness as a component of traffic control and guidance signs and meet the following minimum retroreflective values for the periods specified as follows: <b>Table 6</b>
DM			2. Type IV sheeting: If within 7 to 10 years of sign fabrication, the sheeting deteriorates due to natural causes the vendor shall furnish a replacement amount of like sheeting at no cost to the State to enable the sign surface to be restored to its warranted effectiveness.  A. Deterioration to the extent that the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night conditions, or B. If within seven (7) years sheeting fails to retain the minimum coefficient of retroreflective values for the period specified above, See <b>Table 7</b> .
DM			3. All orange sheeting: If within 3 years of sign fabrication orange sheeting fails to meet 50% of coefficient of retroreflection (0.2° observation angle, -4.0 entrance angle) of new sheeting the sheeting manufacturer shall furnish replacement amount of like sheeting at no cost to CSI.
<b>NOTES/COMMENTS:</b>			

Minimum Coefficient of Retroreflection, Type Full Cube Sheeting  
Candelas per foot-candle per square foot  
(0.2° observation angle and -4.0° entrance angle)

**Table 6:**

Color	7 years from the date of sign fabrication*	10 years from the date of sign fabrication*
White	456	399
Yellow	340	298
Fluorescent Yellow	272	238
Fluorescent Yellow-Green	364	319
Fluorescent Orange	136	119
Green	46	40
Red	91	80
Blue	21	18

Minimum Coefficient of Retroreflection, Type IV Sheeting  
Candelas per foot-candle per square foot  
(0.2° observation angle and -4.0° entrance angle)

**Table 7:**

Color	7 years from the date of sign fabrication*	10 years from the date of sign fabrication*
White	288	250
Yellow	216	170
Fluorescent Yellow	192	168
Fluorescent Yellow-Green	260	227
Green	40	35
Red	52	45
Blue	24	20
Brown	14	12

\* For transparent color screen printed areas on White sheeting, Coefficient of Retroreflection values shall be a minimum of 70% of the above. All measurements will be made after cleaning in accordance with manufacturer's products recommendations.

**O. ACCEPTABLE BRANDS**

DM			1. Products bid must be Avery or 3M products as specified on each line of the Bid Document. The State of Nebraska will not be accepting alternatives to the brands specified.
DM			2. Equipment bid shall be the latest current models in production as of the date of the invitation to bid and be of proven performance and under standard design, complete as regularly advertised and marketed and shall be delivered complete with all necessary parts, specified accessories, tools, and special features, whether or not they may be specifically mentioned below. Used, demonstrator, prototype, or discontinued equipment is not acceptable. Complete specifications, manufacturer's descriptive literature and/or advertising data sheets with cuts or photographs may be required prior to an award and should be included with the bid on the IDENTICAL equipment proposed. Literature should be complete and the latest published. Any information necessary to show compliance with these specifications not given on the manufacturer's descriptive literature and/or advertising data sheets should be supplied in writing on or attached to the bid document. Avery or 3M products bid must meet or exceed the following requirements.

**NOTES/COMMENTS:**



**P. ANNUAL USAGE, ESTIMATED**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. Annual usage figures provided are estimates and are not to be construed as either a minimum or maximum purchase quantity. The orders shall be for the actual quantities of each item ordered by or for any agency during the life of the contract. Vendor shall not impose minimum order requirements.
NOTES/COMMENTS:			

**Q. USAGE REPORT**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. The vendor shall, upon request by the State of Nebraska, provide an annual usage report of this contract by state agencies. Information will include agency name, item, and dollar amount. Information may be requested at any time by the State Purchasing Bureau, but may typically be requested at the end of the contract period or upon renewal of the contract, or at other intervals (monthly, quarterly, etc.) as determined by the State.
NOTES/COMMENTS:			

**R. DELIVERY ARO**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. Delivery desired within (thirty (30)) days after receipt of order(s).
NOTES/COMMENTS:			

**S. DELIVERY LOCATIONS / INSTRUCTIONS**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			1. Delivery is required to be within 30 days after receipt of order. If order will not arrive in that time frame a written acknowledgement will be provided with delivery dates.
DM			2. Delivery Location: Cornhusker State Industries 800 Pioneers Blvd. Lincoln, NE 68502
DM			3. Delivery Hours: . Deliveries are to be made between 8:00 am and 2:30 pm Monday through Friday except for State Holidays.

**NOTES/COMMENTS:**

**T. PRICES**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			<p>1. Price quoted shall be unit price and shall be firm for one (1) year from date of an award and are to be net; including transportation and delivery charges fully prepaid by the Bidder F.O.B. Destination as specified. No additional charges will be allowed for packing, handling, fuel surcharge, or partial delivery costs. Any request for an increase must be submitted in writing to the State Purchasing Bureau a minimum of 30 days prior to proposed effective date of increase, and must show cause and be accompanied by supporting documentation (such as notification letter from manufacturer). Further documentation may be required by the State, to authenticate the increase (such as manufacturer invoices). Failure to supply any requested supporting documentation may be grounds to cancel the contract. The State further reserves the right to reject any proposed price increase(s), cancel the contract and re-bid if determined to be in the best interest of the State. The State will be given full proportionate benefit of any decrease for the term of the contract. No price increases are to be billed to any State Agencies without prior written approval by the State Purchasing Bureau. Contract supplier or suppliers may honor pricing and extend the contract to political sub-divisions, cities, and counties. Terms and conditions of the contract must be met by political sub-divisions, cities, and counties.</p>
<b>NOTES / COMMENTS</b>			

**U. SUBSTITUTIONS**

YES	NO	NO & PROVIDE ALTERNATIVE	
DM			<p>1. Vendor will not substitute any item that has been awarded without prior written approval of State Purchasing Bureau.</p>
<b>NOTES/COMMENTS:</b>			

**V. SECRETARY OF STATE REGISTRATION REQUIREMENTS**

YES	NO	NO & PROVIDE ALTERNATIVE	*Prior to contract award and/or upon request of SPB, potential award recipient(s) will be asked to certify compliance with Nebraska Secretary of State Registration by providing a true and exact copy of current (dated within 90 days) valid Certificate of Good Standing or Letter of Good Standing.
	DM		<p>1. Bidder is a SOLE PROPRIETORSHIP (in which case, no Letter of Good Standing/Certificate of Good Standing is required)</p> <p>If the Bidder is an Individual or Sole Proprietorship, the following applies:</p>

			<p>a. The Bidder must complete the United States Citizenship Attestation Form available on the Department of Administrative Services website at <a href="http://das.nebraska.gov/materiel/purchasing.html">http://das.nebraska.gov/materiel/purchasing.html</a></p> <p>The completed United States Attestation Form should be submitted with the Invitation to Bid response.</p> <p>b. If the Bidder indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.</p> <p>c. The bidder understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.</p>
	DM		2. Bidder is a GENERAL PARTNERSHIP (in which case, no Letter of Good Standing/Certificate of Good Standing is required)
DM			3. Bidder is a FOREIGN or DOMESTIC CORPORATION or BUSINESS and a copy of current Letter of Good Standing/Certificate of Good Standing from the Nebraska Secretary of State <b>is provided</b> within bid submission documents.
	DM		4. Bidder is a FOREIGN or DOMESTIC CORPORATION or BUSINESS and a copy of current Letter of Good Standing/Certificate of Good Standing from the Nebraska Secretary of State <b>will be provided</b> in a timely manner upon request prior to award.
<b>NOTES/COMMENTS:</b>			

**Form A  
Bidder Contact Sheet  
Invitation To Bid Number 5455 OF**

Form A should be completed and submitted with each response to this Invitation to Bid. This is intended to provide the State with information on the Bidder's name and address, and the specific person(s) who are responsible for preparation of the Bidder's response.

Preparation of ITB Contact Information	
Bidder Name:	3M Company
Bidder Address:	3M Center, Bldg 225-4N-14 St. Paul, MN 55144-1000
Contact Person & Title:	Denise McMahon, Contract Administrator
E-mail Address:	tbidgroup@mmm.com
Telephone Number (Office):	651-736-4218
Telephone Number (Cellular):	N/A
Fax Number:	1-888-246-9793

Each Bidder shall also designate a specific contact person who will be responsible for responding to the State if any clarifications of the Bidder's response should become necessary.

Communication with the State Contact Information	
Bidder Name:	3M Company
Bidder Address:	3M Center, Bldg 225-4N-14 St. Paul, MN 55144-1000
Contact Person & Title:	Denise McMahon, Contract Administrator
E-mail Address:	tbidgroup@mmm.com
Telephone Number (Office):	651-736-4218
Telephone Number (Cellular):	N/A
Fax Number:	1-888-246-9793

Pete Ricketts, Governor

**ADDENDUM ONE  
QUESTIONS and ANSWERS**

Date: October 28, 2016  
 To: All Bidders  
 From: Annette Walton, Buyer  
 AS Materiel State Purchasing Bureau  
 RE: Addendum for Invitation to Bid Number 5455 OF  
 to be opened November 15, 2016 at 2:00 p.m. Central Time

**Questions and Answers**

Following are the questions submitted and answers provided for the above mentioned Invitation to Bid. The questions and answers are to be considered as part of the Invitation to Bid. It is the Bidder's responsibility to check the State Purchasing Bureau website for all addenda or amendments.

<u>Question Number</u>	<u>ITB Section Reference</u>	<u>ITB Page Number</u>	<u>Question</u>	<u>State Response</u>
1.			(What's the actual square footage needed on line items number 35 through line item number 55?	All the quantities are estimated usage; here is the estimated square footage for each line item in question: 35 – 600 sf 36 – 318.75 sf 37 – 225 sf 38 – 300 sf 39 – 375 sf 40 – 450 sf 41 – 600 sf 42 – 450 sf 43 – 600 sf 44 – 318.75 sf 45 – 600 sf 46 – 12.5 sf 47 – 225 sf

Pete Ricketts, Governor

				48 – 25 sf 49 – 300 sf 50 – 375 sf 51 – 450 sf 52 – 600 sf 53 – 600 sf 54 – 600 sf 55 – 1,200 sf
2.			(Is item number 20 the same as item number 53?)	That is a duplicate entry. Line #53 is amended to read: "Sheeting, HI INTENS, BRN 48, 3M 3939-48, 50 ROLLS 600 SF"
3.			Is the State willing to consider an alternate method in reviewing pricing guarantees as provided in Section III: Invitation to Bid Terms and Conditions; section II Pricing?	This is a part of Section III Terms and Conditions, the bidder has the opportunity to Accept, Reject or Reject and Provide Alternative.

This addendum will become part of the ITB and should be acknowledged with the Invitation to Bid.

Pete Ricketts, Governor

## ADDENDUM TWO

Date: November 8, 2016

To: All Bidders

From: Annette Walton, Buyer  
AS Materiel State Purchasing Bureau

RE: Addendum for ITB 5455 OF Reflective Sign Sheeting

Original Opening Date and Time: November 15, 2016 at 2:00 p.m.

<u>Question Number</u>	<u>ITB Section Reference</u>	<u>ITB Page Number</u>	<u>Question</u>	<u>State Response</u>
1.	Line 5		Prespacing Tape: Can you clarify what Specify what Slitting means	A 48" role that is cut down into 3" roles for use on the Mutoh printer.
2.	Section V. Quality Assurance	28	If 3M and Avery product is a currently approved product by the state, would either still need to provide a Certified Test Report?	Yes.

This addendum will become part of the bid and should be acknowledged with the ITB.

# Power Of Attorney

By the authority granted the undersigned by the Deputy General Counsel and Secretary, the individuals listed below are appointed as 3M's, or its designated subsidiaries', true and lawful attorneys-in-fact for it, and in its name, for commercially-available products and services and government-unique products and services (**except research and development services**) for which 3M or its designated subsidiaries will be a prime contractor or subcontractor to any federal, state or municipal governmental agency in the United States, or to a federal, state or municipal prime contractor or higher tier subcontractor in the United States, to do acts specified on behalf of this Corporation.

(a) To submit or execute proposals, bids, binding purchase orders, contracts and subcontracts, and documents related thereto, (**excluding certifications, representations and warranties to comply with certain laws or regulations**), the following attorneys-in-fact

Authority for the below individuals applies to the specific Business Unit or staff function indicated, subject to the limitations imposed by their respective General Manager/Vice President or equivalent.

- |  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>● <b>3M Purification</b><br/>Towne, Richard B.</li> </ul>   | <ul style="list-style-type: none"> <li>● <b>Critical and Chronic Care Solutions Division</b><br/>McDonald, Michael S.</li> </ul>   | <ul style="list-style-type: none"> <li>● <b>Health Information Systems Division</b><br/>Black, Lisa M.<br/>Cline, Jan C.<br/>Garrison, Garri L.<br/>Gravos, Terri M.<br/>Jennings, Gerald R.<br/>Kim, Myung H.<br/>Mason, Deborah A.<br/>Mathison, John C.<br/>McDonough, James R.<br/>Mitchell, Brian D.</li> </ul> | <ul style="list-style-type: none"> <li>● <b>Oral Care Division</b><br/>Barnard, Mathew C.</li> </ul>   |
| <ul style="list-style-type: none"> <li>● <b>3M Unitek Corporation</b><br/>Barnard, Mathew C.</li> </ul>  | <ul style="list-style-type: none"> <li>● <b>Electronics Markets Materials Division</b><br/>Anderson, Kevin G.<br/>Koch, Joseph F.</li> </ul>                                 |  | <ul style="list-style-type: none"> <li>● <b>Optical Systems Division</b><br/>Summers, Micki A.</li> </ul>  |
| <ul style="list-style-type: none"> <li>● <b>Abrasive Systems Division</b><br/>Canniff, Perry M.</li> </ul>   | <ul style="list-style-type: none"> <li>● <b>Electrical Markets Division</b><br/>Schiller, Fred K.</li> </ul>   |  | <ul style="list-style-type: none"> <li>● <b>Personal Safety Division 3M Detection Solutions</b><br/>Canniff, Perry M.<br/>Wesemann, Melissa J.</li> </ul>  |
| <ul style="list-style-type: none"> <li>● <b>Advanced Materials Division</b><br/>Atwell, Mary<br/>Davis, Scott J.<br/>Giancola, John B.<br/>Hanson, Scott R.<br/>Ingsted, Cheryl A.<br/>Lockhart, Bruce R.<br/>Magrini, Dave L.<br/>Moeller, Kent<br/>Pearson, Claudia<br/>Race, Robert J.<br/>Rushin, Sandra J.<br/>Utley, Elizabeth R.</li> </ul> | <ul style="list-style-type: none"> <li>● <b>Food Safety Department</b><br/>Erdman, Michelle M.<br/>Wadie, John A.</li> </ul>   |  | <ul style="list-style-type: none"> <li>● <b>Traffic Safety and Security Division</b><br/>Benz, John P.<br/>Christopherson, Nicole A.<br/>Flatley, Doræen A.<br/>Kester, Joseph H.<br/>Leibel, Matthew R.<br/>McMahon, Denise C.<br/>Moran, Daniel F.<br/>Morris, John N.<br/>Pointon, David A.<br/>Roese, Arnie K.<br/>Schiralli, Ella M.<br/>Selby, Megan A.</li> </ul> |
| <ul style="list-style-type: none"> <li>● <b>Aero Technologies LLC</b><br/>Canniff, Perry M.</li> </ul>   | <ul style="list-style-type: none"> <li>● <b>Government R&amp;D Contracts Department</b><sup>1</sup><br/>Charles, Ruth P.<br/>Kays, Steven L.<br/>Smith, Vivien L.</li> </ul> | <ul style="list-style-type: none"> <li>● <b>Industrial Adhesive and Tapes Division /Venture Tape Corporation</b><br/>Authority for the below individual(s) applies to Federal Supply Schedule contracts only:<br/>Canniff, Perry M.</li> </ul>   |  |
| <ul style="list-style-type: none"> <li>● <b>Aerospace and Aircraft Maintenance Division</b><br/>Canniff, Perry M.</li> </ul>   | <ul style="list-style-type: none"> <li>● <b>GTA-NHT, Inc</b><br/>Canniff, Perry M.</li> </ul>  | <ul style="list-style-type: none"> <li>● <b>Infection Prevention Division</b><br/>McDonald, Michael S.<br/>-Health Care Service Support<br/>Haataja, Brian J.</li> </ul>   |  |

Authority for the below individuals applies to the specific Business Unit or staff function indicated.

- |   |   |   |
|---|---|---|
| <ul style="list-style-type: none"> <li>● <b>Global Channel Services</b><br/>Hilfer, Derrick E.<br/>Mathers, Stephanie M.</li> </ul> | <ul style="list-style-type: none"> <li>● <b>Government Markets</b><br/>Augustino, Rick<br/>Kindem, Karen A.<br/>Patrick, Laurie A.</li> </ul> | <ul style="list-style-type: none"> <li>● <b>Government Contract Compliance</b><br/>Bordas, Richard J.<br/>Carr, Terrance H.<br/>Horwitz, Charles M.<br/>Paraschou, Maria V.<br/>Robinette, Thomas M.</li> </ul> |
|   | <ul style="list-style-type: none"> <li>● <b>Office of General Counsel</b><br/>Kuyath, Richard N.</li> </ul>                                   |   |

1 Authority is delegated by 3M's Senior Vice President, Research and Development, and Chief Technology Officer, to GR&DC to execute proposals and contracts for government research and development services.

2 Product or performance warranties are to be reviewed and accepted by any 3M individual granted authority or responsibility to do so by the applicable business unit or staff group.



(b) To make certifications, (except Country of Origin certifications), the following attorneys-in-fact are hereby appointed. Authority may not be sub-delegated, except certifications made by other attorneys-in-fact listed in paragraph (a) may be authorized in writing by one of the individuals listed in paragraph (b) after a determination by one of the individuals in paragraph (b) that such certification is valid. Unfamiliar certifications must be cleared with the Government Contract Compliance department prior to execution.

Authority for the below individuals applies to any Business Unit or staff function indicated.

- **3M Unitek Corporation**  
Bernard, Mathew C.
- **Aerospace and Aircraft Maintenance Division**  
Canniff, Perry M.
- **Government R&D Contracts Department**  
Charles, Ruth P.  
Kays, Steven L.  
Smith, Vivien L.
- **Industrial Adhesive and Tapes Division / Venture Tape Corporation**  
Authority for the below Individual(s) applies to Federal Supply Schedule contracts only:  
Canniff, Perry M.
- **Abrasive Systems Division**  
Canniff, Perry M.
- **Critical and Chronic Care Solutions Division**  
McDonald, Michael S.
- **Health Information Systems Division**  
Black, Lisa M.  
Cline, Jan C.  
Garrison, Gerri L.  
Graves, Terri M.  
Jennings, Gerald R.  
Kim, Myung H.  
Mason, Deborah A.  
Mathison, John C.  
McDonough, James R.
- **Oral Care Division**  
Bernard, Mathew C.
- **Advanced Materials Division**  
Davis, Scott J.  
Giancola, John B.  
Hanson, Scott R.  
Ingstad, Cheryl A.  
Lockhart, Bruce R.  
Magrini, Dave L.  
Moeller, Kent  
Pearson, Claudie  
Race, Robert J.  
Rushin, Sandra J.  
Utley, Elizabeth R.
- **Electronics Markets Materials Division**  
Anderson, Kevin G.  
Koch, Joseph F.
- **Food Safety Department**  
Erdman, Michelle M.  
Wadie, John A.
- **Personal Safety Division 3M Detection Solutions**  
Canniff, Perry M.  
Wesemann, Melissa J.
- **Aero Technologies LLC**  
Canniff, Perry M.
- **GTA-NHT, Inc.**  
Canniff, Perry M.
- **Infection Prevention Division**  
McDonald, Michael S.  
-Health Care Service Support  
Haateja, Brian J.
- **Traffic Safety and Security Division**  
Benz, John P.  
Leibel, Matthew R.  
McMahon, Denise C.  
Moran, Daniel F.  
Morris, John N.  
Roese, Arnie K.

Authority for the below individuals applies to the specific Business Unit or staff function.

- **Global Channel Services**  
Hilfer, Derrick E.
- **Government Markets**  
Augustine, Rick  
Kindem, Karen A.  
Patrick, Laurie A.
- **Government Contract Compliance**  
Bordas, Richard J.  
Carr, Terrance H.  
Horwitz, Charles M.  
Paraschou, Maria V.  
Robinette, Thomas M.
- **Office of General Counsel**  
Kuyath, Richard N.

(c) To make Country of Origin certifications, the following attorney(s)-in-fact are hereby appointed:

- **Trade Compliance Department**  
Authority may be sub-delegated in writing:  
LaMere, Pierre J.

For all appointments, authority ceases or may be subsequently modified upon the individual's change in business unit, staff group or responsibilities, or when employment is terminated. Authority may be withdrawn or modified at any time.

This Power of Attorney revokes all prior Powers of Attorney with respect to the same matters and shall remain in effect until terminated by the undersigned or any other person authorized to grant powers of attorney on behalf of 3M. The undersigned has signed this Power of Attorney on this

28 day of March, 2016.

3M Company

By   
Charles M. Horwitz  
Director, Government Contract Compliance

# STATE OF NEBRASKA

United States of America,     } ss.  
State of Nebraska                }

Secretary of State  
State Capitol  
Lincoln, Nebraska

I, John A. Gale, Secretary of State of the  
State of Nebraska, do hereby certify that

## 3M COMPANY

**a Delaware corporation is authorized to transact business in Nebraska;**

**that no occupation taxes due from and assessable against the Corporation are  
unpaid and have become delinquent;**

**that no annual or biennial report required to be forwarded by the  
Corporation to the Secretary of State has become delinquent;**

**that a Certificate of Withdrawal has not been filed.**

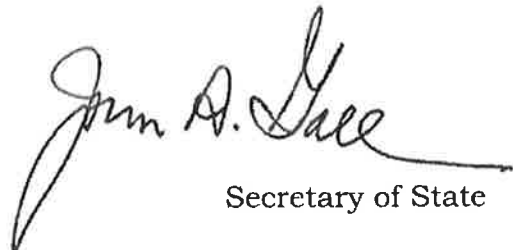
*This certificate is not to be construed as an endorsement,  
recommendation, or notice of approval of the entity's financial  
condition or business activities and practices.*

In Testimony Whereof,



I have hereunto set my hand and  
affixed the Great Seal of the  
State of Nebraska on this date of

**November 2, 2016**

  
Secretary of State



November 11, 2016

State of Nebraska Purchasing Bureau  
1526 K Street, Suite 130  
Lincoln, NE 68508

Re: Invitation to Bid # 5455 OF

**Qualifications/Explanations**

**Right to Audit, Page 10 #M:**

3M considers its costs and related information as proprietary. Notwithstanding, 3M will agree to certain audits relevant to the scope of this contract and suggests the following language be added to this paragraph:

The records and documents subject to audit do not include the disclosure of the Contractor's manufacturing costs, processes or any other proprietary information. These records and any and all copies remain the property of the Contractor. State representatives who review the records will maintain strict confidentiality of these records and disclose such records only to those employees, officers and agents of the State who are required to review these records in connection with this Agreement.

**Conflict of Interest, Page 11 #N:**

3M offers the following qualification: 3M Company is a global, publicly traded company with annual sales in 2015 of approximately \$30B and over 89,000 employees worldwide. Because of 3M's size and the fact it is a publicly traded company, 3M cannot state for certain whether any potential conflict of interest may occur. However, 3M is unaware of any conflict of interest and will not knowingly take any action or knowingly acquire any interest, directly or indirectly, which will conflict with or create an appearance of a conflict of interest in the performance of this contract.

**Prices: Page 17 #II:**

Paragraphs 1, 2, and 4 are acceptable. 3M rejects paragraph 3 and proposes to delete this paragraph. The pricing offered by 3M in this contract is based on the contract's other terms (such as length and number of products), competition for and size of the sales opportunity, and many other market factors. During this contract's term, this contract's pricing will be competitive based on these factors. Because state governments generally impose significantly different contract terms and such terms and conditions are not comparable to each other or to 3M's commercial terms, 3M cannot guarantee the lowest pricing in all instances.

Opaque Vinyl Film and Additional Requirements, Page 29 #L, 5 and 6:

Based on the physical properties of prismatic sheeting, it appears unlikely the products mentioned in #5 and #6 would be successfully perforated on the edges.



# ElectroCut™ Film

## Series 1170

Product Bulletin 1170

July 2007

Replaces PB 1170 dated January 2004

### Description

3M™ ElectroCut™ Film Series 1170 is a durable, transparent, acrylic colored film coated with a transparent, pressure-sensitive adhesive that is protected by a removable liner available in the following colors.

<u>Color</u>	<u>Product Code</u>
Yellow	1171
Red	1172
Orange	1174
Blue	1175
Standard Green (Worboy)	1176
Green	1177
Black (Opaque)	1178
Brown	1179

Series 1170 is intended for use on 3M Reflective Sheeting as part of 3M's Matched Component System™ for signing. Series 1170 E.C. Film has a clear pressure-sensitive adhesive compatible with all the following 3M reflective sheetings used in permanent signing:

#### 3M™ Reflective Sheeting

Engineer Grade Series 3290  
High Intensity Grade Series 3870  
High Intensity Prismatic Series 3930  
Diamond Grade™ Series 3990 VIP  
Diamond Grade™ Series 3970 LDP  
Diamond Grade™ Series 3990T Translucent  
Diamond Grade™ DG<sup>3</sup> Series 4000

E.C. Film is designed with a special film liner for kiss-cutting on electronic cutting machines. Rolls are available prepunched for sprocket fed cutters or unpunched for flatbed or friction fed cutters. Colored E.C. Film is often used instead of silk

screened inks to provide transparent colored background copy for retroreflective street name signs and other traffic control signs. Various film widths are available to fabricate single sign panels up to 48" wide. For single panel signs requiring more than a single piece of sheeting or for multipanel signs such as guide signs, be sure to follow 3M color matching procedures in Information Folder 1.10 to achieve satisfactory results. **(For best color uniformity on a colored multipanel sign, make all panels from the same lot of E.C. Film.)**

### Properties

Standard colors of series 1170 E.C. Films conform to appropriate retroreflective sheeting specifications – Federal Specification FP-96, Section 178.01 (a) and ASTM D4956 when applied over 3M™ Diamond Grade™ Reflective Sheeting Series 3970, 3990, 3990T or 4000, 3M™ High Intensity Grade Sheeting Series 3870 or 3930, or 3M™ Engineer Grade Sheeting Series 3290.

Due to the high transparency of 3M acrylic E.C. Films, retroreflective signs made with these E.C. Films give equal or better retroreflective performance than sheetings screened with transparent inks. Transparent blue, green, red, and yellow E.C. Films applied to white 3M™ Reflective Sheeting can be expected to give performance comparable to integrally colored reflective sheetings. The coefficient of retroreflection of the colored areas of E.C. Film signs will depend on both the overlay film transparency and the brightness of the white reflective substrate.

Table 1 gives the minimum and maximum coefficient of retroreflection ( $R_A$  values) for each transparent 1170 Series film as a percentage of the  $R_A$  of the white reflective background on which it is applied.

Table 1

**Coefficient of retroreflection  $R_A$ \* for colored E.C. Films applied over white retroreflective sheeting (expressed as % of white retroreflective sheeting background)**

Transparent ( $R_A$ color/ $R_A$ white background) x 100%		
Color	Minimum	Maximum
Green	13.0	20
Blue	6.5	20
Red	14.0	24
Yellow	60.0	80
Orange	30.0	-
Brown	5.0	-
Standard Green (Worboy)**	8.0	14

\* $R_A$  (cd/lux/m<sup>2</sup>) measurements shall be made at 0.2° observation angle, -4° entrance angle, and 0° rotation, per ASTM E-810.

\*\*Standard green color for U.K., Australia, and New Zealand

## Film Liner

Series 1170 films have a transparent film release liner designed to aid the cutting process and the removal of the film weed after cutting. The rolls of film come edge weeded on punched rolls to prevent adhesive build-up on sprocket fed cutters.

## Storage

Store in a cool, dry area 65-75°F (18-24°C), 30-50% relative humidity, and use within one year from date of receipt.

## Fabrication – Cutting and Application Procedures

**Important Note:** It is recommended that inside radius corner fonts be used when cutting series 1170 film. Read and follow the manufacturer's operating manual carefully for proper use of cutting equipment.

1. Adjust knife pressure to cut cleanly through the film without cutting into the liner. A 30 degree blade works best. Spacing between letters or numbers should be adjusted to the aesthetic preference of the user. Consult the operating manual for instructions on how to regulate spacing. **Note:** Do not cut at high speed on variable speed machines.

2. Avoid sharp bends when cutting and handling film as this may cause film to release from the liner.
3. After cutting is complete, lay sheets flat, face to face, back to back. Always store sheets in this manner until the sheeting has been weeded and transfer tape has been applied to sheeting.
4. Use a stripping tool designed for weeding films that has a blunt (not a sharp) edge.
5. After weeding is completed, store sheets flat, face to face and back to back, until transfer tape is applied.
6. TPM-5 Clear Transfer Tape is recommended for best results. SCPM-3 Application Tape is also satisfactory for use on small signs. Other transfer tapes are not recommended.
7. Transfer tape can be applied either by hand using a plastic squeegee or through a hand squeeze roll laminator. If applying the transfer tape by hand, care must be taken to **always** squeegee from the center to the outside in both directions. If applying the transfer tape through the HSRA, the “lead” edge must be cut square and fed into the nip very carefully to avoid wrinkles in the E.C. Film.
8. Series 1170 film may be applied to the sheeting either before or after the sheeting has been applied to the substrate. Series 1170 film can be applied to Engineer Grade sheeting series 3290, High Intensity Grade sheeting series 3870 and 3930, Diamond Grade™ sheeting series 3970, 3990, 3990T and 4000. Use of a hand squeeze roll laminator is recommended to ensure satisfactory results. Use the “split liner method” – start in the middle of the sheet and remove half the liner to ensure proper alignment.
9. After series 1170 film and sheeting have been applied, remove the transfer tape by carefully removing the tape at as low an angle as possible.
10. **IMPORTANT!** When the transfer tape has been removed, reroll the sign through the laminator to ensure good adhesion.
11. A clean cutting blade is required. To remove adhesive build-up use a soft cloth dampened with mineral spirits, isopropyl alcohol or 3M Natural Cleaner.

## Health and Safety Information

Read all health hazard, precautionary and first aid statements found in the Material Safety Data Sheet and/or product label of chemicals prior to handling or use.

## General Performance Considerations

All existing field performance warranties for the reflective sheetings remain in effect when series 1170 film is applied over recommended Reflective Sheetings.

## FOR INFORMATION OR ASSISTANCE

**CALL:  
1-800-553-1380**

**IN CANADA CALL:  
1-800-265-1840**

**Fax-on-Demand in the U.S. and Canada:  
1-800-887-3238**

**Internet:  
[www.3M.com/tss](http://www.3M.com/tss)**

3M assumes no responsibility for any injury, loss or damage arising out of the use of a product that is not of our manufacture. Where reference is made in literature to a commercially available product, made by another manufacturer, it shall be the user's responsibility to ascertain the precautionary measures for its use outlined by the manufacturer.

### Important Notice

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# Engineer Grade Prismatic Reflective Sheeting

## Series 3430 with Pressure Sensitive Adhesive

Product Bulletin 3430-U.S.

October 2013

Replaces Product Bulletin 3430 dated July 2009

### Description

3M™ Engineer Grade Prismatic Reflective Sheeting Series 3430 is a non-metalized microprismatic lens retroreflective sheeting designed for production of reflective commercial signs and noncritical traffic control signs that are exposed vertically in service. Series 3430 sheeting can easily be identified by the visible integral “EGP” marking. When applied to properly prepared sign substrates, Series 3430 sheeting provides long-term reflectivity and durability. Series 3430 sheeting is available in the following colors.

Color	Product Code
White	3430
Yellow	3431
Red	3432
Blue	3435
Green	3437
Brown	3439

### Sign Fabrication Methods

#### Application

Series 3430 sheeting incorporates a pressure sensitive adhesive and should be applied to the sign substrate at temperature of 65°F/18°C or higher by any of the following methods:

Mechanical squeeze roll applicator – Reference Information Folder 1.4.

Hand squeeze roll applicator — Reference Information Folder 1.6.

Hand application is recommended for copy only. See Information Folder 1.5.

All direct applied copy and border **MUST** be cut at all panel seams and squeegeed at the joint.

#### Splices

Series 3430 sheeting must be butt spliced when more than one piece of sheeting is used on one piece of substrate. The sheeting pieces should not touch each other. This is to prevent buckling as the sheeting expands when subject to extreme temperature and/or high humidity levels.

#### Double Faced Signs

The sheeting on the bottom side of a double faced sign can be damaged if rolled through a squeeze roll applicator with an unprotected steel bottom roller. The use of a semi-soft flat sheet between the steel roller and the applied sign face will provide protection from damage. A material such as a rubber mat, tag board or cardboard is recommended.



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## Substrates

For traffic sign use, substrates found to be most reliable and durable are properly prepared aluminum sheets and extrusions. Users are urged to carefully evaluate all other substrates for adhesion and sign durability. Other substrates that may be satisfactory for proper application of sheeting will have the following characteristics:

- Clean
- Smooth
- Flat
- Rigid
- Dimensionally stable
- Weather resistant
- Non-porous
- High surface energy (passes water break test)

Refer to Information Folder 1.7 for surface preparation recommendations. Substrates with low surface energy may require additional preparation such as flame treatment, mechanical abrasion or use of adhesion promoters prior to sheeting application.

Engineer grade prismatic sheeting is designed primarily for applications to flat substrates. Any use that requires a radius of curvature of less than five inches should also be supported by rivets or bolts. Plastic substrates are not recommended where cold shock performance is required. **Sign failures caused by the substrate or improper surface preparation are not the responsibility of 3M.**

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## Screen Processing

Engineer grade prismatic sheeting may be screen processed into traffic signs before or after mounting on a sign substrate, using 3M™ Process Colors Series 880I or Series 880N. Series 880I or 880N process colors can be screened at 60–100°F (16–38°C) at relative humidity of 20–50%. A PE 157 screen mesh with a fill pass is recommended. Refer to Information Folder 1.8 for details. Clear coating is not required or recommended. Use of other process colors series is not recommended. **Care should be taken to avoid flexing series 3430 sheeting before and especially after screening to eliminate the possibility of cracking from improper handling techniques.**

For screenprinted areas on white sheeting when processed according to 3M recommendations, the coefficients of retroreflection shall not be less than 70% of the value for the corresponding color in Table A. The color chromaticity and luminance shall conform to Table B.

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## Cutting and Matching

Engineer grade prismatic sheeting may be cut into letters and shapes of at least three inches in height and stroke widths of at least one half inch. Smaller sizes are not recommended. Sealing cut edges of Series 3430 sheeting is not required.

### Plotter Cutting

Programmable knife cut (electronic cutting)

1. Flat bed plotters can either die cut or kiss cut and offer the most consistent and reliable performance.
2. Friction fed plotter. Kiss cut only. Success has been achieved using plotters that have 600 grams of down force and a 60° cutting blade. Additional drive wheels may need to be added to improve tracking. An alternative procedure is to cut sheeting from the liner side. Blade force and knife depth must be set to score but not cut through the topfilm. Break apart individual copy or apply premask to retain spacing.

### Other Cutting Methods

Engineer grade prismatic sheeting may be hand cut or die cut one sheet at a time, and band sawed or guillotined in stacks. Cutting equipment such as guillotines and metal shears, which have pressure plates on the sheeting when cutting, may damage the optics. Padding the pressure plate and easing it down onto the sheets being cut will significantly reduce damage. Maximum stack height for cutting series 3430 sheeting is one and a half inch or 50 sheets. Details on cutting can be found in Information Folder 1.10.

<b>Cleaning</b>	Signs that require cleaning should be flushed with water, then washed with a detergent solution and a soft bristle brush or sponge. Avoid pressure that may damage the sign face. Flush with water following washing. Do not use solvents to clean signs. See Information Folder 1.10.
<b>Storage and Packaging</b>	<p>3M™ Engineer Grade Prismatic Sheeting should be stored in a cool, dry area, preferably at 65–75°F (18–24°C) and 30–50% relative humidity and should be applied within one year of purchase. Rolls should be stored horizontally in the shipping carton. Partially used rolls should be returned to the shipping carton or suspended horizontally from a rod or pipe through the core. Unprocessed sheets should be stored flat. Finished signs and applied blanks should be stored on edge.</p> <p>Screen processed signs must be protected with SCW 568 slipsheet paper. Place the glossy side of the slipsheet against the sign face. Double faced signs must have the glossy side of the slipsheet against each face of the sign.</p> <p>Unmounted screened faces must be stored flat and interleaved with SCW 568 slipsheet, glossy side against the sign face.</p> <p>Avoid banding, crating, or stacking signs. Package for shipment in accordance with commercially accepted standards to prevent movement and chafing. Store sign packages indoors on edges.</p> <p>Panels or finished signs must remain dry during shipment and storage. If packaged signs become wet, unpack immediately and allow signs to dry. Refer to Information Folder 1.11 for instructions on packing for storage and shipment.</p>
<b>Installation</b>	Nylon washers are required when twist style fasteners are used to mount the sign.
<b>Health and Safety Information</b>	Read all health hazard, precautionary and first aid statements found in the Material Safety Data Sheet, and/or product label of chemicals prior to handling or use.
<b>General Performance Considerations</b>	<p>Minimum coefficient of retroreflection, chromaticity limits, and daytime luminance factor (Y%) for the engineer grade prismatic sheeting series 3430 are given in Table A and Table B, respectively.</p> <p><b>Durability Considerations</b> The durability of 3M™ Engineer Grade Prismatic Sheeting and finished signs using 3M’s matched component materials (Table C) will depend upon substrate selection and preparation, compliance with recommended application procedures, geographic area, exposure conditions, and maintenance. Maximum durability of series 3430 can be expected in applications subject to vertical exposure on stationary objects when processed and applied to properly prepared aluminum according to 3M recommendations. Periodic sign inspection and regular sign replacement are strongly recommended in order for sign owners to establish their own effective service life expectation beyond any durability warranty, if provided.</p> <p><b>Substrate Considerations</b> The user must determine the suitability of any nonmetallic sign backing for its intended use. Substrate manufacturer recommendations for preparation should be followed as well as guidance provided in Information Folder 1.7. Applications to unprimed, excessively rough or non-weather resistant surfaces can shorten the performance of such applications. <b>Sign failures caused by the substrate or improper surface preparation are not the responsibility of 3M.</b></p> <p><b>Exposure Considerations</b> Exposure to severe or unusual conditions can shorten the performance of such applications. Signs in mountainous areas that are covered by snow for prolonged periods may also have reduced durability. Atmospheric conditions in certain geographic areas may result in reduced durability.</p> <p><b>Custom Process Colors Considerations</b> Custom colors, certain lighter colors, heavily toned color or blends containing yellow or gold may have reduced durability.</p>

**General Performance Considerations (Continued)**

**Table A — Minimum Coefficient of Retroreflection  
Candelas/Foot Candle/Square Foot  
Candelas/Lux/Square Meter**

Obs. Angle <sup>1</sup>	Ent. Angle <sup>2</sup>	White	Yellow	Red	Green	Blue	Brown
0.2	-4	70	50	14.5	9.0	4.0	2.0
0.2	+30	30	22	6.0	3.5	1.7	1.0
0.5	-4	30	25	7.5	4.5	2.0	1.0
0.5	+30	15	13	3.0	2.2	0.8	0.5

Reflectivity conforms to ASTM D 4956.

<sup>1</sup>Observation Angle — The angle between the illumination axis and the observation axis.

<sup>2</sup>Entrance Angle — The angle from the illumination axis to the retroreflector axis. The retroreflector axis is an axis perpendicular to the retroreflective surface.

**Table B — CIE Chromaticity Coordinate Limits**

Color	x	y	x	y	x	y	x	y	Reflectance Limit (Y)	
									Min	Max
White	.303	.300	.368	.366	.340	.393	.274	.329	27.0	
Yellow	.498	.412	.557	.442	.479	.520	.438	.472	15.0	45.0
Red	.648	.351	.735	.265	.629	.281	.565	.346	2.5	12.0
Blue	.140	.035	.244	.210	.190	.255	.065	.216	1.0	10.0
Green	.026	.399	.166	.364	.286	.446	.207	.771	3.5	9.0
Brown	.430	.340	.610	.390	.550	.450	.430	.390	4.0	9.0

**Table C — Matched Component Materials**

Matched Components	
Process Colors	Series 880I
Process Colors	Series 880N
Premium Protective Overlay Film	Series 1160
Slipsheet	SCW 568
Prespacing Tape	SCPS-2
Premasking Tape	SCPM-3
Transfer Tape	TPM-5

**3M Basic Warranty and Limited Remedy**

3M™ Engineer Grade Prismatic Reflective Sheeting Series 3430 (“Product”) is warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. If the product is proven not to have met the Basic Warranty on its shipment date, then a buyer’s exclusive remedy, and 3M’s sole obligation, at 3M’s option, will be refund or replacement of the sheeting.

**Limitation of Liability and Remedies**

3M WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO A BUYER FOR DIRECT (other than the applicable Limited Remedy stated above), SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS) IN ANY WAY RELATED TO A PRODUCT OR THIS PRODUCT BULLETIN, REGARDLESS OF THE LEGAL OR EQUITABLE THEORY ON WHICH SUCH DAMAGES ARE SOUGHT.

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<b>Literature Reference</b>	Information Folder 1.4	Instructions for Squeeze Roll Applicator
	Product Bulletin 880I	3M™ Process Color Series 880I
	Product Bulletin 880N	3M™ Process Color Series 880N
	Information Folder 1.5	Hand Application Instructions
	Information Folder 1.6	Instructions for Hand Squeeze Roll Applicator
	Information Folder 1.7	Sign Base Surface Preparation
	Information Folder 1.8	Process Color Instructions
	Information Folder 1.10	Cutting, Matching, Premasking, and Prespacing Instructions
	Information Folder 1.11	Sign Maintenance Management

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# Fluorescent Orange Prismatic Work Zone Sheeting Series 3924S Sheeting With Pressure Sensitive Adhesive

Product Bulletin 3924S

February 2012

Replaces PB 3924S dated Oct. 2007

## Description

3M™ Fluorescent Prismatic Reflective Sheeting Series 3924S is a microprismatic retroreflective sheeting designed for the production of durable traffic control signs for the work zone. The sheeting consists of prismatic lenses formed in a transparent resin, sealed, and backed with a pressure-sensitive adhesive and poly liner. Applied to properly prepared sign substrates, 3924S will provide long term service.

The pressure sensitive sheeting is available in roll widths up to 48 inches in a fluorescent orange work zone color.

Color	Product Code
Fluorescent Orange	3924S

## Photometrics

### Daytime Color (x,y,Y)

The chromaticity coordinates and luminance factor of the retroreflective sheeting conform to Table A below.

## Color Test – Fluorescent Sheatings

Conformance to standard chromaticity (x, y) and luminance factor (Y %) requirements shall be determined by instrumental method in accordance with ASTM E 991 on sheeting applied to smooth aluminum test panels cut from Alloy 6061-T6 or 5052-H38. The values shall be determined on a HunterLab ColorFlex 45/0 spectrophotometer. Computations shall be done for CIE Illuminant D65 and the 2° standard observer.<sup>2</sup>

<sup>2</sup>The instrumentally determined color values of retroreflective sheeting can vary significantly depending on the make and model of colorimetric spectrophotometer as well as the color and retroreflective optics of the sheeting (David M. Burns and Timothy J. Donahue, Measurement Issues in the color Specification of Fluorescent Retroreflective materials for High Visibility Traffic Signing and Personal Safety Applications, Proceedings of SPIE: Fourth Oxford Conference on Spectroscopy, 4826, pp. 39-49, 2003). For the purposes of this document, the HunterLab ColorFlex 45/0 spectrophotometer shall be the referee instrument.

## Coefficients of Retroreflection (RA)

The values in Table B are minimum coefficients of retroreflection expressed in candelas per lux per square meter (cd/lux/m<sup>2</sup>).

Table A - CIE Daytime Chromaticity Coordinate Limits<sup>1</sup>

Color	1		2		3		4		Luminance Factor Y (%) Min.
	x	y	x	y	x	y	x	y	
Orange	.583	.416	.535	.400	.595	.351	.645	.355	25

<sup>1</sup>The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System.

**Test for Coefficients of Retroreflection**

Conformance to coefficient of retroreflection requirements shall be determined by instrumental method in accordance with ASTM E-810 "Test Method for Coefficient of Retroreflection of Retroreflective Sheeting" and per E-810 the values of 0° and 90° rotation are averaged to determine conformance to the R<sub>A</sub> limits in Table B.

**Table B - Minimum Coefficient of Retroreflection R<sub>A</sub> for new fluorescent sheeting (cd/lux/m<sup>2</sup>)**

-4° Entrance Angle <sup>1</sup>	Observation Angle <sup>2</sup>	
	0.2°	0.5°
Orange	230	75
30° Entrance Angle <sup>1</sup>	Observation Angle <sup>2</sup>	
	0.2°	0.5°
Orange	130	41

<sup>2</sup>Observation (Divergence) Angle - The angle between the illumination axis and the observation axis.

<sup>1</sup>Entrance (Incidence) Angle - The angle from the illumination axis to the retroreflector axis. The retroreflector axis is an axis perpendicular to the retroreflective surface.

**Adhesive**

Series 3924S sheeting has a pressure-sensitive adhesive that is recommended for room temperature application. Room temperature application is defined as 60°F (16°C) or higher.

**Adhesive and Film Properties**

**Standard Test Panels**

Unless otherwise specified herein, sheeting shall be applied to test panels and conditioned in accordance with ASTM D4956 and test methods and conditions shall conform to ASTM D4956.

**Properties**

The following properties shall conform to the requirements in ASTM D4956.

1. Adhesion
2. Outdoor weathering
  - retained coefficient of retroreflection
  - colorfastness
3. Shrinkage
4. Flexibility
5. Liner removal
6. Impact resistance
7. Night time color

In addition, 3924S sheeting will conform to the following properties.

**1. Gloss**

Test Method – Test in accordance with ASTM D523 using a 60° glossmeter.

Requirement – Rating not less than 50.

**2. Optical Stability**

Test Method – Apply a 3 inch x 6 inch sample to a test panel. Measure R<sub>A</sub> then place it in an oven at 71° C ± 3° C (160°F ± 5°F) for 24 hours followed by conditioning at standard conditions for 2 hours.

Remeasure R<sub>A</sub>.

Requirement – The sheeting shall retain a minimum of 85% and a maximum of 115% of the original coefficient of retroreflection.

**Sign Fabrication Methods**

**Application**

Series 3924S incorporates a pressure-sensitive adhesive and should be applied to the sign substrate at room temperature (60°F/16°C) or higher by any of the following methods:

Mechanical squeeze roll applicator - IF 1.4

Hand squeeze roll applicator - IF 1.6

\*Note - never direct the Calrod™ heater at the sheeting during application. If the heater is needed to warm to the minimum application temperature of 60°F, direct it at the substrate only.

**Hand Application**

Hand application is recommended for legend and copy only. Refer to 3M Information Folder 1.5 for more details.

Hand applications will show some visual irregularities, which are objectionable to aesthetically critical customers. To obtain a close-up uniform appearance, a roll laminator must be used.

**Splices**

Series 3924S sheeting must be butt spliced when more than one piece of sheeting is used on one piece of substrate. The sheeting pieces should not touch each other. This is to prevent buckling as the sheeting expands in extreme temperature and humidity exposure.

## Substrates

For traffic sign use, substrates found to be most reliable and durable are properly prepared aluminum sheets and extrusions. Users are urged to carefully evaluate all other substrates for adhesion and sign durability. Other substrates that may be satisfactory for proper application of sheeting will have the following characteristics:

- Clean
- Smooth
- Flat
- Rigid
- Dimensionally stable
- Weather resistant
- Non-porous
- High surface energy (passes water break test)

Refer to Information Folder 1.7 for surface preparation recommendations. Substrates with low surface energy such as polyethylene and other plastics will require additional preparation such as flame treatment (preferred), mechanical abrasion or use of adhesion promoters prior to sheeting application. Flat panels are to be carefully trimmed so that sheeting from adjacent panels does not touch on assembled signs.

3924S sheeting is designed primarily for applications to flat substrates. Any use that requires a radius of curvature of less than five inches should also be supported by rivets or bolts. Plastic substrates are not recommended where cold shock performance is required; however, this product has a universal adhesive and can be used on plastic (flame treated) substrates. Sign failures caused by the substrate or improper surface preparation are not the responsibility of 3M.

## Imaging

Series 3924S sheeting may be processed into traffic signs by any of the imaging methods described below. 3M assumes no responsibility for failure of sign face legends or backgrounds that have been processed with non-3M process colors or imaging materials other than those listed below.

### Screen Processing

Series 3924S sheeting may be screen processed into traffic signs before or after mounting on a sign substrate, using 3M Process Colors Series 880I or Series 880N. Series 880I or 880N process colors can be screened at 60-100°F (16-38°C) at relative humidity of 20-50%. A PE 157 screen mesh with a fill pass is recommended. See Information Folder 1.8 for details. No clear coating is required and is not recommended. Use of other process colors series is not recommended. **Care should be taken to avoid flexing Series 3924S sheeting before and**

**especially after screening to eliminate the possibility of cracking from improper handling techniques.**

### 3M™ ElectroCut™ Film

3M™ ElectroCut™ Film 1175 black may be used to provide copy for traffic control signs on 3924S sheeting. Refer to Product Bulletin 1170 for fabrication procedures.

### Vinyl Graphic Films

Scotchcal™ Vinyl Series 3650, Series 7720 and Series 7725 may be used to provide copy for traffic control signs on 3924S sheeting. Refer to Scotchcal™ product literature for more information.

### Latex Ink Jet Printing

Series 3924S sheeting may be imaged with HP 789 series black latex ink in conjunction with the HP Designjet L25500 Printer, or with 792 series black latex ink in conjunction with the HP Designjet L26500 Printer. Refer to Information Folder 3.4 for more information.

**Note:** With the exception of 3M branded products, 3M does not represent that any printer or printer accessory recommended in 3M literature will meet customer requirements, any federal, state or local regulations or any applicable safety standards. Such determination is the responsibility of the printer owner.

## Cutting

3924S sheeting may be cut into letters and shapes of at least 3 inches in height and stroke widths of at least 1/2 inch. Smaller sizes are not recommended. Sealing cut edges of 3924S sheeting is not required.

### Plotter Cutting

Programmable knife cut (electronic cutting)

1. Flat bed plotters can either die cut or kiss cut and offer the most consistently reliable performance.
2. Friction Fed plotter. Kiss cut only. Success has been achieved using plotters that have 600 grams of down force and a 60° cutting blade. Additional drive wheels may need to be added to improve tracking. An alternative procedure is to cut sheeting from the liner side. Blade force and knife depth must be set to score but not cut through the topfilm. Break apart individual copy or apply premask to retain spacing.

### Other Cutting Methods

3924S sheeting may be hand cut or die cut one sheet at a time, and band sawed or guillotined in stacks. Cutting equipment such as guillotines and metal shears, which have pressure plates on the sheeting when cutting, may damage the optics. Padding the pressure plate and easing

it down onto the sheets being cut will significantly reduce damage. Maximum stack height for cutting 3924S sheeting is 1 ½ inch or 50 sheets. Details on cutting can be found in Information Folder 1.10.

## Cleaning

Signs that require cleaning should be flushed with water, then washed with a detergent solution and soft bristle brush or sponge. Avoid pressure that may damage the sign face. Flush with water following washing. Do not use solvents to clean signs. Refer to Information Folder 1.10.

## Storage and Packaging

Series 3924S sheeting should be stored in a cool, dry area, preferably at 65-75°F (18-24°C) and 30-50% relative humidity and should be applied within one year of purchase. Rolls should be stored horizontally in the shipping carton. Partially used rolls should be returned to the shipping carton or suspended horizontally from a rod or pipe through the core. Unprocessed sheets should be stored flat. Finished signs and applied blanks should be stored on edge.

Screen processed or printed signs must be protected with SCW 568 slipsheet paper. Place the glossy side of the slipsheet against the sign face and pad the face with closed cell packaging foam. Double faced signs must have the glossy side of the slipsheet against each face of the sign.

Unmounted screened or printed faces must be stored flat and interleaved with SCW 568 slipsheet, glossy side against the sign face.

Avoid banding, crating, or stacking signs. Package for shipment in accordance with commercially accepted standards to prevent movement and chafing. Store sign packages indoors on edges.

Panels or finished signs must remain dry during shipment and storage. If packaged signs become wet, unpack immediately and allow signs to dry. Refer to Information Folder 1.11 for instructions on packing for storage and shipment.

## Installation

Nylon washers are required when twist style fasteners are used to mount the sign.

## General Performance Considerations

The durability of 3924S sheeting and finished signs using 3M Matched Component materials will depend upon substrate selection and preparation, compliance with recommended application procedures, geographic area, exposure conditions, and maintenance. Maximum durability of 3924S sheeting can be expected in applications subject to vertical exposure on stationary objects when processed and applied to properly prepared

aluminum according to 3M recommendations provided in Information Folder 1.7. The user must determine the suitability of any nonmetallic sign backing for its intended use. Sign failures caused by the substrate or improper surface preparation are not the responsibility of 3M. Applications to unprimed, excessively rough or non-weather resistant surfaces or exposure to severe or unusual conditions can shorten the performance of such applications. Signs in mountainous areas that are covered by snow for prolonged periods may also have reduced durability. Atmospheric conditions in certain geographic areas may result in reduced durability.

3M has tested the HP Designjet Printers and black latex inks: L25500 printer/series 789 black ink, and L25600 printer/series 792 black ink; and when applied within parameters defined in IF 3.4 the resulting sign performance is considered to be commensurate with typically expected sign life. However, this imaging system is not covered as part of the 3M Matched Component system noted in the General Warranty Terms.

## 3M Basic Product Warranty and Limited Remedy

3M™ Fluorescent Work Zone Sheeting Series 3924S (“Product”) is warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. If 3924S Sheeting is proven not to have met the Basic Warranty on its shipment date, then a buyer’s exclusive remedy, and 3M’s sole obligation, at 3M’s option, will be refund or replacement of the sheeting.

## General Warranty Terms:

1. 3M makes the Additional Warranty (as defined below) as to any traffic control and guidance sign in the United States and Canada (“Sign”) made with 3M™ Fluorescent Work Zone Sheeting Series 3924S (“Product”) and the Matched Component materials listed in Table D. Any Additional Warranty is contingent on all components involved in that Additional Warranty being stored, applied, installed, and used only as 3M recommends in its Product Bulletins and Other Product Information.

2. The Basic Warranty and any applicable Additional Warranty are collectively referred to as the “3M Warranty.” EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, THE 3M WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, RIGHTS OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND THOSE ARISING



FROM A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. A BUYER IS RESPONSIBLE FOR DETERMINING IF A PRODUCT IS SUITABLE FOR ITS PARTICULAR PURPOSE AND APPLICATION METHODS.

3. A Sign’s failure to meet the 3M Warranty must be solely the result of the Product or the matched component materials’ design or manufacturing defects. 3M has no obligation under the 3M Warranty if a sign failure is caused by:

improper fabrication, handling, maintenance or installation; non-vertical applications where the Sign face is more than +/- 10% from vertical; use of any material or product not made by 3M or not included in Table D; use of application equipment not recommended by 3M; failure of sign substrate; loss of adhesion due to incompatible or improperly prepared substrate; exposure to chemicals, abrasion and other mechanical damage; snow burial or any other sign burial; collisions, vandalism or malicious mischief.

4. 3M reserves the right to determine the method of replacement, and any replacement Product will have the remainder of the original Product’s unexpired 3M Warranty. Claims made under this warranty will be honored only if

– The Sign was dated upon completion of fabrication

(“Fabrication Date”) using a permanent method (sticker, permanent marker or crayon, metal stamp, etc.)

– 3M is notified of a 3M Warranty claim during any applicable Warranty Period and the owner or fabricator provides the information reasonably required by 3M to verify if a 3M Warranty is applicable.

**Additional Warranty and Limited Remedy**

1. The Additional Warranty for a Sign made with the Product is that the Sign will: (a) remain effective for its intended use when viewed from a moving vehicle under normal day and night driving conditions by a driver with normal vision, and (b) after cleaning, will meet the minimum values for coefficient of retroreflection stated in Table C for three years measured from the Sign’s Fabrication Date.

- $R_A$  shall be measured per ASTM E810.

- All measurements shall be made after cleaning according to 3M recommendations.

2. If any Sign made with the Product is proven not to have met the Additional Warranty, then a buyer’s exclusive remedy, and 3M’s sole obligation, at 3M’s option, is that 3M will provide pro-rated replacement of the 3M materials.

**Table C**  
**Minimum Coefficient of Retroreflection and Luminance Factors**  
 (All measurements shall be made after cleaning according to 3M recommendations)

	Minimum Coefficient of Retroreflection ( $R_A$ ) cd/lux/m <sup>2</sup> at -4° Entrance Angle		Minimum Luminance Factor (Y)
Color	Observation Angle	$R_A$	%
Orange	0.2	115	25

**Table D. Matched Component Materials.**

Matched Components	
Process Colors	Series 880I
Process Colors	Series 880N
ElectroCut™ Film	Series 1170
3M Scotchcal™ Black Vinyl Film	Series 3650, 7720, 7725
Slipsheet	SCW 568
Prespacing Tape	SCPS-2
Premasking Tape	SCPM-3
Transfer Tape	TPM-5

Refer to 3M Information Folders and Product Bulletins for detailed information about recommended application procedures and equipment.

## Health and Safety Information

Read all health hazard, precautionary and first aid statements found in the Material Safety Data Sheet and/or product label of any materials prior to handling or use.

## Other Product Information

**Always confirm that you have the most current version of the applicable Product Bulletin, Information Folder or Other Product Information.**

<b>IF 1.4</b>	Instructions for Interstate Squeeze Roll Applicator
<b>IF 1.5</b>	Hand Application Instructions
<b>IF 1.6</b>	Hand Squeeze Roll Applicator
<b>IF 1.7</b>	Sign Base Surface Preparation
<b>IF 1.8</b>	Process Color Application Instructions
<b>IF 1.10</b>	Cutting, Premasking, and Prespacing
<b>IF 1.11</b>	Sign Maintenance Management
<b>PB 880I</b>	Process Color 880I
<b>PB 880N</b>	Process Color 880N
<b>PB 1170</b>	ElectroCut™ Film
<b>IF 3.4</b>	Ink Jet Imaging with HP Designjet L25500 Printer and HP 789 Series latex Inks

3M assumes no responsibility for any injury, loss or damage arising out of the use of a product that is not of our manufacture. Where reference is made in literature to a commercially available product, made by another manufacturer, it shall be the user's responsibility to ascertain the precautionary measures for its use outlined by the manufacturer.

### Important Notice

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, or conditions express or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct, special or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his/her intended use, and user assumes all risk and liability whatsoever in connection therewith. Statements or recommendations not contained herein shall have no force or effect unless in an agreement signed by officers of seller and manufacturer.

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# High Intensity Prismatic Reflective Sheeting Series 3930

Product Bulletin 3930

January 2013

Replaces PB 3930 dated January 2012

## Description

3M™ High Intensity Prismatic Reflective Sheeting Series 3930 is a non-metalized microprismatic lens reflective sheeting designed for production of reflective durable traffic control signs, work zone devices and delineators that are exposed vertically in service. Applied to properly prepared sign substrates, 3M high intensity prismatic sheeting provides long-term reflectivity and durability. Series 3930 sheeting is available in the following colors.

Color	Product Code
White	3930
Yellow	3931
Red	3932
Orange	3934
Blue	3935
Green	3937
Brown	3939
<b>Color – TT Series</b>	
White – thermal transfer (TT) printable	3930TT
Yellow – TT printable	3931TT

## Photometrics

### Daytime Color (x,y,Y)

The chromaticity coordinates and total luminance factor of the retroreflective sheeting conform to Table A.

### Color Test – Ordinary Colored Sheeting

Conformance to standard chromaticity (x, y) and luminance factor (Y %) requirements shall be determined by instrumental method in accordance with ASTM E 1164 on sheeting applied to smooth aluminum test panels cut from Alloy 6061-T6 or 5052-H38. The values shall be determined on a HunterLab ColorFlex 45/0 spectrophotometer. Computations shall be done for CIE Illuminant D65 and the 2° standard observer.<sup>2</sup>

<sup>2</sup>The instrumentally determined color values of retroreflective sheeting can vary significantly depending on the make and model of colorimetric spectrophotometer as well as the color and retroreflective optics of the sheeting (David M. Burns and Timothy J. Donahue, Measurement Issues in the Color Specification of Fluorescent Retroreflective Materials for High Visibility Traffic Signing and Personal Safety Applications, Proceedings of SPIE: Fourth Oxford Conference on Spectroscopy, 4826, pp. 39-49, 2003). For the purposes of this document, the HunterLab ColorFlex 45/0 spectrophotometer shall be the referee instrument.

### Coefficients of Retroreflection (R<sub>A</sub>)

The values in Table B are minimum coefficients of retroreflection expressed in candelas per lux per squaremeter (cd/lux/m<sup>2</sup>).

Table A Daytime color specification limits<sup>1</sup>

Color	x	y	x	y	x	y	x	y	Daytime Luminance Limit	
									Min.	Max.
White	0.303	0.300	0.368	0.366	0.340	0.393	0.274	0.329	27	
Yellow	0.498	0.412	0.557	0.422	0.479	0.520	0.438	0.472	15	45
Red	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346	2.5	15
Orange	0.558	0.352	0.636	0.364	0.570	0.429	0.506	0.404	10	30
Blue	0.140	0.035	0.244	0.210	0.190	0.255	0.065	0.216	1	10
Green	0.026	0.399	0.166	0.364	0.286	0.446	0.207	0.771	3	12
Brown	0.430	0.340	0.610	0.390	0.550	0.450	0.430	0.390	1	9

<sup>1</sup>The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System.

## Test for Coefficients of Retroreflection

Conformance to coefficient of retroreflection requirements shall be determined by instrumental method in accordance with ASTM E-810 “Test Method for Coefficient of Retroreflection of Retroreflective Sheeting”, and per E-810 the values of 0° and 90° rotation are averaged to determine the  $R_A$  in Table B.

**Table B**

Minimum Coefficient of Retroreflection  $R_A$  for new fluorescent sheeting (cd/lux/m<sup>2</sup>)

-4° Entrance Angle <sup>3</sup>	Observation Angle <sup>4</sup>	
	0.2°	0.5°
White	560	200
Yellow	420	150
Red	84	30
Orange	210	75
Green	56	21
Blue	30	13
Brown	18	7.5
30° Entrance Angle <sup>3</sup>		
White	280	100
Yellow	210	75
Red	42	15
Orange	105	37
Green	28	10
Blue	14	6
Brown	8.5	3.5

<sup>3</sup>Entrance Angle – The angle from the illumination axis to the retroreflector axis. The retroreflector axis is an axis perpendicular to the retroreflective surface.

<sup>4</sup>Observation Angle – The angle between the illumination axis and the observation axis.

## Printed Colors and Overlay Films

For screenprinted or thermally transfer printed transparent color areas on white sheeting when processed according to 3M recommendations, the coefficients of retroreflection shall not be less than 70% of the value for the corresponding color in Table B. For white sheeting covered with 3M™ ElectroCut™ Film Series 1170 when processed according to 3M recommendations, the coefficients of retroreflection shall not be less than 100% of the value for the corresponding color in Table B. The color chromaticity and luminance shall conform to Table A on page 1.

## Entrance Angularity Performance in Regard to Orientation

High intensity prismatic reflective sheeting is designed to be an effective wide angle reflective sheeting regardless of its orientation on the substrate or ultimate orientation of the sign after installation. Signs and applied copy (letters, arrows, borders and shields) can be fabricated and installed using the application orientation that most efficiently utilizes the reflective sheeting.

**Note:** For multi-panel signs it is recommended that all background panels be sheeted such that the sheeting direction is the same for all panels.

## Fabrication Lines

The manufacture of prismatic sheeting results in lines being present in the product. In high intensity prismatic sheeting these lines are slightly thicker than the seal pattern legs. Fabrication lines are noticeable in shop light but are not observable on the road either in daylight or at night under typical use conditions (Figure 1).

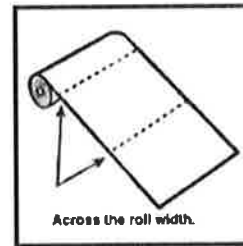


Figure 1 – Fabrication Lines

## Adhesive

Series 3930 sheeting has a pressure-sensitive adhesive that is recommended for application at temperatures of 65°F (18°C) or higher.

## Adhesive and Film Properties

### Standard Test Panels

Unless otherwise specified herein, sheeting shall be applied to test panels and conditioned in accordance with ASTM D4956 and test methods and conditions shall conform to ASTM D4956.

### Properties

The following properties shall conform to the requirements in ASTM D4956.

1. Adhesion
2. Outdoor weathering
  - retained coefficient of retroreflection
  - colorfastness

3. Shrinkage
4. Flexibility
5. Liner removal
6. Impact resistance
7. Night time color

In addition, Series 3930 sheeting will conform to the following properties.

#### 1. Gloss

Test Method – Test in accordance with ASTM D523 using a 60° glossmeter.

Requirement – Rating not less than 50.

#### 2. Optical Stability

Test Method – Apply a 3 inch x 6 inch sample to a test panel. Measure  $R_A$  then place it in an oven at  $71^\circ C \pm 3^\circ C$  ( $160^\circ F \pm 5^\circ F$ ) for 24 hours followed by conditioning at standard conditions for 2 hours. Remeasure  $R_A$ .

Requirement – The sheeting shall retain a minimum of 85% and a maximum of 115% of the original coefficient of retroreflection.

### Sign Fabrication Methods

#### Application

Series 3930 sheeting incorporates a pressure sensitive adhesive and should be applied to the sign substrate at temperature of 65°F/18°C or higher by any of the following methods:

Mechanical squeeze roll applicator – refer to 3M Information Folder (IF) 1.4. Application to extrusions that are edge wrapped requires sufficient softening of the sheeting. This can be accomplished by directing additional heat to the “next to last” edge roller. This practice will increase productivity and minimize cracking.

Hand squeeze roll applicator – refer to 3M IF 1.6.

Application of Series 3930 sheeting for complete signs or backgrounds must be done with a roll laminator, either mechanical or hand driven.

#### Hand Application

Hand application is recommended for legend and copy only. Refer to 3M Information Folder 1.5 for more details.

Hand applications will show some visual irregularities, which are objectionable to aesthetically critical customers. These are more noticeable on darker colors. To obtain a close-up uniform appearance, a roll laminator must be used.

All direct applied copy and border MUST be cut at all metal joints and squeegeed at the joints.

### Splices

Series 3930 sheeting must be butt spliced when more than one piece of sheeting is used on one piece of substrate. The sheeting pieces should not touch each other. This is to prevent buckling as the sheeting expands in extreme temperature and humidity exposure.

### Double Faced Signs

The sheeting on the bottom side of a double faced sign can be damaged if rolled through a squeeze roll applicator with an unprotected steel bottom roller. The use of a semi-soft flat sheet between the steel roller and the applied sign face will provide protection from damage. A material such as a rubber mat, tag board or cardboard is recommended.

### Substrates

For traffic sign use, substrates found to be most reliable and durable are properly prepared aluminum sheets and extrusions. **Users are urged to carefully evaluate all other substrates for adhesion and sign durability.** Other substrates that may be satisfactory for proper application of sheeting will have the following characteristics:

- Clean
- Smooth
- Flat
- Rigid
- Dimensionally stable
- Weather resistant
- Non-porous
- High surface energy (passes water break test)

Refer to Information Folder 1.7 for surface preparation recommendations. Substrates with low surface energy may require additional preparation such as flame treatment, mechanical abrasion or use of adhesion promoters prior to sheeting application. Guide sign extrusions may be edge wrapped. Flat panels or unwrapped extrusions are to be carefully trimmed so that sheeting from adjacent panels does not touch on assembled signs.

High intensity prismatic sheeting is designed primarily for applications to flat substrates. Any use that requires a radius of curvature of less than five inches should also be supported by rivets or bolts. Plastic substrates are not recommended where cold shock performance is required. **Sign failures caused by the substrate or improper surface preparation are not the responsibility of 3M.**

## Imaging

High intensity prismatic sheeting may be processed into traffic signs by any of the imaging methods described below. 3M assumes no responsibility for failure of sign face legends or backgrounds that have been processed with non-3M process colors or matched component imaging materials other than those listed below.

### Screen Processing

Series 3930 sheeting may be screen processed into traffic signs before or after mounting on a sign substrate, using 3M Process Colors Series 880I or Series 880N. Series 880I or 880N process colors can be screened at 60-100°F (16-38°C) at relative humidity of 20-50%. A PE 157 screen mesh with a fill pass is recommended. Refer to Information Folder 1.8 for details. No clear coating is required and is not recommended. Use of other process colors series is not recommended. **Care should be taken to avoid flexing high intensity prismatic sheeting before and especially after screening to eliminate the possibility of cracking from improper handling techniques.**

### Thermal Transfer Printing

High intensity prismatic TT series sheeting may be imaged with 3M™ Thermal Transfer Ribbon Series TTR2300 in conjunction with the Matan SprinG3 or Matan Spot4 thermal transfer printers. For regulated traffic signs, Series TTR2300 Spot Traffic Colors are to be applied using these printers and must be covered with 3M™ ElectroCut™ Film 1170. Refer to Product Bulletin TTR2300 for more information.

### 3M™ ElectroCut™ Film

3M™ ElectroCut™ Film Series 1170 may be used to provide transparent colored background copy for traffic control signs on high intensity prismatic sheeting. Refer to Product Bulletin 1170 for fabrication procedures.

### Applied Cut-Out Copy

High intensity prismatic cut letters may be applied to series 3930 sheeting background to create a sign legend. Such cut-out copy may be directly applied to the background sheeting, or may be applied in a demountable form. Direct applied copy must be cut at all panel seams and carefully trimmed back so that sheeting from adjacent panels does not touch on assembled signs. Refer to Information Folder 1.10 for more information.

**Note:** *It is recommended to fabricate all but the largest signs using 1170 electronic cuttable overlay film (ECOF) instead of direct applied copy.*

## Additional Imaging Options for Work Zone Signs

### Vinyl Graphic Films

Scotchcal™ Vinyl Series 3650, Series 7720 and Series 7725 may be used to provide copy for traffic control signs on high intensity prismatic sheeting (typically orange, white or yellow sheeting) for use in construction work zones. Refer to Scotchcal™ product literature for more information.

### Latex Ink Jet Printing

Series 3930 sheeting to be used in work zone signs may be imaged with HP 789 series black latex ink in conjunction with the HP Designjet L25500 Printer, or with 792 series black latex ink in conjunction with the HP Designjet L26500 Printer. Refer to Information Folder 3.4 for more information.

**Note:** *With the exception of 3M branded products, 3M does not represent that any printer or printer accessory recommended in 3M literature will meet customer requirements, any federal, state or local regulations or any applicable safety standards. Such determination is the responsibility of the printer owner.*

### Cutting

Series 3930 sheeting may be cut into letters and shapes of at least 3 inches in height and stroke widths of at least 1/2 inch. Smaller sizes are not recommended. Sealing cut edges of Series 3930 sheeting is not required.

### Plotter Cutting

Programmable knife cut (electronic cutting)

1. Flat bed plotters can either die cut or kiss cut and offer the most consistent reliable performance.
2. Friction Fed plotter. Kiss cut only. Success has been achieved using plotters that have 600 grams of down force and a 60° cutting blade. Additional drive wheels may need to be added to improve tracking. An alternative procedure is to cut sheeting from the liner side. Blade force and knife depth must be set to score but not cut through the topfilm. Break apart individual copy or apply premask to retain spacing.

## Other Cutting Methods

Series 3930 sheeting may be hand cut or die cut one sheet at a time, and band sawed or guillotined in stacks. Cutting equipment such as guillotines and metal shears, which have pressure plates on the sheeting when cutting, may damage the optics. Padding the pressure plate and easing it down onto the sheets being cut will significantly reduce damage. Maximum stack height for cutting Series 3930 sheeting is 1 ½ inch or 50 sheets. Details on cutting can be found in Information Folder 1.10.

## Storage and Packaging

Series 3930 sheeting should be stored in a cool, dry area, preferably at 65-75°F (18-24°C) and 30-50% relative humidity and should be applied within one year of purchase. Rolls should be stored horizontally in the shipping carton. Partially used rolls should be returned to the shipping carton or suspended horizontally from a rod or pipe through the core. Unprocessed sheets should be stored flat. Finished signs and applied blanks should be stored on edge.

Screen processed signs must be protected with SCW 568 slipsheet paper. Place the glossy side of the slipsheet against the sign face and pad the face with closed cell packaging foam. Double faced signs must have the glossy side of the slipsheet against each face of the sign.

Unmounted screened faces must be stored flat and interleaved with SCW 568 slipsheet, glossy side against the sign face.

Avoid banding, crating, or stacking signs. Package for shipment in accordance with commercially accepted standards to prevent movement and chafing. Store sign packages indoors on edges.

Panels or finished signs must remain dry during shipment and storage. If packaged signs become wet, unpack immediately and allow signs to dry. Refer to Information Folder 1.11 for instructions on packing for storage and shipment.

## Installation

Nylon washers are required when twist style fasteners are used to mount the sign.

## Cleaning

Signs that require cleaning should be flushed with water, then washed with a detergent solution and soft bristle brush or sponge. Avoid pressure that may damage the sign face. Flush with water following washing. Do not use solvents to clean signs. Refer to 3M Information Folder 1.10.

## Health and Safety Information

Read all health hazard, precautionary and first aid statements found in the Material Safety Data Sheet and/ or product label of any materials prior to handling or use.

## General Performance Considerations

The durability of high intensity prismatic Series 3930 sheeting and finished signs using 3M Matched Component materials will depend upon substrate selection and preparation, compliance with recommended application procedures, geographic area, exposure conditions, and maintenance. Maximum durability of Series 3930 sheeting can be expected in applications subject to vertical exposure on stationary objects when processed and applied to properly prepared aluminum according to 3M recommendations provided in Information Folder 1.7. The user must determine the suitability of any nonmetallic sign backing for its intended use. **Sign failures caused by the substrate or improper surface preparation are not the responsibility of 3M.** Applications to unprimed, excessively rough or non-weather resistant surfaces or exposure to severe or unusual conditions can shorten the performance of such applications. Signs in mountainous areas that are covered by snow for prolonged periods may also have reduced durability. 3M process colors and ElectroCut™ Film, when used according to 3M recommendations, are generally expected to provide performance comparable to colored reflective sheeting. Custom colors, certain lighter colors, heavily toned colors or blends containing yellow or gold may have reduced durability. Atmospheric conditions in certain geographic areas may result in reduced durability.

Periodic sign inspection and regular sign replacement are strongly recommended in order for sign owners to establish their own effective service life expectation, beyond the warranty period.

3M has tested HP Designjet Printers and black latex inks: L25500 printer/series 789 black ink, and L26500 printer/series 792 black ink; and when applied within parameters defined in IF 3.4 the resulting sign performance is considered to be commensurate with typically expected sign life. However, this imaging system is not covered as part of the 3M Matched Component system noted in the General Warranty Terms.

### 3M Basic Product Warranty and Limited Remedy

3M™ High Intensity Prismatic Reflective Sheeting Series 3930 (“Product”) is warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. If Series 3930 Sheeting is proven not to have met the Basic Warranty on its shipment date, then a buyer’s exclusive remedy, and 3M’s sole obligation, at 3M’s option, will be refund or replacement of the sheeting.

#### General Warranty Terms:

1. 3M makes the Additional Warranty (as defined below) as to any traffic control and guidance sign in the United States and Canada (“Sign”) made with 3M™ High Intensity Prismatic Reflective Sheeting Series 3930 (“Product”) and the Matched Component materials listed in Table E. Any Additional Warranty is contingent on all components involved in that Additional Warranty being stored, applied, installed, and used only as 3M recommends in its Product Bulletins and Other Product Information.
2. The Basic Warranty and any applicable Additional Warranty are collectively referred to as the “3M Warranty.” EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, THE 3M WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, RIGHTS OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND THOSE ARISING FROM A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. A BUYER IS RESPONSIBLE FOR DETERMINING IF A PRODUCT IS SUITABLE FOR ITS PARTICULAR PURPOSE AND APPLICATION METHODS.
3. A Sign’s failure to meet the 3M Warranty must be solely the result of the Product or the matched component materials’ design or manufacturing defects. 3M has no obligation under the 3M Warranty if a sign failure is caused by: improper fabrication, handling, maintenance or installation; non-vertical applications where the Sign face is more than +/- 10% from vertical; use of any material or product not made by 3M or not included in Table E; use of application equipment not recommended by 3M; failure of sign substrate; loss of adhesion due to incompatible or improperly prepared substrate; exposure to chemicals, abrasion and other mechanical damage; snow burial or any other sign burial; collisions, vandalism or malicious mischief.

4. 3M reserves the right to determine the method of replacement, and any replacement Product will have the remainder of the original Product’s unexpired 3M Warranty. Claims made under this warranty will be honored only if
  - The Sign was dated upon completion of fabrication (“Fabrication Date”) using a permanent method (sticker, permanent marker or crayon, metal stamp, etc.)
  - 3M is notified of a 3M Warranty claim during any applicable Warranty Period and the owner or fabricator provides the information reasonably required by 3M to verify if a 3M Warranty is applicable.

#### Additional Warranty and Limited Remedy

1. The Additional Warranty for a Sign made with the Product is that the Sign will: (a) remain effective for its intended use when viewed from **a moving vehicle under normal day and night driving conditions by a driver with normal vision**, and (b) after cleaning, will meet the **minimum values for coefficient of retroreflection stated in Table C** for Table C’s applicable Warranty Period measured from the Sign’s Fabrication Date.

**Table C**

Minimum Percent Retained of Table B  
Initial  $R_A$  for applicable Warranty Period for white, yellow, red, green, blue and brown

Warranty Period	Minimum Percentage $R_A$ Retained
1-7 Years	80%
8-10 Years	70%

2. If any Sign made with the Product is proven not to have met the Additional Warranty, then a buyer’s **exclusive remedy**, and 3M’s sole obligation, at 3M’s option:
  - a. if this occurs within seven years after the Fabrication Date, then 3M will, at its expense, restore the Sign’s surface to its **original effectiveness**; or
  - b. if this occurs during the remainder of the Additional Warranty Period, then 3M will furnish only the necessary 3M sheeting Product and matched component materials quantity to restore the Sign’s surface to its original effectiveness.



## Additional Warranty & Limited Remedy for 3934 Orange Product

- The Additional Warranty for a Sign made with 3934 orange sheeting (Orange Product) is that the Sign will: (a) **remain effective for its intended use when viewed from a moving vehicle under normal day and night driving conditions by a driver with normal vision;** (b) after cleaning, will retain the coefficient of retroreflection stated in Table D for three years measured from Fabrication Date; and (c) after cleaning, the Product will **maintain daytime luminance equal to or greater than the minimums specified in Table A.**

**Table D**

Minimum Coefficient of Retroreflection for 3934 Orange sheeting Product (cd/lux/m<sup>2</sup>) (0.2° observation and -4° entrance)

Warranty Period	Minimum R <sub>A</sub>
Orange	80

If any Sign made with the Product is proven not to have met the Additional Warranty, then a buyer's **exclusive remedy**, and 3M's sole obligation, at 3M's option, is that 3M will provide pro-rated replacement of the 3M materials.

**Table E**

Matched Component Materials.

Matched Components	
Process Colors	Series 880I
Process Colors	Series 880N
Thermal Transfer Ribbons – Spot Traffic Colors only*	Series TTR2300
ElectroCut™ Film	Series 1170
Premium Protective Overlay Film	Series 1160
Slipsheet	SCW 568
Prespacing Tape	SCPS-2
Premasking Tape	SCPM-3
Transfer Tape	TPM-5

\*must be covered with 3M™ ElectroCut™ Film 1170

Refer to 3M Information Folders and Product Bulletins for detailed information about recommended application procedures and equipment.

## Other Product Information

**Always confirm that you have the most current version of the applicable Product Bulletin, Information Folder or Other Product Information.**

IF 1.4	Instructions for Interstate Squeeze Roll Applicator
IF 1.5	Hand Application Instructions
IF 1.6	Hand Squeeze Roll Applicator
IF 1.7	Sign Base Surface Preparation
IF 1.8	Process Color Application Instructions
IF 1.10	Cutting, Premasking, and Prespacing
IF 1.11	Sign Maintenance Management
PB 880I	Process Color 880I
PB 880N	Process Color 880N
PB 1170	ElectroCut™ Film
PB TTR2300	Thermal Transfer Ribbons Series TTR2300
PB 1160	Protective Overlay Film 1160 Ink Jet Imaging with HP Designjet L25500
IF 3.4	Printer and HP 789 Series latex Inks

## Limitation of Liability

3M WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO A BUYER FOR DIRECT (other than the applicable Limited Remedy stated above), SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS) IN ANY WAY RELATED TO A PRODUCT OR THIS PRODUCT BULLETIN, REGARDLESS OF THE LEGAL OR EQUITABLE THEORY ON WHICH SUCH DAMAGES ARE SOUGHT.

ASTM Test Methods are available from ASTM International, West Conshohocken, PA.

3M assumes no responsibility for any injury, loss or damage arising out of the use of a product that is not of our manufacture. Where reference is made in literature to a commercially available product, made by another manufacturer, it shall be the user's responsibility to ascertain the precautionary measures for its use outlined by the manufacturer.

#### **Important Notice**

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, or conditions express or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct, special or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his/her intended use, and user assumes all risk and liability whatsoever in connection therewith. Statements or recommendations not contained herein shall have no force or effect unless in an agreement signed by officers of seller and manufacturer.

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# Diamond Grade™

# DG<sup>3</sup> Reflective Sheeting Series 4000

Product Bulletin 4000

January 2012

## Description

3M™ Diamond Grade™ DG<sup>3</sup> Reflective Sheeting Series 4000 is a super-high efficiency, full cube retroreflective sheeting designed for the production of traffic control signs and delineators that are exposed vertically in service. DG<sup>3</sup> sheeting is designed to have the highest retroreflective characteristics at medium and short road distances as determined by the R<sub>A</sub> values at 0.5° and 1.0° observation angles in Table B. Performance at these observation angles represents the most common nighttime viewing geometries encountered by the driving public. During the daytime, Diamond Grade DG<sup>3</sup> fluorescent reflective sheeting provides higher visibility than ordinary (non-fluorescent) colored sheetings.

Applied to properly prepared sign substrates Diamond Grade DG<sup>3</sup> reflective sheeting provides long-term retroreflectivity and durability. Series 4000 sheeting is available in the following colors.

Color	Product Code
White	4090
Yellow	4091
Red	4092
Blue	4095
Green	4097
Brown	4099
Fluorescent Yellow - FY	4081
Fluorescent Yellow Green- FYG	4083
Fluorescent Orange - FO	4084

## Color

## Product Code

White - thermal transfer printable	4090TT
Yellow - thermal transfer printable	4091TT
Fluorescent Yellow - TT printable	4081TT
Fluorescent Yellow - Green - TT printable	4083TT

## Photometrics

### Daytime Color (x, y, Y)

The chromaticity coordinates and total luminance factor of the retroreflective sheeting conform to Table A.

### Color Test – Fluorescent Sheetings

Conformance to standard chromaticity (x, y) and luminance factor (Y %) requirements shall be determined by instrumental method in accordance with ASTM E 991 on sheeting applied to smooth aluminum test panels cut from Alloy 6061-T6 or 5052-H38. The values shall be determined on a HunterLab ColorFlex 45/0 spectrophotometer. Computations shall be done for CIE Illuminant D65 and the 2° standard observer.<sup>2</sup>

### Color Test – Ordinary Colored Sheeting

Conformance to standard chromaticity (x, y) and luminance factor (Y %) requirements shall be determined by instrumental method in accordance with ASTM E 1164 on sheeting applied to smooth aluminum test panels cut from Alloy 6061-T6 or 5052-H38. The values shall be determined on a HunterLab ColorFlex 45/0 spectrophotometer. Computations shall be done for CIE Illuminant D65 and the 2° standard observer.<sup>2</sup>

Table A - Daytime Color Specification Limits<sup>1</sup>

Color	x		y		x		y		Daytime Luminance Limit (Y%)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
White	0.303	0.300	0.368	0.366	0.340	0.393	0.274	0.329	27	
Yellow	0.498	0.412	0.557	0.442	0.479	0.520	0.438	0.472	15	45
Red	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346	2.5	15
Blue	0.140	0.035	0.244	0.210	0.190	0.255	0.065	0.216	1	10
Green	0.026	0.399	0.166	0.364	0.286	0.446	0.207	0.771	3	12
Brown	0.430	0.340	0.610	0.390	0.550	0.450	0.430	0.390	1	9
FY	0.479	0.520	0.446	0.483	0.512	0.421	0.557	0.442	40	
FYG	0.387	0.610	0.369	0.546	0.428	0.496	0.460	0.540	60	
FO	0.583	0.416	0.535	0.400	0.595	0.351	0.645	0.355	20	

<sup>1</sup>The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Colorimetric System.

<sup>2</sup>The instrumentally determined color values of retroreflective sheeting can vary significantly depending on the make and model of colorimetric spectrophotometer as well as the color and retroreflective optics of the sheeting (David M. Burns and Timothy J. Donahue, Measurement Issues in the Color Specification of Fluorescent Retroreflective Materials for High Visibility Traffic Signing and Personal Safety Applications, Proceedings of SPIE: Fourth Oxford Conference on Spectroscopy, 4826, pp. 39-49, 2003). For the purposes of this document, the HunterLab ColorFlex 45/0 spectrophotometer shall be the referee instrument.

### Coefficients of Retroreflection (R<sub>A</sub>)

The values in Table B are minimum coefficients of retroreflection expressed in candelas per lux per square meter (cd/lux/m<sup>2</sup>).

### Test for Coefficients of Retroreflection

Conformance to coefficient of retroreflection requirements shall be determined by instrumental method in accordance with ASTM E-810 "Test Method for Coefficient of Retroreflection of Retroreflective Sheeting", and per E-810 the values of 0° and 90° rotation are averaged to determine the R<sub>A</sub> in Table B.

**Table B - Minimum Coefficient of Retroreflection R<sub>A</sub> for new sheeting (cd/lux/m<sup>2</sup>)**

	<b>Observation Angle<sup>4</sup></b>		
	<b>0.2°</b>	<b>0.5°</b>	<b>1.0°</b>
<b>-4° Entrance Angle<sup>3</sup></b>			
White	580	420	120
Yellow	435	315	90
Red	87	63	18
Green	58	42	12
Blue	26	19	5
Brown	17	13	4
Fluorescent Yellow	350	250	72
Fluorescent Yellow Green	460	340	96
Fluorescent Orange	175	125	36
<b>30° Entrance Angle<sup>3</sup></b>			
White	220	150	45
Yellow	165	110	34
Red	33	23	7
Green	22	15	5
Blue	10	7	2
Brown	7	5	1
Fluorescent Yellow	130	90	27
Fluorescent Yellow Green	180	120	36
Fluorescent Orange	66	45	14

<sup>3</sup> Entrance Angle – The angle from the illumination axis to the retroreflector axis. The retroreflector axis is an axis perpendicular to the retroreflective surface.

<sup>4</sup> Observation Angle – The angle between the illumination axis and the observation axis.

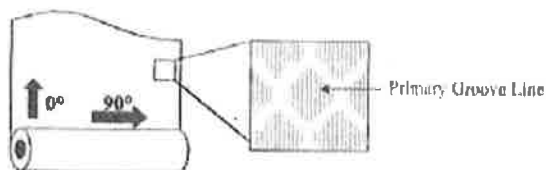
## Printed Colors and Overlay Films

For screenprinted or thermally transfer printed transparent color areas on white sheeting when processed according to 3M recommendations, the coefficients of retroreflection shall not be less than 70% of the value for the corresponding color in Table B. For white sheeting covered with 3M™ ElectroCut™ Film Series 1170 when processed according to 3M recommendations, the coefficients of retroreflection shall not be less than 100% of the value for the corresponding color in Table B. The color chromaticity and luminance shall conform to Table A on page 1.

## Entrance Angularity Performance in Regard to Orientation

Diamond Grade DG<sup>3</sup> Reflective Sheeting is designed to be an effective wide angle reflective sheeting regardless of its orientation on the substrate or ultimate orientation of the sign after installation. However, because the efficiency of light return from cube corner reflectors is not equal at all application orientations, especially with increasing entrance angles, it is possible to get the widest entrance angle light return when the sheeting is oriented in a particular manner. When high entrance angle (>50°) performance is required for given signs (e.g. Keep Right Symbols), it can be obtained easily by specifying the application orientation of the completed signs. In these situations the completed sign should have the sheeting positioned at the 0° orientation (downweb direction perpendicular to the road).

When the "primary groove line" (or, flat side of the diamond shape) is vertical in the completed sign, sheeting is said to be at a 0° orientation. When the "primary groove line" (or, flat side of the diamond shape) is horizontal in the completed sign, the sheeting is said to be at a 90° orientation. (Figure 1)



**Figure 1**

Unless the sign location and/or position calls for extra-wide entrance angularity performance, signs and applied copy (letters, arrows, borders and shields) can be fabricated and installed using the application orientation that most efficiently utilizes the reflective sheeting.

Note: For multi-panel signs it is recommended that all background panels be sheeted such that the sheeting direction is the same for all panels.

## Fabrication Lines

The manufacture of prismatic sheeting results in lines being present in the product. In Diamond Grade DG<sup>3</sup> sheeting these lines are slightly thicker than the seal pattern legs. Fabrication lines are noticeable in shop light but are not observable on the road either in daylight or at night under typical use conditions (Figure 2).

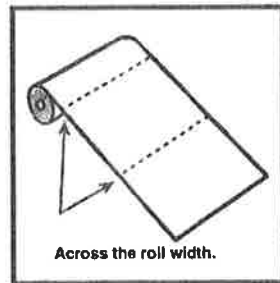


Figure 2 - Fabrication Lines

## Adhesive

Diamond Grade DG<sup>3</sup> sheeting has a pressure-sensitive adhesive that is recommended for application at temperatures of 65°F (18°C) or higher.

## Adhesive and Film Properties

### Standard Test Panels

Unless otherwise specified herein, sheeting shall be applied to test panels and conditioned in accordance with ASTM D4956 and test methods and conditions shall conform to ASTM D4956.

### Properties

The following properties shall conform to the requirements in ASTM D4956.

1. Adhesion
2. Outdoor weathering
  - retained coefficient of retroreflection
  - colorfastness
3. Shrinkage
4. Flexibility
5. Liner removal
6. Impact resistance
7. Night time color

In addition, DG<sup>3</sup> sheeting will conform to the following properties.

#### 1. Gloss

Test Method – Test in accordance with ASTM D523 using a 60° glossmeter.

Requirement – Rating not less than 50.

#### 2. Optical Stability

Test Method – Apply a 3-inch x 6-inch sample to a test panel. Measure  $R_{\Lambda}$ , then place it in an oven at  $71^{\circ}\text{C} \pm 3^{\circ}\text{C}$  ( $160^{\circ}\text{F} \pm 5^{\circ}\text{F}$ ) for 24 hours followed by conditioning at standard conditions for two hours.

Remeasure  $R_{\Lambda}$ .

Requirement – The sheeting shall retain a minimum of 85% and a maximum of 115% of the original coefficient of retroreflection.

## Sign Fabrication Methods

### Application

Diamond Grade DG<sup>3</sup> sheeting incorporates a pressure sensitive adhesive and should be applied to the sign substrate at temperature of 65°F/18°C or higher by any of the following methods:

Mechanical squeeze roll applicator – refer to 3M Information Folder (IF) 1.4. Application to extrusions that are edge wrapped requires sufficient softening of the sheeting. This can be accomplished by directing additional heat to the “next to last” edge roller. This practice will increase productivity and minimize cracking.

Hand squeeze roll applicator – refer to 3M IF 1.6.

Application of Diamond Grade DG<sup>3</sup> sheeting for complete signs or backgrounds must be done with a roll laminator, either mechanical or hand driven.

### Hand Application

Hand application is recommended for legend and copy only. Refer to 3M Information Folder 1.5 for more details.

Hand applications will show some visual irregularities, which are objectionable to aesthetically critical customers. These are more noticeable on darker colors. To obtain a close-up uniform appearance, a roll laminator must be used.

All direct applied copy and border MUST be cut at all metal joints and squeegeed at the joints.

### Splices

Series 4000 sheeting must be butt spliced when more than one piece of sheeting is used on one piece of substrate. The sheeting pieces should not touch each other. This is to prevent buckling as the sheeting expands in extreme temperature and humidity exposure.

### Double Faced Signs

The sheeting on the bottom side of a double faced sign can be damaged if rolled through a squeeze roll applicator with an unprotected steel bottom roller. The use of a semi-soft flat sheet between the steel roller and the applied sign face will provide protection from damage. A material such as a rubber mat, tag board or cardboard is recommended.

## Substrates

For traffic sign use, substrates found to be most reliable and durable are properly prepared aluminum sheets and extrusions. **Users are urged to carefully evaluate all other substrates for adhesion and sign durability.** Other substrates that may be satisfactory for proper application of sheeting will have the following characteristics:

- Clean
- Smooth
- Flat
- Rigid
- Dimensionally stable
- Weather resistant
- Non-porous
- High surface energy (passes water break test)

Refer to Information Folder 1.7 for surface preparation recommendations. Substrates with low surface energy may require additional preparation such as flame treatment, mechanical abrasion or use of adhesion promoters prior to sheeting application. Guide sign extrusions may be edge wrapped. Flat panels or unwrapped extrusions are to be carefully trimmed so that sheeting from adjacent panels does not touch on assembled signs.

Diamond Grade DG<sup>3</sup> sheeting is designed primarily for applications to flat substrates. Any use that requires a radius of curvature of less than five inches should also be supported by rivets or bolts. Plastic substrates are not recommended where cold shock performance is required. **Sign failures caused by the substrate or improper surface preparation are not the responsibility of 3M.**

## Imaging

Diamond Grade DG<sup>3</sup> sheeting may be processed into traffic signs by any of the imaging methods described below. 3M assumes no responsibility for failure of sign face legends or backgrounds that have been processed with non-3M process colors or matched component imaging materials other than those listed below.

### Screen Processing

Diamond Grade DG<sup>3</sup> sheeting may be screen processed into traffic signs before or after mounting on a sign substrate, using 3M Process Colors Series 880I or Series 880N. Series 880I or 880N process colors can be screened at 60-100°F (16-38°C) at relative humidity of 20-50%. A PE 157 screen mesh with a fill pass is recommended. Refer to Information Folder 1.8 for details. No clear coating is required or recommended. Use of other process colors series is not recommended.

**Care should be taken to avoid flexing DG<sup>3</sup> sheeting before and especially after screening to eliminate the possibility of cracking from improper handling techniques.**

### Thermal Transfer Printing

Diamond Grade DG<sup>3</sup> TT sheeting may be imaged with 3M™ Thermal Transfer Ribbon Series TTR2300 in conjunction with the Matan SprinG3 or Matan Spot4 thermal transfer printers. For regulated traffic signs, Series TTR2300 Spot Traffic Colors are to be applied using these printers and must be covered with 3M™ ElectroCut™ Film 1170. Refer to Product Bulletin TTR2300 for more information.

### 3M™ ElectroCut™ Film

3M™ ElectroCut™ Film Series 1170 may be used to provide transparent colored background copy for traffic control signs on Diamond Grade DG<sup>3</sup> sheeting. Refer to Product Bulletin 1170 for fabrication procedures.

### Applied Cut-Out Copy

Diamond Grade DG<sup>3</sup> cut letters may be applied to a DG<sup>3</sup> sheeting background to create a sign legend. Such cut-out copy may be directly applied to the background sheeting, or may be applied in a demountable form. Direct applied copy must be cut at all panel seams and carefully trimmed back so that sheeting from adjacent panels does not touch on assembled signs. Refer to Information Folder 1.10 for more information.

Note: It is recommended to fabricate all but the largest signs using 1170 electronic cuttable overlay film instead of direct applied copy.

### Cutting

Diamond Grade DG<sup>3</sup> sheeting may be cut into letters and shapes of at least three inches in height and stroke widths of at least one half inch. Smaller sizes are not recommended. Sealing cut edges of DG<sup>3</sup> sheeting is not required.

### Plotter Cutting

Programmable knife cut (electronic cutting)

1. Flat bed plotters can either die cut or kiss cut and offer the most consistent and reliable performance.
2. Friction Fed plotter. Kiss cut only. Success has been achieved using plotters that have 600 grams of down force and a 60° cutting blade. Additional drive wheels may need to be added to improve tracking. An alternative procedure is to cut sheeting from the liner side. Blade force and knife depth must be set to score but not cut through the topfilm. Break apart individual copy or apply premask to retain spacing.

### Other Cutting Methods

Diamond Grade DG<sup>3</sup> sheeting may be hand cut or die cut one sheet at a time, and band sawed or guillotined in stacks. Cutting equipment such as guillotines and metal shears, which have pressure plates on the sheeting when cutting, may damage the optics. Padding the pressure plate and easing it down onto the sheets being cut will significantly reduce damage. Maximum stack height for cutting Series 4000 sheeting is 1½ inch or 50 sheets. Details on cutting can be found in Information Folder 1.10.

### Storage and Packaging

3M Diamond Grade DG<sup>3</sup> Sheeting should be stored in a cool, dry area, preferably at 65-75°F (18-24°C) and 30-50% relative humidity and should be applied within one year of purchase. Rolls should be stored horizontally in the shipping carton. Partially used rolls should be returned to the shipping carton or suspended horizontally from a rod or pipe through the core. Unprocessed sheets should be stored flat. Finished signs and applied blanks should be stored on edge.

Screen processed signs must be protected with SCW 568 slipsheet paper. Place the glossy side of the slipsheet against the sign face and pad the face with closed cell packaging foam. Double faced signs must have the glossy side of the slipsheet against each face of the sign.

Unmounted screened faces must be stored flat and interleaved with SCW 568 slipsheet, glossy side against the sign face.

Avoid banding, crating, or stacking signs. Package for shipment in accordance with commercially accepted standards to prevent movement and chafing. Store sign packages indoors on edges.

Panels or finished signs must remain dry during shipment and storage. If packaged signs become wet, unpack immediately and allow signs to dry. Refer to Information Folder 1.11 for instructions on packing for storage and shipment.

### Installation

Nylon washers are required when twist style fasteners are used to mount the sign.

### Cleaning

Signs that require cleaning should be flushed with water, then washed with a detergent solution and soft bristle brush or sponge. Avoid pressure that may damage the sign face. Flush with water following washing. Do not use solvents to clean signs. Refer to 3M Information Folder 1.10.

### Health and Safety Information

Read all health hazard, precautionary and first aid statements found in the Material Safety Data Sheet and/or product label of any materials prior to handling or use.

### General Performance Considerations

The durability of Diamond Grade DG<sup>3</sup> sheeting and finished signs using 3M Matched Component materials will depend upon substrate selection and preparation, compliance with recommended application procedures, geographic area, exposure conditions, and maintenance. Maximum durability of Diamond Grade DG<sup>3</sup> sheeting can be expected in applications subject to vertical exposure on stationary objects when processed and applied to properly prepared aluminum according to 3M recommendations provided in Information Folder 1.7. The user must determine the suitability of any nonmetallic sign backing for its intended use. **Sign failures caused by the substrate or improper surface preparation are not the responsibility of 3M.** Applications to unprimed, excessively rough or non-weather resistant surfaces or exposure to severe or unusual conditions can shorten the performance of such applications. Signs in mountainous areas that are covered by snow for prolonged periods may also have reduced durability. 3M process colors and ElectroCut™ Film, when used according to 3M recommendations, are generally expected to provide performance comparable to colored reflective sheeting. Custom colors, certain lighter colors, heavily toned colors or blends containing yellow or gold may have reduced durability. Atmospheric conditions in certain geographic areas may result in reduced durability.

Periodic sign inspection and regular sign replacement are strongly recommended in order for sign owners to establish their own effective service life expectation, beyond the warranty period.

### 3M Basic Product Warranty and Limited Remedy

3M™ Diamond Grade™ DG<sup>3</sup> Reflective Sheeting Series 4000 (“Product”) is warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. If DG<sup>3</sup> Sheeting is proven not to have met the Basic Warranty on its shipment date, then a buyer’s exclusive remedy, and 3M’s sole obligation, at 3M’s option, will be refund or replacement of the sheeting.

**General Warranty Terms:**

1. 3M makes the Additional Warranty (as defined below) as to any traffic control and guidance sign in the United States and Canada (“Sign”) made with 3M™ Diamond Grade™ DG<sup>3</sup> Reflective Sheeting Series 4000 (“Product”) and the Matched Component materials listed in Table E. Any Additional Warranty is contingent on all components involved in that Additional Warranty being stored, applied, installed, and used only as 3M recommends in its Product Bulletins and Other Product Information.

2. The Basic Warranty and any applicable Additional Warranty are collectively referred to as the “3M Warranty.” EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, THE 3M WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, RIGHTS OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND THOSE ARISING FROM A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. A BUYER IS RESPONSIBLE FOR DETERMINING IF A PRODUCT IS SUITABLE FOR ITS PARTICULAR PURPOSE AND APPLICATION METHODS.

3. A Sign’s failure to meet the 3M Warranty must be solely the result of the Product or the matched component materials’ design or manufacturing defects. 3M has no obligation under the 3M Warranty if a sign failure is caused by:

improper fabrication, handling, maintenance or installation; non-vertical applications where the Sign face is more than +/- 10% from vertical; use of any material or product not made by 3M or not included in Table E; use of application equipment not recommended by 3M; failure of sign substrate; loss of adhesion due to incompatible or improperly prepared substrate; exposure to chemicals, abrasion and other mechanical damage; snow burial or any other sign burial; collisions, vandalism or malicious mischief.

4. 3M reserves the right to determine the method of replacement, and any replacement Product will have the remainder of the original Product’s unexpired 3M Warranty. Claims made under this warranty will be honored only if

- The Sign was dated upon completion of fabrication (“Fabrication Date”) using a permanent method (sticker, permanent marker or crayon, metal stamp, etc.)
- 3M is notified of a 3M Warranty claim during any applicable Warranty Period and the owner or fabricator provides the information reasonably required by 3M to verify if a 3M Warranty is applicable.

**Additional Warranty & Limited Remedy for Ordinary colored Product**

1. The Additional Warranty for a Sign made with ordinary colored Product is that the Sign will: (a) **remain effective for its intended use when viewed from a moving vehicle under normal day and night driving conditions by a driver with normal vision**, and (b) after cleaning, will meet the **minimum values for coefficient of retroreflection stated in Table C** for Table C’s applicable Warranty Period measured from the Sign’s Fabrication Date.

**Table C – Minimum Percent Retained of Table B Initial R<sub>A</sub> for applicable Warranty Period for Ordinary Colors (white, yellow, red, green, blue and brown)**

Warranty Period	Minimum Percentage R <sub>A</sub> Retained
1-7 Years	80%
8-12 Years	70%

2. If any Sign made with Ordinary Product is proven not to have met the Additional Warranty, then a buyer’s **exclusive remedy**, and 3M’s sole obligation, at 3M’s option:

- (a) if this occurs within seven years after the Fabrication Date, then 3M will, at its expense, restore the Sign’s surface to its **original effectiveness**; or
- (b) if this occurs during the remainder of the Additional Warranty Period, then 3M will furnish only the necessary 3M sheeting Product and matched component materials quantity to restore the Sign’s surface to its original effectiveness.

**Additional Warranty & Limited Remedy for Fluorescent Product**

1. The Additional Warranty for a Sign made with Fluorescent Product is that the Sign will: (a) **remain effective for its intended use when viewed from a moving vehicle under normal day and night driving conditions by a driver with normal vision**; (b) after cleaning, will **retain 70% of the minimum values for coefficient of retroreflection stated in Table B** for the applicable Warranty Period stated in Table D, measured from Fabrication Date; and (c) after cleaning, the fluorescent Product will **maintain daytime luminance equal to or greater than the minimums specified in Table A**.



**Table D – Warranty Period for Fluorescent Colors.**

Color	Warranty Period
Fluorescent Yellow	10/7 Years <sup>5</sup>
Fluorescent Yellow Green	10/7 Years <sup>5</sup>
Fluorescent Orange	3 Years

<sup>5</sup> Due to climatic conditions, Signs in Alabama, Arizona, Florida, Georgia, Hawaii, Louisiana, Mississippi, New Mexico, South Carolina and Texas have the 7-year Additional Warranty Period.

2. If a Sign made with Fluorescent Product is proven not to have met the Additional Warranty, then a buyer’s exclusive remedy, and 3M’s sole obligation, at 3M’s option:

(a) for those Fluorescent Products with a 10-year Additional Warranty Period, 3M will, at its expense: (a) restore the Sign’s surface to its **original effectiveness** if this occurs within seven years after the Fabrication Date; or (b) furnish only the necessary 3M Fluorescent Product and matched component materials quantity to restore the Sign’s surface to its original effectiveness if this occurs during the remainder of the Warranty Period.

(b) for those Fluorescent Products with a 7-year Additional Warranty Period, 3M will, at its expense: (a) restore the Sign’s surface to its **original effectiveness** if this occurs within five years after the Fabrication Date; or (b) furnish only the necessary 3M Fluorescent Product and matched component materials quantity to restore the Sign’s surface to its original effectiveness if this occurs during the remainder of the Warranty Period.

(c) for those Fluorescent Products with a 3-year Additional Warranty Period, 3M will furnish only the necessary Fluorescent Product and matched component materials quantity to restore the Sign’s surface to its original effectiveness.

**Table E. Matched Component Materials.**

Matched Components	
Process Colors	Series 880I
Process Colors	Series 880N
Thermal Transfer Ribbons – Spot Traffic Colors only*	Series TTR2300
ElectroCut™ Film	Series 1170
Premium Protective Overlay Film	Series 1160
Slipsheet	SCW 568
Prespacing Tape	SCPS-2
Premasking Tape	SCPM-3
Transfer Tape	TPM-5

\* Must be covered with 3M™ ElectroCut™ Film 1170

Refer to 3M Information Folders and Product Bulletins for detailed information about recommended application procedures and equipment.

**Other Product Information**

**Always confirm that you have the most current version of the applicable Product Bulletin, Information Folder or Other Product Information.**

- IF 1.4 Instructions for Interstate Squeeze Roll Applicator
- IF 1.5 Hand Application Instructions
- IF 1.6 Hand Squeeze Roll Applicator
- IF 1.7 Sign Base Surface Preparation
- IF 1.8 Process Color Application Instructions
- IF 1.10 Cutting, Premasking, and Prespacing
- IF 1.11 Sign Maintenance Management
- PB 880I Process Color 880I
- PB 880N Process Color 880N
- PB 1170 ElectroCut™ Film
- PB TTR2300 Thermal Transfer Ribbons Series TTR2300
- PB 1160 Protective Overlay Film 1160

## Limitation of Liability

3M WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO A BUYER FOR DIRECT (other than the applicable Limited Remedy stated above), SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS) IN ANY WAY RELATED TO A PRODUCT OR THIS PRODUCT BULLETIN, REGARDLESS OF THE LEGAL OR EQUITABLE THEORY ON WHICH SUCH DAMAGES ARE SOUGHT.

ASTM Test Methods are available from ASTM International, West Conshohoken, PA.

3M assumes no responsibility for any injury, loss or damage arising out of the use of a product that is not of our manufacture. Where reference is made in literature to a commercially available product, made by another manufacturer, it shall be the user's responsibility to ascertain the precautionary measures for its use outlined by the manufacturer.

### Important Notice

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, or conditions express or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct, special or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his/her intended use, and user assumes all risk and liability whatsoever in connection therewith. Statements or recommendations not contained herein shall have no force or effect unless in an agreement signed by officers of seller and manufacturer.

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Electronic Only



# Scotchcal™ ElectroCut™ Graphic Film

## Series 7725

For Electronic Cutting, Thermal Transfer Printing and Screen Printing

### 1. Product Description

- 2-mil cast vinyl in 61 colors
- Pressure-sensitive, permanent adhesive
- Same color on both sides
- Transparent synthetic liner resists moisture absorption and static build up.
- Lays flat for easier assembly of multi-color graphics.
- Superior cutting as small as 0.25 inch (0.64 cm) and weeding.
- Ideal for prespaced and electronically cut, screen printed or used in narrow width thermal transfer printing systems

### 2. Recommended Types of Graphics and End Uses

When constructed and used as described in this Bulletin, these types of graphics and end uses may be warranted by the [3M™ MCS™ Warranty](#). Please read the entire Bulletin for details.

- Prespaced and electronically-cut graphics
- Commercial and industrial graphic applications, including emblems, vehicle graphics, labels, striping, general signage, two-way window markings
- Thermal transfer printed graphics

### 3. Performance Overview

3M tests the performance of both individual products and finished graphic constructions. This table shows the best performance expected from this product without a Warranty Period and with a Warranty Period.

For detailed graphic construction and application options along with specific Warranty Periods, please see the Warranty Information, Section 4.

<b>Expected Performance Life.</b> This is the estimated period of time the product should perform satisfactorily.	
Unprinted film with no graphic protection, applied to a flat vertical outdoor surface.	8 years Unwarranted Period
<b>3M™ MCS™ Warranty.</b> This is the maximum period of time 3M will warrant the finished graphic performance.	
Printed white film with the best 3M ink and graphic protection option, applied to a flat, vertical, vehicle surface.	6 years Warranty Period

### 4. Limitations of End Uses

#### A. Do not use the film for these end uses

3M does not normally warrant other uses or applications, but please contact us to discuss your needs or let us suggest other 3M products.

- Non-vertical applications
- Application to corrugated surfaces or surfaces with compound curves
- Application to stainless steel for fleet applications
- Graphics exposed to petroleum products or fumes
- Thermoforming
- Backlit signage (Use one of the 3M™ Scotchcal™ Translucent Graphic Film Series instead)
- Use in Summa's SummaChrome™ or DuraChrome™ printers or similar printers

## 5. Compatible Products

### A. Screen Printing Inks

This Bulletin provides details about the base film, recommended construction options, warranted durability and warranty limitations for the constructions shown in the Warranted Durability Tables. Additional specific information about compatible products can be found in the Product and Instruction Bulletins listed in 3M Related Literature at the end of this bulletin.

- 3M™ Screen Printing Ink Series 1900 *line color only*
- 3M™ Screen Printing UV Ink Series 9800 *line color only*

### B. Graphic Protection

- 3M™ Screen Printing Gloss Clear 1920DR
- 3M™ Screen Printing Matte Clear 1930
- 3M™ Screen Printing Matte Clear 9730UV
- 3M™ Screen Printing Gloss UV Clear 9800CL
- 3M™ Screen Printing Gloss UV Clear 9740i

### C. Other Products

- 3M™ Prespacing Tape SCPS-2
- 3M™ Prespacing Tape SCPS-3 with HVA
- 3M™ Prespacing Tape SCPS-53X
- 3M™ Premasking Tape SCPM-3
- 3M™ Premasking Tape SCPM-44X

## 6. Characteristics

### A. Physical Characteristics

These are typical values for unprocessed product; processing may change the values. Contact your 3M representative for a custom specification.

Characteristic	Description
Film	Cast vinyl, glossy finish
Opacity	Translucent
Thickness	<b>Without adhesive:</b> 2 mil (0.05 mm) <b>With adhesive:</b> 2.5 to 3.5 mils (0.063 to 0.09 mm)
Adhesive type	Pressure sensitive
Adhesive color	Clear
Liner	Transparent synthetic
Tensile strength	5 pound/inch at 73°F (0.9 kg/cm at 23°C) <i>minimum</i>
Adhesion <i>24 hours after application</i>	<b>ABS:</b> 4 pounds/inch (0.7 kg/cm) <b>Acrylic:</b> 4 pounds/inch (0.7 kg/cm) <b>Acrylic enamel:</b> 4 pounds/inch (0.7 kg/cm) <b>Fruehauf painted panels:</b> 4 pounds/inch (0.7 kg/cm) <b>Polycarbonate:</b> 4 pounds/inch (0.7 kg/cm) <b>Urethane paints:</b> 4 pounds/inch (0.7 kg/cm) <b>Aluminum, alodine:</b> 8 pounds/inch (1.4 kg/cm) <b>Chrome:</b> 5 pounds/inch (0.9 kg/cm) <b>Polypropylene:</b> 3 pounds/inch (0.5 kg/cm)
Chemical resistance	Resists mild alkalis, mild acids, and salt Excellent resistance to water ( <i>this does not include immersion</i> )
Flammability	Flammability Test Reports on product catalog for 7725 films: ASTM E84 test report or go to the On-line Product Catalog at 3Mgraphics.com. All other test reports: call 1-800-328-3908.

## B. Color Chart

Number	Color	Number	Color	Number	Color
7725-10	White	7725-46	Kelly green	7725-99	Fawn
7725-11	Pearl gray	7725-47	Intense blue	7725-103	Magenta
7725-12	Black	7725-48	Purple	7725-105	Harvest gold
7725-13	Tomato red	7725-49	Beige	7725-114	Clear
7725-14	Bright orange	7725-53	Cardinal red	7725-120	Satin aluminum
7725-15	Bright yellow	7725-54	Light orange	7725-130	Eggshell
7725-17	Vivid blue	7725-56	Dark green	7725-131	Satin gold
7725-19	Deep mahogany brown	7725-57	Olympic blue	7725-139	Saddle brown
		7725-58	Burgundy	7725-176	Aqua
7725-20	Matte white	7725-59	Putty	7725-177	Shadow blue
7725-22	Matte black	7725-63	Geranium	7725-186	Bright green
7725-23	Deep red	7725-64	Apricot	7725-187	Wedgewood blue
7725-24	Terra cotta	7725-66	Forest green	7725-193	Mauve
7725-25	Sunflower	7725-77	Peacock blue	7725-196	Apple green
7725-27	Indigo	7725-85	Vista yellow	7725-197	Light navy
7725-29	Russet brown	7725-86	Robin egg blue	7725-263	Perfect match red
7725-31	Medium gray	7725-88	Violet	7725-273	Process magenta
7725-37	Sapphire blue	7725-89	Sandstone	7725-276	Bottle green
7725-38	Royal purple	7725-90	Antique white	7725-307	Dark aqua
7725-39	Tan	7725-96	Teal	7725-357	Bermuda blue
7725-41	Dark gray	7725-98	Dark violet		

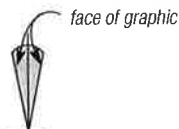
## C. Application Characteristics

Characteristic	Description
Finished graphic application recommendation	<p><b>Graphic orientation:</b> Vertical, non-vertical and horizontal</p> <p><b>Surface type:</b> Flat with and without rivets; Simple curves</p> <p><b>Substrate type:</b> Metal, glass, acrylic, polycarbonate, fiberglass, painted surfaces</p> <p><b>Application temperature:</b> 50° to 100°F (10° to 38°C) <i>air and substrate</i></p> <p><b>Application method:</b> Wet</p>
Applied film shrinkage	0.010 inch (0.3 mm) <i>maximum</i>
Finished graphic exposure temperature	-40° to +225°F (-40° to +107°C)
Graphic removal	None, permanent

## 7. Definitions

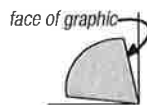
### A. Exposure Types

#### U.S. Vertical Exposure



The face of the graphic is +/- 10° from vertical.

#### U.S. Non-vertical Exposure



The face of the graphic is greater than 10° from vertical and greater than 5° from horizontal. This includes non-vertical surfaces of vehicle wraps or fleet truck and trailer graphics.

#### U.S. Horizontal Exposure



The face of the graphic is +/- 5° from horizontal.

#### U.S. Desert Southwest Exposure

Any outdoor graphic exposed to solar energy more than half of the daylight hours in Arizona, New Mexico and the desert areas of California, Nevada, Utah and Texas is subject to reduced warranties. [Click here](#) for a detailed map.

- B. Graphic Construction** The products used to make a graphic, which may include film and/or flexible substrate, graphic protection, ink, printer and application tape.
- C. Graphic Protection** Overlaminated films or clear coats used to protect the graphic and/or change gloss.
- D. Graphic Types**
  - Indoor Signs** Stationary graphics applied indoors and *not* exposed to the elements.
  - Outdoor Signs** Stationary graphics applied outdoors and exposed to the elements.
  - OEM** Labels and decorative graphics produced for and used by original equipment manufacturers. May also be called decals.
  - Vehicles**

**Vehicle.** Buses, vans, passenger vehicles, delivery trucks, pickup trucks, enclosed trailers.

**Straight Trucks. Semi-Tractors and Semi-Trailers.** Straight trucks, semi-tractors and semi-trailers used for commercial business purposes. Excludes air shields.

## 8. Warranty Information

- A. Warranty Coverage Overview**

The warranty coverage for each graphic is based on the user(s) both reading and following all applicable and current 3M Product and Instruction Bulletins. 3M will honor the Warranty Period stated in the base film's Product Bulletin that is current when the film was purchased. The Warranty Period may be reduced and stipulations may apply for certain constructions and applications, as covered in this Bulletin.

The following is made in lieu of all other express or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade.
- B. 3M Basic Product Warranty**

This product is warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin and as further set forth in the [3M Commercial Graphics Warranties Brochure](#).
- C. Limited Remedy**

3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive.
- D. Limitation of Liability**

Except where prohibited by law, 3M SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO PURCHASER OR USER FOR ANY DIRECT (EXCEPT FOR THE LIMITED REMEDY PROVIDED ABOVE), INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LABOR, NON-3M MATERIAL CHARGES, LOSS OF PROFITS, REVENUE, BUSINESS, OPPORTUNITY, OR GOODWILL) RESULTING FROM OR IN ANY WAY RELATED TO SELLER'S PRODUCTS, SERVICES or THIS BULLETIN. This limitation of liability applies regardless of the legal or equitable theory under which such losses or damages are sought including breach of contract, breach of warranty, negligence, strict liability, or any other legal or equitable theory.
- E. Additional Limitations**

See the [3M Commercial Graphics Warranties Brochure](#) at 3Mgraphics.com, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.
- F. 3M™ MCS™ Warranty**

Subject to Stipulations set forth in Section G., below

  - (1) Warranty Period**

for Finished Graphics in a Standard U.S. Vertical Exposure

Veh	=	Fleet, Standard and Recreational Vehicle Graphics
Out	=	Outdoor Signs
In	=	Indoor Signs

*See Warranty Period tables on the next page*

Warranty Period in Years for Vertical Exposure												
Imaging	No Printing			Ink Series 1900			Ink Series 9800			Ink Series 9800 Metallic		
	Veh	Out	In	Veh	Out	In	Veh	Out	In	Veh	Out	In
<b>Graphic Protection</b>	<b>Film Colors: 7725-10, 12, 20, 22</b>											
1920DR, air dry	—	—	—	5	5	5	—	—	—	—	—	—
1920DR, oven dry	—	—	—	6 ■	6 ■	6 ■	—	—	—	—	—	—
1930	—	—	—	2	2	2	—	—	—	—	—	—
9740i	—	—	—	6	6	6	6	6	6	5	5	5
9730UV	—	—	—	3	3	3	3	3	3	—	—	—
9800CL	—	—	—	—	—	—	5	5	5	5	5	5
None	8	7	7	—	—	—	—	—	—	—	—	—
<b>Graphic Protection</b>	<b>Film Colors: 7725-114, 120, 131</b>											
1920DR, air dry	—	—	—	5	5	5	—	—	—	—	—	—
1920DR, oven dry	—	—	—	5 ■	5 ■	5 ■	—	—	—	—	—	—
1930	—	—	—	2	2	2	—	—	—	—	—	—
9740i	—	—	—	5	5	5	5	5	5	5	5	5
9730UV	—	—	—	3	3	3	3	3	3	—	—	—
9800CL	—	—	—	—	—	—	5	5	5	5	5	5
None	5	5	5	—	—	—	—	—	—	—	—	—
<b>Graphic Protection</b>	<b>Film Colors: All other colors of film series 7725</b>											
1920DR, air dry	—	—	—	5	5	5	—	—	—	—	—	—
1920DR, oven dry	—	—	—	6 ■	6 ■	6 ■	—	—	—	—	—	—
1930	—	—	—	2	2	2	—	—	—	—	—	—
9720i	—	—	—	6	6	6	6	6	6	5	5	5
9720UV	—	—	—	6	6	6	6	6	6	5	5	5
9730UV	—	—	—	3	3	3	3	3	3	—	—	—
9800CL	—	—	—	—	—	—	5	5	5	5	5	5
None	6	6	6	—	—	—	—	—	—	—	—	—

■ Warranty requires oven drying the last color of ink series 1900 and clear 1920DR for 2 hours at 150°F (65°C)

**(2) Legibility Warranty**

For Fleet Graphics ONLY for Horizontal Exposure and Selected Constructions

Applications subjected to maximum sunlight and environmental conditions used on rooftops of commercially-owned fleet vehicles where identification from the air is needed are warranted for legibility only for the following constructions. The graphic will change color, lose gloss and chalk, which is not covered by warranty.

		Warranty Period for Legibility, in Years	
Film Colors: 10, 11, 12, 13, 14, 15, 20, 22, 53		Horizontal Exposure	
Ink Series	Graphic Protection	U.S.	U.S. Desert Southwest
No printing	None	5	3

**G. General Warranty  
Stipulations for 3M™  
MCS™ Warranty**

These stipulations apply to the 3M™ MCS™ Warranty. General provisions for these stipulations are covered in the [3M Commercial Graphics Warranty Brochure](#) at 3Mgraphics.com.

**(1) Reduced Warranty Period for  
Non-vertical Graphics**

For other graphic exposures, multiply the Warranty Period (in years) for your graphic construction as shown in the applicable Warranty Period tables, Section F.(1), by the percentage shown for the intended graphic exposure. See page 3 for the graphic exposure definitions.

<b>If the Graphic Exposure Is:</b>	<b>Use this Percentage of U.S. Vertical Exposure, Warranted Durability</b>	<b>Calculation Examples Based on Indoor Warranty Periods</b>
U.S. Non-vertical	50% (0.5)	0.5 x 5 years = 2.5 years 0.5 x 8 years = 4.0 years
Desert Southwest Vertical	70% (0.7)	0.7 x 5 years = 3.5 years 0.7 x 8 years = 5.4 years
Desert Southwest Non-vertical	35% (0.35)	0.35 x 5 years = 1.75 years 0.35 x 8 years = 2.7 years
Horizontal	0%	0

**(2) Opacity**

This film can be used on opaque surfaces but has less hiding power than a film with a colored adhesive. Consider this characteristic when selecting and preparing the substrate.

**(3) Abrasion and Loss of Gloss**

Abrasion damage and loss of gloss are not covered by any 3M warranty. This is considered normal wear and tear. However, to help maintain the appearance of your graphic, use the recommended graphic protection whenever:

- it is required for the construction and end use as shown in the Warranty Period tables.
- the graphic, **including printed vehicle graphics**, is exposed to abrasive conditions, harsh cleaners or chemicals.

**(4) Application to Glass**

3M accepts no liability for glass breakage when using this film for window graphics. See Instruction Bulletin 5.1 for details.

**(5) Application Outside the U.S.**

Contact the 3M organization for that country.

**(6) Graphics Made with  
Components Not Sold or  
Recommended by 3M**

The **3M™ MCS™ Warranty** does not, under any circumstances, cover graphics made with inks, film, graphic protection and/or application tapes that are not sold or recommended by 3M.

The user is solely responsible for the graphic appearance, performance and durability of graphic constructions that include any non recommended or qualified products.

**(7) Printed Vehicle Graphics**

Screen printed vehicle graphics require a clear to be warranted

**(8) Harsh Washing**

Graphics exposed to abrasive washing conditions, harsh cleaners or chemicals are not warranted.

**(9) Clears that Haze**

Clears 1930 and 9730UV may haze, which is not covered by the warranty.

**(10) Chalking**

Chalking for unprinted film colors 20, 263, 273 and 286 as they age is considered normal and acceptable wear. Chalking can be removed by normal graphic cleaning methods.



## 9. Factors that Affect Graphic Performance Life

The actual performance life of a graphic is affected by all of the following.

- Correct combination of 3M-recommended graphics products
- Ink formulation (screen printing)
- Adequate ink drying and/or UV curing
- Selection and preparation of the substrate
- Surface texture
- Application methods
- Angle and direction of sun exposure
- Environmental conditions
- Cleaning or maintenance methods

## 10. Graphics Manufacturing



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Before using any equipment, follow the manufacturers' instructions for safe operation.

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### A. Thermal Transfer Printing

Formulations and processing conditions can affect ink durability. Refer to the Product and Instruction Bulletins for your ink for limitations and proper usage.

This film can be imaged with narrow width thermal transfer printing systems. Refer to the equipment manufacturer's literature for details.

### B. Screen Printing

Refer to the ink's Product and Instruction Bulletins.

### C. Cutting

Based on cutting and weeding evaluations that used Helvetica medium upper case, the recommended minimum cutting height for text is 0.25 inch (0.64 cm). Because of the differences in electronically-controlled cutting equipment and font characteristics, users should determine their own cutting and weeding capability.

These factors can affect cutting quality and ability:

- **Sharpness of the knife blade.** Dull blades create a serrated look to the cut edge of the film.
- **Weight on the knife blade.** The ideal weight slightly scores the liner. Too little weight does not cut completely through the film and the adhesive. Excessive weight cuts the liner. It also causes the blade to drag, accelerating wear and eventually creating a serrated cut edge on the film.
- Temperature and relative humidity are minor considerations, but avoid extreme or rapidly fluctuating conditions.
- Store the film in the same environment as the cutting equipment.
- Consider the stroke width of characters, style of serifs or extensions, and small details of scanned or digitized artwork.
- The minimum recommended stroke width is 0.040 inch (1.0 mm) when film is exposed to cleaning or other physical stress.

### D. Weeding

The excess film should be weeded (removed) as soon after cutting as practical. This is to minimize the effect of possible adhesive flow 24 or more hours after cutting.

### E. Application Tapes

The application tape to use depends on the type of graphic produced. See Instruction Bulletin 4.3 for more details.

Note: When using prespacing tape with film series 7725, do not use a Heat Vacuum Applicator to try improve adhesion to the liner. Doing so can cause problems when removing the film liner.

#### (1) When to Use Premasking Tape

- As an application aid to increase stiffness, and prevent stretching and damage during application.
- When little or no liner is exposed.

(2) **When to Use  
Prespacing Tape**

- Hold cut and weeded letters or graphics in registration after removing the film liner.
- Protect cut graphic parts from scratching or damage during application.
- Use when large amounts of liner are exposed.

(3) **Use This Tape**

Determine whether you want to premask the graphic or prespace cut pieces of film such as letters. Then locate the graphic protection used on your graphic in the table below, and use the corresponding tape. See Instruction Bulletin 4.3 for complete details.

**EXAMPLE:** To premask a film that includes clear 1920DR, use premasking tape SCPM-3.

Application Tape	Graphic Protection			
	Refer to the Warranty tables to determine whether the Graphic Protection option listed is approved for the ink series you are using with these films.			
	1920DR 1930	9730UV 9740i 9800CL	Ink 9800, no clear	Unprinted film
Premasking SCPM-3 with HVA use for prespacing	■			■
Premasking SCPM-3	■			■
Premasking SCPM-44X		■	■	
Premasking SCPM-53X		■	■	
Prespacing SCPS-2	■			■

## 11. Shelf Life, Storage and Shipping

### A. Shelf Life

**Total shelf life: 3 years** from the date of manufacture on the original box.

If you **do process** the film, do so within 2 years and apply within 1 year.

If you **do not process** the film, apply it within 3 years.

### B. Storage Conditions

- 40° to 100°F (4° to 38°C)
- Out of sunlight
- Clean dry area
- Original container
- Bring the film to print room temperature before using

### C. Shipping Finished Graphics

Flat (may be separated by paper), or rolled printed side out on 5 inch (13 cm) or larger core. This helps prevent the liner and, if used, the application tape from popping off.

## 12. Health and Safety



### CAUTION

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to [3M.com/MSDS](http://3M.com/MSDS), or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

## 13. 3M Related Literature

Before starting any job, be sure you have the most current Product and Instruction Bulletins.

The information in 3M Product and Instruction Bulletins is subject to change. Current Bulletins are available at [3Mgraphics.com](http://3Mgraphics.com). The following applicable Bulletins provide information and processes you need to properly make the graphics described in this Bulletin. Additional Bulletins may be needed as indicated in the 3M Related Literature section of other 3M components you use.

Bulletin types: PB = Product Bulletin; PB-IB = Product & Instruction Bulletin; IB = Instruction Bulletin

Subject	Type	Bulletin No.
3M™ Scotchcal™ Translucent Graphic Film Series 3630	PB	3630
3M™ Screen Printing Ink Series 1900 and Overprint Clear VI0402 Screen printing with ink series 1900 - line color - 4-color	PB IB IB	1900 3.12 3.11
3M™ Screen Printing UV Ink Series 9800 Screen printing with UV ink series 9800 - line color - 4-color	PB IB IB	9800 3.20 3.21
3M™ Screen Print UV Clears	PB-IB	UV Clears
Design of graphics	IB	2.1
Using 3M application tapes; premasking and prespacing for films	IB	4.3
Application, substrate selection, preparation and substrate-specific application techniques	IB	5.1
Application, general procedures for indoor and outdoor dry applications	IB	5.5
Application, wet method for translucent screen printed, thermal mass transfer and cut graphics	IB	5.7
Storage, handling, maintenance, removal	IB	6.5
3M Commercial Graphics Warranty Brochure	<a href="http://www.3Mgraphics.com/Warranties">www.3Mgraphics.com/Warranties</a>	

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## 14. Bulletin Change Summary

Modified and new content is marked with a black bar in the margin. A Performance Overview summary was added to page 1. The Flammability information under Section 6.A has been updated. The Warranty Information section has been updated to more clearly reflect important details of the warranties that cover the 3M products mentioned in this Bulletin. 3M™ Panaflex™ Awning and Sign Facing Series 945GPS has been discontinued. There is no direct replacement at this time. Screen Print UV Clears 9720UV and 9720i have been directly replaced by 3M™ Screen Print UV Clear 9740i. Color 173 Salmon Pink has been discontinued.



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# Application Tapes

## Premasking and Prespacing Tape for Graphic Films

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### 2. Product Description

- What are application tapes?
  - Adhesive-backed translucent material used as an aid in applying graphics.
- What are the typical uses for application tape?
  - Add stiffness to make application easier.
  - Protect the film from stretching during application.
  - Protect the graphic image from scratching during application.
  - Aid in the registration of cut graphic parts.
  - Protect applied graphics from damage during other operations.
- What's the difference between one premasking tape and another, or one prespacing tape and another?
  - Each tape has a different level of adhesion. This ensures that the tape you use has a lower adhesion to the film than the film does to the substrate.
  - Choose the recommended tape for your application to ensure easy removal. See the Usage Recommendations Tables on pages 3 and 4, and the information that follows the tables.
- Which type of tape should be used?
  - This depends on the type of graphic and the last component of the graphic construction (i.e., the top of the graphic). See the Usage Recommendations Tables on pages 3 and 4.

### 3. Product Line

- 3M™ Prespacing Tape SCPS-2
- 3M™ Prespacing Tape SCPS-53X
- 3M™ Prespacing Tape SCPS-55
- 3M™ Premasking Tape SCPM-3
- 3M™ Premasking Tape SCPM-19
- 3M™ Premasking Tape SCPM-44X

## 4. Characteristics

These are typical values for unprocessed product. Contact your 3M representative for a custom specification.

Characteristic	Value
Tape material	Paper
Thickness	4.5 to 5 mils (0.11 to 0.12 mm)
Adhesive type and color	Pressure sensitive, clear
Adhesion to 3M graphic film	0.39 to 0.77 pounds/inch (69 to 138 g/cm) Note: Each tape has a different adhesion, designed to work with the films, inks and graphic protection as recommended in the base film's Product Bulletin or the Usage Recommendations Tables on page 3 and 4.
Tensile strength (minimum)	5 pounds/inch at 73°F (0.9 kg/cm at 23°C)
Service temperature range	Same as the film with which it is used

## 5. 3M Products Mentioned in this Bulletin

3M™ Scotchlac™ Graphic Films and Overlaminates  
3M™ Controltac™ Graphic Films  
3M™ Controltac™ Graphic Films with Comply™ Adhesive  
3M™ Controltac™ Graphic Films with Comply™ v3 Adhesive  
3M™ Scotchlite™ Reflective Films  
3M™ Piezo Inkjet Inks  
3M™ Screen Printing Inks  
3M™ Scotchlite™ Screen Printing Inks  
3M™ Prespacing Tapes  
3M™ Premasking Tapes  
3M™ Envision™ Film and Overlamine

## 6. Warranty Information

### A. 3M Basic Product Warranty

The following is made in lieu of all other express or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade.

This 3M Product is warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin and as further set forth in the [3M Commercial Graphics Warranty Brochure](#).

### B. Limited Remedy

3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive.

### C. Additional Limitations

See the [3M Commercial Graphics Warranty Brochure](#) at [3Mgraphics.com](#), which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

## 7. Limitation of Liability

Except where prohibited by law, 3M SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO PURCHASER OR USER FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LABOR, NON-3M MATERIAL CHARGES, LOSS OF PROFITS, REVENUE, BUSINESS, OPPORTUNITY, OR GOODWILL) RESULTING FROM OR IN ANY WAY RELATED TO SELLER'S PRODUCTS OR SERVICES. This limitation of liability applies regardless of the legal or equitable theory under which such losses or damages are sought including breach of contract, breach of warranty, negligence, strict liability, or any other legal or equitable theory.

## 8. Health and Safety



**CAUTION**

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to [3M.com/MSDS](#), or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

## 9. Usage Recommendations

Application tape is not required for all films or types of applications and it is specifically not recommended for certain film or applications. Refer to the most current Product and Instruction Bulletins for information on specific constructions and end use recommendations.

The type of premasking or prespacing tape to use depends on the type of graphic produced and the last component (ink, overlaminate or clear) that was applied to the graphic construction (i.e., the top of the graphic).

### A. When to Use Premasking Tape

- Use as an application aid to increase stiffness, and prevent stretching and damage during application (see Premasking Tape as an Application Aid, page 5).
- Use when little or no liner is exposed.
- Use if the graphic consists of large letters or wide stroke width.
- Use to protect the graphic when used in combination with spray painted clears (see Premasking Tape Used in Overpaint Systems, page 5).

PREMASKING TAPE	If the Top of the Graphic is...	Use Premasking Tape	
	PREMASKING TAPE	<b>Film</b>	<ul style="list-style-type: none"> <li>• Most unprinted films</li> </ul>
		<ul style="list-style-type: none"> <li>• Films                             <ul style="list-style-type: none"> <li>- IJ10-114</li> <li>- IJ8624</li> </ul> </li> <li>• Graphic and Surface Protection Films                             <ul style="list-style-type: none"> <li>- 8991, 8991R</li> <li>- 8993</li> </ul> </li> </ul>	Do NOT use premasking tape
<b>Overlamine</b>		<ul style="list-style-type: none"> <li>• Most overlaminates with luster, matte or ultra-matte finish</li> </ul>	SCPM-3
		<ul style="list-style-type: none"> <li>• Thick overlaminates                             <ul style="list-style-type: none"> <li>- 3645, 3647</li> </ul> </li> </ul>	NOT required
		<ul style="list-style-type: none"> <li>• Gloss overlaminates                             <ul style="list-style-type: none"> <li>- 3640GPS, 3648, 3658G</li> <li>- 8508, 8518, 8528, 8548G, 8580</li> <li>- 8914</li> </ul> </li> <li>• Luster overlaminate 8524</li> </ul>	Do NOT use premasking tape Note: Use of application tape may result in loss of gloss.
<b>Ink</b> (uncleared or no overlaminate)		<ul style="list-style-type: none"> <li>• Any 3M branded solvent ink</li> </ul>	SCPM-3
		<ul style="list-style-type: none"> <li>• Any 3M branded UV inkjet ink</li> <li>• Ink series 9800</li> </ul>	SCPM-44X
		<ul style="list-style-type: none"> <li>• Any 3M branded latex ink</li> </ul>	Do NOT use premasking tape
<b>Clear</b>		<ul style="list-style-type: none"> <li>• Most solvent clears                             <ul style="list-style-type: none"> <li>- 1920DR, 1930</li> <li>- VI0402</li> </ul> </li> <li>• Digital liquid clear 8530</li> </ul>	SCPM-3
	<ul style="list-style-type: none"> <li>• All UV clears                             <ul style="list-style-type: none"> <li>- 9730UV, 9740i</li> <li>- 9800CL</li> </ul> </li> </ul>	SCPM-44X	

**B. When to Use  
Prespacing Tape**

- Hold cut and weeded letters or graphics in registration after removing the film liner (see Prespacing Tape for Cut Graphics, page 5).
- Protect cut graphic parts from scratching or damage during application.
- Use when large amounts of liner are exposed.
- Use if the graphic consists of small letters or narrow stroke width.

If the Top of the Graphic is...		Use Prespacing Tape
<ul style="list-style-type: none"> <li>• Graphic constructions using film with <b>Comply adhesive</b> where there is liner exposed, <i>excluding changeable films*</i></li> </ul>		SCPS-55 ◆
<b>PRESACING TAPE</b>	<b>Film</b> <ul style="list-style-type: none"> <li>• Most unprinted films</li> </ul>	SCPS-2
	<ul style="list-style-type: none"> <li>• Films                             <ul style="list-style-type: none"> <li>- IJ10-114</li> <li>- IJ8624</li> </ul> </li> <li>• Changeable films                             <ul style="list-style-type: none"> <li>- IJ36, IJ46, IJ63</li> <li>- IJ3552C, IJ3555</li> <li>- 3500C, 3552C*</li> <li>- 8522</li> <li>- 8652C, 8655C*</li> </ul> </li> <li>• Graphic and Surface Protection Films                             <ul style="list-style-type: none"> <li>- 8991, 8991R</li> <li>- 8993</li> </ul> </li> </ul>	Do NOT use prespacing tape
	<b>Overlaminates</b> <ul style="list-style-type: none"> <li>• Most overlaminates with luster, matte or ultra-matte finish</li> </ul>	SCPS-2
	<ul style="list-style-type: none"> <li>• Thick overlaminates                             <ul style="list-style-type: none"> <li>- 3645, 3647</li> </ul> </li> <li>• Gloss overlaminates                             <ul style="list-style-type: none"> <li>- 3640GPS, 3648, 3658G</li> <li>- 8508, 8518, 8528, 8548G, 8580</li> <li>- 8914</li> </ul> </li> <li>• Luster overlaminate 8524</li> </ul>	Do NOT use prespacing tape
	<ul style="list-style-type: none"> <li>• Any recommended overlaminate on films                             <ul style="list-style-type: none"> <li>- 3545C</li> <li>- 480Cv3</li> </ul> </li> </ul>	SCPS-55
<b>Ink</b> (uncleared or no overlaminate)	<ul style="list-style-type: none"> <li>• Any 3M branded solvent ink</li> </ul>	SCPS-2
	<ul style="list-style-type: none"> <li>• Any 3M branded UV inkjet ink</li> </ul>	SCPS-53X
	<ul style="list-style-type: none"> <li>• Any 3M branded latex ink</li> </ul>	Do NOT use prespacing tape
<b>Clear</b>	<ul style="list-style-type: none"> <li>• Most solvent clears                             <ul style="list-style-type: none"> <li>- 1920DR, 1930</li> <li>- VI0402</li> </ul> </li> </ul>	SCPS-2
	<ul style="list-style-type: none"> <li>• All UV clears                             <ul style="list-style-type: none"> <li>- 9730UV, 9740i</li> <li>- 9800CL</li> </ul> </li> </ul>	SCPS-53X
	<ul style="list-style-type: none"> <li>• Any recommended clear on films                             <ul style="list-style-type: none"> <li>- 3545C</li> <li>- 480Cv3</li> </ul> </li> </ul>	SCPS-55
	<ul style="list-style-type: none"> <li>• Digital liquid clear 8530</li> </ul>	Do NOT use prespacing tape

◆ Prespacing tape SCPS-55 does not adhere to the exposed liner of films with Comply v3 adhesive, but it does adhere to the top of the film. Therefore, prespacing tape may still be useful when applying large cut graphics without much exposed liner.

## 10. Application Tape as An Application Aid

An application tape can reduce stretching, wrinkling and air entrapment during hand application of the graphic film to the substrate. The tape increases the stiffness of the graphic, which makes the graphic easier to handle.

An application tape is typically recommended when the graphic meets at least one of these criteria:

- Graphic constructions less than 4 mils thick (film or film and overlaminates).
- Graphics that are four square feet (0.4 m<sup>2</sup>) or larger.
- Striping or intricately-cut graphics.
- Vinyl films printed with solvent-based inkjet inks.
- Graphics applied at high temperatures.

### ***Important Note!***

Do not use an application tape on textured substrates. The graphic may not have enough initial adhesion to the substrate for the application tape to be removed without lifting the graphic.

## 11. Premasking Tape in Overpaint Systems

Application tape can protect the graphic from staining when overpainted with most finish paints. This allows you to apply premasked graphics to the prime coat and then apply the finish coat around the graphic. This method effectively edge seals the graphic by embedding the graphic in the paint. The application tape should be removed while the paint is still tacky, but not wet.

Refer to [Instruction Bulletin 5.4](#) for complete details.



The customer should test premasked graphics to ensure that the graphic is protected from the paint and that the premasking can be removed without damaging or lifting the graphic.

## 12. Prespacing Tape for Cut Graphics

Applying an application tape to prespaced cut graphic parts eliminates the time-consuming layout of individual parts on the application surface.

### A. About Removing Film from Liners

**Graphic film with Comply adhesive, or Controltac graphic films:** Do NOT remove these films from their liners and then attempt to reapply the film to the liner. The liners on these films play an important role in how the films apply to a substrate. Key application features will be lost if you prematurely remove the liner.

For films with Comply adhesive where there is liner exposed, use only prespacing tape SCPS-55 and with Comply v3 adhesive specifically, use this prespacing tape for only large cut graphics. See Section 9.B. for more information.

### B. Procedure for Prespacing Graphics

1. Follow the recommended cutting sizes found in each film's Product Bulletin.
2. Make the cut only through film and adhesive. Refer to [Instruction Bulletin 4.1](#) for specific recommendations.
3. Weed (remove) the background material that will not be used in the graphic.

Note: Use caution to avoid lifting very narrow characters from the liner.

4. Apply the appropriate application tape specified in the Usage Recommendations Tables. See the Techniques for Applying Application Tape section later in this bulletin for more specific instructions.
5. Trim the graphic to size.

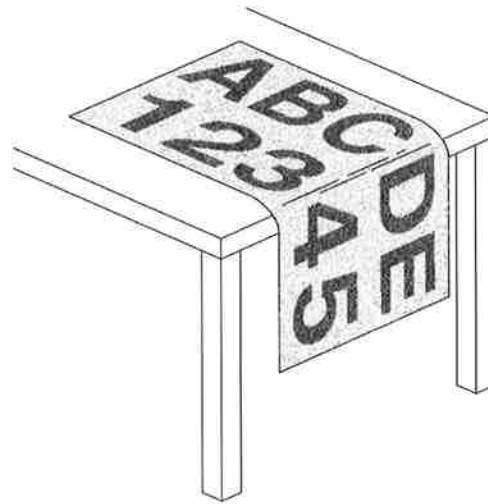
Note: Always check for ease of part pick up before releasing the job. This is particularly important if the cut graphics include small letters, narrow stroke letters or intricate designs with narrow stroke widths or if applying prespacing tape to an exposed liner of a film with Comply adhesive.

6. If the prespacing tape does not adequately pick up the cut graphic parts or adhere well to the liner, a heat lamp vacuum applicator may be required. Process the graphic with its prespacing tape in a heat lamp vacuum applicator at 150°-180°F (66°- 82°C). The duration of this process is dependent upon the type of equipment used. Typically, a two-minute cycle with little or no dwell time at the peak temperature will provide satisfactory results.



7. If the prespacing tape does not remove all of the prespaced cut graphic parts easily from the liner, reapply the tape using a squeegee to secure the elements back to the liner. Then gently pull the graphic, liner-side down, over the corner edge of a surface. This helps loosen any imbedded kiss cut edges. See FIGURE 1.

**FIGURE 1**  
Loosening Prespaced Graphics  
from a Liner



CG-251A

### 13. Printing Instructions on Application Tapes

The surface of the application tape can be printed with application instructions and registry marks that aid in positioning and application. These tapes have been successfully printed using the following methods: screen printing, hand printing/stamping, and press printing. Check with an ink manufacturer for assistance in selecting and using an ink for printing application tape. 3M does not provide an ink for this use.

Refer to the ink container labels and the ink manufacturer's Material Safety Data Sheet for health, safety and handling information.

One recommended supplier is Nazdar Inc. at 800-767-9942 or [www.nazdar.com](http://www.nazdar.com) (website includes MSDS sheets).

#### A. Screen Printing

1. Screen print using NazDar® 9700 air dry ink or an equivalent. Use a 200 to 305 tpi (threads per inch) screen or equivalent.

2. Rack and air dry for 30 minutes.

#### B. Hand Printing

Hand stamp using the NazDar 4411 black ink or equivalent.

#### C. Press Printing

Use a fast drying halftone black. Avoid heavy ink laydown.

### 14. Protecting Graphics During Vehicle Refinishing

To protect existing 3M graphics when a vehicle is being refinished, use the application tape recommended in the Usage Recommendations Tables for the last applied component of the vehicle's existing graphic.

1. Cover the graphic with a slightly oversized piece of application tape.
2. Cut carefully around the edges with a sharp razor blade.
3. Remove the excess tape.
4. Apply the paint.
5. Remove application tape while paint is still tacky, but not wet.

## 15. Techniques For Applying Application Tape

### A. Preparation of Printed Graphics Before Applying Application Tape

Be sure that printed graphics are thoroughly dried or cured before applying application tape. For specific recommendations, see the Instruction Bulletin for the inks being used.

If sheets must be stacked, wrap the stacks with polyethylene and seal to minimize moisture absorption or loss during storage and handling. This can prevent uneven moisture absorption or loss, both of which results in the edges of the sheets waving or curling.

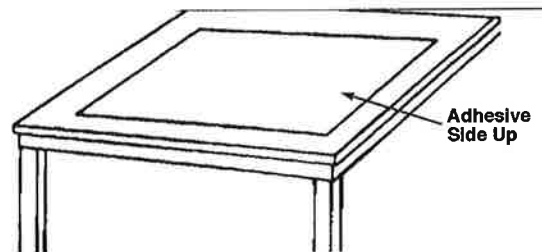
### B. Cutting Films with Application Tape

Certain precautions should be noted when cutting. For specific recommendations see [Instruction Bulletin 4.1](#).

### C. Hand Premasking Procedure

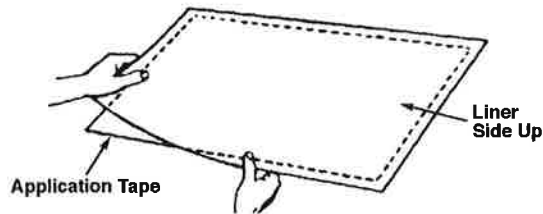
1. Lay an appropriately-sized piece of application tape adhesive-side-up on a table. See FIGURE 2.

**FIGURE 2**  
Lay the Application Tape  
Adhesive-Side-Up



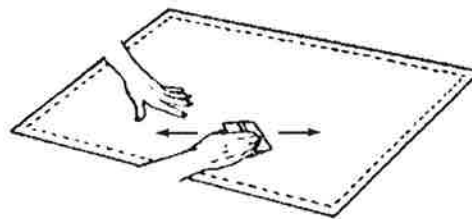
2. Align the graphic face-down on the application tape adhesive. See FIGURE 3.

**FIGURE 3**  
Align the Graphic Face Down



3. Squeegee the graphic from the liner side to adhere the application tape. Work from the center out. See FIGURE 4.

**FIGURE 4**  
Squeegee the Graphic  
and Application Tape



4. Flip the entire graphic/application tape assembly over and squeegee the application tape side. Again, work from the center out.
5. Trim the graphic to size or cut it to shape. See Cutting Films with Application Tape.

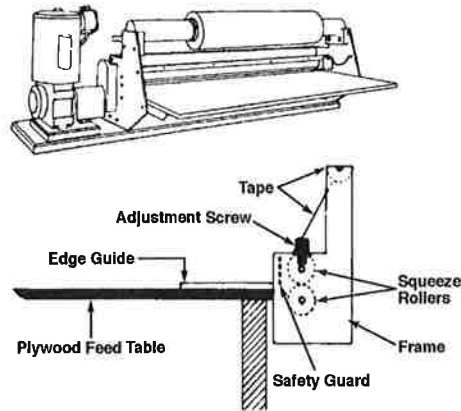
## D. Mechanical Lamination

Numerous laminators are available. FIGURE 5 provides two examples. Follow the manufacturer's operating and safety procedures.



When using any equipment, always follow the manufacturer's instructions for safe operation.

FIGURE 5  
Examples of Mechanical Equipment



## E. Suggestions When Using 3M Application Tapes

- Do not apply brake pressure to the application tape feed roller. Brake pressure stretches the tape during lamination causing the application tape to shrink on the finished graphic.
- The application tape laminator should have at least one rubber squeeze roller at the nip site.
- The recommended nip pressure setting depends on the device used. In general, higher pressures and temperatures will provide higher adhesion of the application tape to the film and exposed liner. Excessive pressure can cause the application tape or the film's liner to curl.
- An edge guide and a feed table can be used to keep the graphic aligned with the application tape.
- After completing a job, the laminator may be left threaded, but remove the pressure from the squeeze rollers. Prolonged pressure flattens the rollers, which can cause lamination problems.
- A heated roller may be used up to a temperature of 200°F (93°C).

## 16. Techniques for Removing the Liner and Application Tape

- To remove a liner, *always* peel the liner away from the graphic construction (application tape/graphic film).

Note: Never peel the graphic construction away from its liner; this can stretch or distort the underlying graphic.

- To remove the application tape after the graphic film is properly applied to the substrate:
  1. Remove the application tape by peeling it away from the graphic film at a low angle of approximately 180°.
  2. Resqueegee all edges to ensure good adhesion to the substrate.

Video



Watch a video on prespacing cut graphics and see how to peel the application tape away from the graphic.

## 17. Shelf Life, Storage, Handling

An application tape helps graphics resist normal surface abrasion during storage, handling and application.

As tape ages or when stored at elevated temperatures, its adhesive becomes more aggressive. Unrolling the tape during mechanical application can cause the tape to stretch resulting in pop-off and curl of the graphic. If the graphic has been improperly stored, the tape can be difficult to remove from finished graphics making removal more difficult and resulting in edge lifting.

### A. Unused Application Tape

- The shelf life is one year from the date of purchase.
- Store in a cool, dry place, suspended horizontally from the core.
- Avoid exposure to sunlight.

### B. Graphics with Application Tape Applied

- After the application tape has been applied to the graphic, store in a cool, dry place and avoid exposure to sunlight.
- **Most films:** Store flat or wrapped onto cores with a minimum diameter of 6 inches (15 cm). Wrap so the side of the film with the application tape faces out.
- **Film 680CR and IJ680CR:** Finished graphics with exposed liner and application tape, must be shipped lying flat. This method will help prevent the graphics and prespacing tape from popping off the liner.
- Typically, most finished graphics should be applied within one year from the date of its processing or by the total shelf life date of the base film, whichever comes first. Always refer to the base film Product Bulletin for your specific application.

### **Important Note!**

After applying application tape, avoid exposing the graphic to sunlight except during application. Sunlight, or UV light, can cause the tape to permanently bond to the film.

## 18. 3M Related Literature

**Before starting any job, be sure you have the most current Product and Instruction Bulletins.**

The information in 3M Product and Instruction Bulletins is subject to change. Current Bulletins are available at [3Mgraphics.com](http://www.3Mgraphics.com). The following applicable Bulletins provide information and processes you need to properly make the graphics described in this Bulletin. Additional Bulletins may be needed as indicated in the 3M Related Literature section of other 3M components you use.

Bulletin types: PB = Product Bulletin; PB-IB = Product & Instruction Bulletin; IB = Instruction Bulletin

Subject	Type	Bulletin No.
Films, Overlaminates, Inks and Clears - Visit our website at <a href="http://www.3Mgraphics.com">www.3Mgraphics.com</a> (Products, Technical Information)		
Scoring and cutting	IB	4.1
Application, substrate selection, preparation and substrate-specific application techniques	IB	5.1
A guide to understanding and applying graphics to common indoor and outdoor wall surfaces	IB	5.37
Application, special applications and vehicles	IB	5.4
Application, general procedures for indoor and outdoor dry applications	IB	5.5

3M Commercial Graphics Warranty Brochure Go to [www.3Mgraphics.com/Warranties](http://www.3Mgraphics.com/Warranties)

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NazDar is a registered trademark of Nazdar, Inc.  
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## 19. Bulletin Change Summary

All revisions are identified by black bars in the margin. Several changes have been made to the Usage Recommendations Tables including adding new overlaminates 8548G, 3658G and 3660M and replacing clears 9720UV and 9720i with clear 9740i. Updated language in Warranty Information section. Added link to a video about prespacing a cut graphic.



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Fax 787-620-3018

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# Flexible Prismatic Reflective Sheeting

## Series 3300 With Pressure Sensitive Adhesive

Product Bulletin 3300

July 2011

Replaces PB 3300 Dated July 2009

### Description

3M™ Flexible Prismatic Reflective Sheeting Series 3300 is intended for reflectorizing rigid or reboundable traffic control devices such as drums, barricades and channelizers. Series 3300 sheetings are designed for use on clean, smooth, relatively non-porous, weather resistant surfaces when prepared as detailed in 3M Information Folder 1.7. 3M Flexible Prismatic Reflective Sheeting Series 3300 consists of impact resistant prismatic lens reflective sheeting precoated with pressure sensitive adhesive and exceeds the reflectivity values of ASTM Type III and Type IV.

### Photometric

#### Coefficients of Retroreflection

The values in Table I are minimum coefficients of retroreflection expressed in candelas per foot candle per square foot (candelas per lux per square meter).

#### Test for Coefficients of Retroreflection

Measurements are made for samples applied to an aluminum panel in accordance with ASTM E810 "Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting." The observation angles shall be 0.2° and 0.5°, the entrance angle ( $B_1$ ) shall be -4°, +30°, and +45°, and the entrance angle ( $B_2$ ) = 0°. All measurements shall be made after cleaning according to 3M recommendations.

**Table I**  
**Minimum Coefficient of Retroreflection**  
 **$R_A$  Candelas per Foot Candle per**  
**Square Foot or Candelas per Lux per Square Meter**  
**(Average 0° and 90° Rotation)**

#### -4° Entrance Angle

	Observation Angle <sup>1</sup>	
	<u>0.2°</u>	<u>0.5°</u>
White	360	150
Orange	145	60
Yellow	270	110
Orange/White	145/360	60/150
Red/White	65/360	27/150

#### 30° Entrance Angle

	Observation Angle <sup>1</sup>	
	<u>0.2°</u>	<u>0.5°</u>
White	170	72
Orange	68	28
Yellow	135	54
Orange/White	68/170	28/72
Red/White	30/170	13/72

<sup>1</sup>Observation Angle - The angle between the illumination axis and the observation axis.

**Table II - CIE Chromaticity Coordinate Limits<sup>2</sup> for new sheeting**

Color	1		2		3		4		Limit Y (%)	
	x	y	x	y	x	yt	x	y	Min.	Max
White	.303	.300	.368	.366	.340	.393	.274	.329	27	—
Orange	.558	.352	.636	.364	.570	.429	.506	.404	14	30
Yellow	.498	.412	.557	.442	.479	.520	.438	.472	15	45
Red	.648	.351	.753	.265	.629	.281	.565	.346	2.5	15

<sup>2</sup>The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 standard colorimetric system measured with standard illuminant D64.

## Color

Conformance to color requirements shall be determined by instrumental method in accordance with ASTM E-1164 on sheeting applied to aluminum test panels. The values shall be determined on a Hunter Color Flex 45/0 spectrophotometer. Computations shall be done in accordance with ASTM E-308 for the 2° observer.

## Recommended Application Procedures

Series 3300 sheetings may be applied using a squeeze roll applicator or by hand. The application temperature (and substrate temperature) should exceed 60°F. If hand applied, sheeting should be applied with firm pressure using a plastic squeegee or rubber roller. Without endorsement of the use of such substrates, some comments regarding their use can be made. Plastics, including fiberglass laminates, vary as to type, composition, and manufacture, so that their use as an application surface requires careful evaluation under actual use conditions. Some plastics embrittle on exposure and some plastics contain migrating constituents that may contaminate the adhesive or cause sheeting discoloration and adversely affect performance. Also, some plastics are affected by ingredients in the sheeting adhesives that migrate into the panel. 3M Information Folder 1.7 may provide further insight into applications on plastic substrates.

**Note:** Care must be exercised to avoid stretching material when aligning during application. This sheeting has sufficient elongation to permit its flexing on reboundable plastic devices when impacted. However, if it is stretched during application, this feature will be significantly reduced and cracking may result.

## Health and Safety Information

Read all health hazard, precautionary and first aid statements found in the Material Safety Data Sheet, and/or product label of chemicals prior to handling or use.

## General Performance Considerations

The durability of 3M™ Flexible Prismatic Sheeting Series 3300 will depend upon many factors including, but not limited to, substrate selection and preparation, compliance with recommended application procedures, geographic area, exposure conditions, and maintenance. The user must determine the suitability of this material on any specific substrate or device for its intended use. Applications on improperly prepared, excessively rough or non-weather resistant surfaces, or exposure to severe or unusual conditions can reduce the durability of such applications.

Purchaser should select a suitable test for determining reflective sheeting performance on any device or substrate. For reboundable substrates, the test should include plastic manufacturer's recommendation for impacting reboundable plastic traffic control devices.

## Literature Reference

- IF 1.5 Hand Application Instructions
- IF 1.6 Hand Squeeze Roll Applicator
- IF 1.7 Sign Base Surface Preparation
- IF 1.8 Process Color Instructions
- IF 1.10 Cutting, Premasking, and Prespacing Instructions
- IF 1.11 Reflective Sheeting Sign Maintenance Management

## FOR INFORMATION OR ASSISTANCE

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1-800-553-1380**

**IN CANADA CALL:  
1-800-265-1840**

**Internet:  
[www.3M.com/tss](http://www.3M.com/tss)**

3M assumes no responsibility for any injury, loss or damage arising out of the use of a product that is not of our manufacture. Where reference is made in literature to a commercially available product, made by another manufacturer, it shall be the user's responsibility to ascertain the precautionary measures for its use outlined by the manufacturer.

### **Important Notice**

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, or conditions express or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct, special or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his/her intended use, and user assumes all risk and liability whatsoever in connection therewith. Statements or recommendations not contained herein shall have no force or effect unless in an agreement signed by officers of seller and manufacturer.

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# ALCOAST - ITL

## Lighting Technology

Accredited by American Assoc.  
of Motor Vehicle Administrators



LIGHTING DEVICES  
PHOTOMETRICS

Test Report No. 0404-1B/H-95

DATE: May 19, 1995

TEST SPECIFICATION: ASTM Designation: D4956 - 90  
Standard Specification for  
Retroreflective Sheeting for  
Traffic Control

TEST FOR: 3M  
Guin, AL 35563

MATERIAL TESTED: 3M Scotchlite Reflective Sheeting

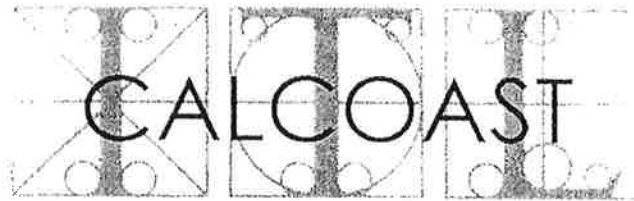
MATERIAL SUBMITTED: Eight (8) test samples of 9" x 11" Reflective Sheeting  
Colors, Types, and Adhesive Backing Classes as listed  
below.

### SAMPLE DESCRIPTIONS:

<u>Sample</u>	<u>Color</u>	<u>Type</u>	<u>Adhesive Backing Class</u>
1484	Orange	I	1
2279	Brown	I	2
3271	Yellow	I	1
3272	Red	I	1
3275	Blue	I	1
3277	Green	I	1
3284	Orange	I	1
3290	White	I	1

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4072 WATTS STREET, SUITE 204 • EMERYVILLE, CA 94608



INDUSTRIAL TESTING LABORATORY

Report No. 040325-02G rev. 1

Page 1 of 12

TEST REPORT

Report Date: 03 May 2004  
Revision Date: 17 September 2007

Test Component: 3M™ High Intensity Grade Prismatic Reflective Sheeting Series 3930

Submitted by: 3M Traffic Control  
St. Paul, MN 55144

Test Laboratory: Calcoast - ITL  
Emeryville, CA 94608

Products Tested: 3930 White, 3931 Yellow, 3934 Orange, 3935 Blue, 3937 Green  
36 month weathered samples received 27 July 2007

SUMMARY

Specification: ASTM D4956-01a, -07  
Type III and Type IV Sheeting, Class 1 Backing

- 6.2 Coefficient of Retroreflection ..... Passed
- 6.3 Daytime Color and Luminance ..... Passed
- 6.4 Outdoor Weathering ..... Passed
- 6.5 Colorfastness ..... Passed
- 6.6 Shrinkage ..... Passed
- 6.7 Flexibility ..... Passed
- 6.8 Liner Removal ..... Passed
- 6.9 Adhesion ..... Passed
- 6.10 Impact Resistance ..... Passed
- 6.11 Specular Gloss ..... Passed
- S1. Fungus Resistance. .... Passed

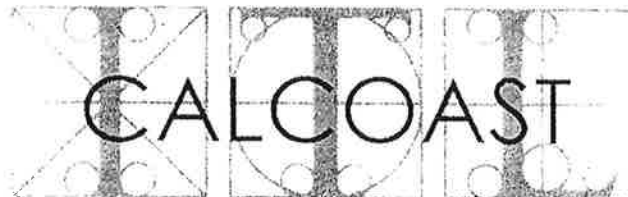
3M Specified Supplemental Coefficient of Retroreflection .....No Criteria

Written By:

Douglas G. Cummins  
Photometric Engineer

Approved by:

Mark A. Evans  
Laboratory Director



INDUSTRIAL TESTING LABORATORY

Report No. 051228-01Jb

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TEST REPORT

Report Date: 15 March 2006

Test Component: 3M™ 3920 Series Fluorescent Diamond Grade Retroreflective Sheeting (Type X)

Submitted by: 3M Traffic Safety Systems Division  
St. Paul, MN 55144

Test Laboratory: Calcoast - ITL  
Emeryville, CA 94608

Products Tested: 3923 Fluorescent Yellow-Green, 3921 Fluorescent Yellow, 3924S Fluorescent Orange samples received as six (6) 12" x 12" sheets per color plus one 48" wide x 36" long full sheet

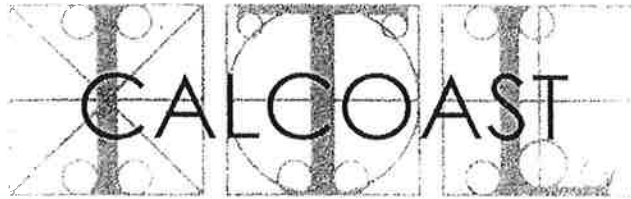
SUMMARY

Specification: ASTM D4956-05  
Sheeting Type X, Class 1 Backing

6.2	Coefficient of Retroreflection .....	Passed
6.3	Daytime Color and Luminance .....	Passed
6.4	Outdoor Weathering .....	Not Tested
6.5	Colorfastness .....	Not Tested
6.6	Shrinkage .....	Passed
6.7	Flexibility .....	Passed
6.8	Liner Removal .....	Passed
6.9	Adhesion .....	Passed
6.10	Impact Resistance .....	Passed
6.11	Specular Gloss .....	Passed
S1.	Fungus Resistance (3930 White Tested) .....	Passed

Signature of Responsible Laboratory Official

Douglas G. Cummins  
Photometric Engineer



INDUSTRIAL TESTING LABORATORY

Report No. 041119-05F rev. 1

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TEST REPORT

Report Date: 9 June 2005  
Revision Date: 9 January 2008  
Test Component: 3M™ Diamond Grade™ DG3 Series 4000 Retroreflective Sheeting  
Submitted by: 3M Traffic Control St. Paul, MN 55144  
Test Laboratory: Calcoast - ITL Emeryville, CA 94608  
Products Tested: 4090 White, 4091 Yellow, 4092 Red, 4095 Blue, 4097 Green, 4081 Fluorescent Yellow, 4083 Fluorescent Yellow-Green, 4084 Fluorescent Orange

SUMMARY

Specification: ASTM D4956-04  
Sheeting Types IX and 3M Proposed XI, Class 1 Backing

6.2 Coefficient of Retroreflection

- Type IX.....Passed
- 3M Proposed Type XI.....Passed
- 6.3 Daytime Color and Luminance .....Passed
- 6.4 Outdoor Weathering .....Not Tested
- 6.5 Colorfastness [Artificial Accelerated Weathering Based] .....Passed
- 6.6 Shrinkage .....Passed
- 6.7 Flexibility .....Passed
- 6.8 Liner Removal .....Passed
- 6.9 Adhesion .....Passed
- 6.10 Impact Resistance .....Passed
- 6.11 Specular Gloss .....Passed
- S1. Fungus Resistance.....Passed
- S3. Artificial Accelerated Weathering .....Passed

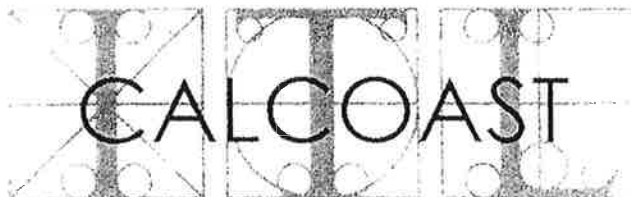
3M Specified Supplemental Coefficient of Retroreflection .....No Criteria

Written By:

Douglas G. Cummins  
Photometric Engineer

Approved by:

Mark A. Evans  
Laboratory Director



INDUSTRIAL TESTING LABORATORY

Report No. 041119-05F addendum 1

Page 1 of 4

TEST REPORT

Report Date: 9 June 2005

Addendum Date: 05 May 2006

Test Component: 3M™ Diamond Grade™ DG3 Series 4000  
Retroreflective Sheeting  
4084 Fluorescent Orange post 12 month weathering

Submitted by: 3M Traffic Control  
St. Paul, MN 55144

Test Laboratory: Calcoast - ITL  
Emeryville, CA 94608

Products Tested: 4084 Fluorescent Orange

SUMMARY

Specification: ASTM D4956-04  
Sheeting Type XI (3M Proposed), Class 1 Backing

- 6.2 Coefficient of Retroreflection ..... Passed<sup>†</sup>
- 6.3 Daytime Color and Luminance ..... Passed<sup>†</sup>
- 6.4 Outdoor Weathering ..... Passed
- 6.5 Colorfastness ..... Passed
- 6.6 Shrinkage ..... Passed<sup>†</sup>
- 6.7 Flexibility ..... Passed<sup>†</sup>
- 6.8 Liner Removal ..... Passed<sup>†</sup>
- 6.9 Adhesion ..... Passed<sup>†</sup>
- 6.10 Impact Resistance ..... Passed<sup>†</sup>
- 6.11 Specular Gloss ..... Passed<sup>†</sup>
- S1. Fungus Resistance. .... Passed<sup>†</sup>
- S3. Artificial Accelerated Weathering ..... Passed<sup>†</sup>

<sup>†</sup> see Report 041119-05F, 09 June 2005

Signature of Responsible Laboratory Official

Douglas G. Cummins  
Photometric Engineer

Pete Ricketts, Governor

## ADDENDUM ONE QUESTIONS and ANSWERS

Date: October 28, 2016

To: All Bidders

From: Annette Walton, Buyer  
AS Materiel State Purchasing Bureau

RE: Addendum for Invitation to Bid Number 5455 OF  
to be opened November 15, 2016 at 2:00 p.m. Central Time

### Questions and Answers

Following are the questions submitted and answers provided for the above mentioned Invitation to Bid. The questions and answers are to be considered as part of the Invitation to Bid. It is the Bidder's responsibility to check the State Purchasing Bureau website for all addenda or amendments.

<u>Question Number</u>	<u>ITB Section Reference</u>	<u>ITB Page Number</u>	<u>Question</u>	<u>State Response</u>
1.			(What's the actual square footage needed on line items number 35 through line item number 55?	All the quantities are estimated usage; here is the estimated square footage for each line item in question: 35 – 600 sf 36 – 318.75 sf 37 – 225 sf 38 – 300 sf 39 – 375 sf 40 – 450 sf 41 – 600 sf 42 – 450 sf 43 – 600 sf 44 – 318.75 sf 45 – 600 sf 46 – 12.5 sf 47 – 225 sf

Pete Ricketts, Governor

				48 – 25 sf 49 – 300 sf 50 – 375 sf 51 – 450 sf 52 – 600 sf 53 – 600 sf 54 – 600 sf 55 – 1,200 sf
2.			(Is item number 20 the same as item number 53?)	That is a duplicate entry. Line #53 is amended to read: “Sheeting, HI INTENS, BRN 48, 3M 3939-48, 50 ROLLS 600 SF”
3.			Is the State willing to consider an alternate method in reviewing pricing guarantees as provided in Section III: Invitation to Bid Terms and Conditions; section II Pricing?	This is a part of Section III Terms and Conditions, the bidder has the opportunity to Accept, Reject or Reject and Provide Alternative.

This addendum will become part of the ITB and should be acknowledged with the Invitation to Bid.

Pete Ricketts, Governor

## ADDENDUM TWO

Date: November 8, 2016

To: All Bidders

From: Annette Walton, Buyer  
AS Materiel State Purchasing Bureau

RE: Addendum for ITB 5455 OF Reflective Sign Sheeting

Original Opening Date and Time: November 15, 2016 at 2:00 p.m.

<u>Question Number</u>	<u>ITB Section Reference</u>	<u>ITB Page Number</u>	<u>Question</u>	<u>State Response</u>
1.	Line 5		Prespacing Tape: Can you clarify what Specify what Slitting means	A 48" role that is cut down into 3" roles for use on the Mutoh printer.
2.	Section V. Quality Assurance	28	If 3M and Avery product is a currently approved product by the state, would either still need to provide a Certified Test Report?	Yes.

This addendum will become part of the bid and should be acknowledged with the ITB.



# State of Nebraska - INVITATION TO BID CONTRACT

Return to:  
State Purchasing Bureau  
1526 K Street, Suite 130  
Lincoln, Nebraska 68508

Telephone: 402-471-6500  
Fax: 402-471-2089

Date	10/13/16	Page	1 of 5
Solicitation Number	5455 OF		
Opening Date and Time	11/15/16	2:00 pm	
Buyer	ANNETTE WALTON (AS)		

**DESTINATION OF GOODS**  
CORRECTIONS - CORNHUSKER STATE INDSTR  
800 PIONEERS BLVD  
LINCOLN NE 68502

Per Nebraska's Transparency in Government Procurement Act, DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

\_\_\_\_ NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. " Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this ITB.

\_\_\_\_ I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. §73-107 and wish to have preference, if applicable, considered in the award of this contract.

Contract to supply and deliver Reflective Sign Sheeting to the State of Nebraska as per the attached specifications for a two (2) year period from date of award. The contract may be renewed for two (2) additional two (2) year periods when mutually agreeable to the vendor and the State of Nebraska.

(cp 10-12-16)

## INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
1	FILM, TRANSPARENT, RED,48 50YD/600SF/RL, 3M 1172C-48	10.0000	RL	_____	_____
2	FILM, TRANSPARENT, BLUE,48 50YD/600SF/RL, 3M 1175C-48	10.0000	RL	_____	_____
3	FILM, TRANSPARENT, GREEN,48 50YD/600SF/RL, 3M 1177C-48	10.0000	RL	_____	_____
4	SHEETING, BARRICADE, 12 50YD/150SF/RL, 3M 334L-12	10.0000	RL	_____	_____

### BIDDER MUST COMPLETE THE FOLLOWING

DISCOUNT PAYMENT TERMS: \_\_\_\_\_% \_\_\_\_\_ DAYS

By signing this Invitation to Bid form, the bidder guarantees compliance with the provisions stated in this Invitation to Bid, agrees to the terms and conditions unless otherwise agreed to (see Section III) and certifies that bidder maintains a drug free work place environment. Vendor will furnish the items requested within \_\_\_\_\_ days after receipt of order. Failure to enter Delivery Date may cause quotation to be REJECTED.

Sign \_\_\_\_\_

Enter Contact Information Below

Here (Authorized Signature MANDATORY - MUST BE SIGNED IN INK)

VENDOR# \_\_\_\_\_  
VENDOR: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact \_\_\_\_\_  
Telephone \_\_\_\_\_  
Facsimile \_\_\_\_\_  
Email \_\_\_\_\_  
\_\_\_\_\_

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**DESTINATION OF GOODS**  
CORRECTIONS - CORNHUSKER STATE INDSTR  
800 PIONEERS BLVD  
LINCOLN NE 68502

## INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
5	SHEETING, BARRICADE, 12 50YD/150SF/RL, 3M 334R-12	10.0000	RL	_____	_____
6	SHEETING, PRISMATIC, WHITE,24 50YD/300SF/RL, 3M 3430-24	10.0000	RL	_____	_____
7	SHEETING, FLUORES. ORANG 12.75 100YD/318.75SF/RL, 3924S-12.75	10.0000	RL	_____	_____
8	SHEETING, FLUORES. ORANG. 18 50YD/225SF/RL,3M 3924S-18	20.0000	RL	_____	_____
9	SHEETING, FLUORES. ORANG. 24 50YD/300SF/RL, 3M 3924S-24	40.0000	RL	_____	_____
10	SHEETING, FLUORES. ORANG. 30 50YD/375SF/RL,3M 3924S-30	10.0000	RL	_____	_____
11	SHEETING, FLUORES. ORANG. 36 50YD/450SF/RL, 3M 3924S-36	50.0000	RL	_____	_____
12	SHEETING, FLUORES. ORANG. 48 50YD/600SF/RL, 3M 3924S-48	150.0000	RL	_____	_____
13	SHEETING, HI INTENS, WHITE, 1 50YD/12.5SF/RL, 3M 3930-1	250.0000	RL	_____	_____
14	SHEETING, HI INTENS, WHT,12.75 100YD/318.75SF/RL, 3930-12.75	10.0000	RL	_____	_____
15	SHEETING, HI INTENS, WHT,21 50YD/262.5SF/RL, 3M 3930-21	10.0000	RL	_____	_____
16	SHEETING, HI INTENS, WHT,24 50YD/300SF/RL, 3M 3930-24	150.0000	RL	_____	_____
17	SHEETING, HI INTENS, WHT,3 50YD/37.55SF/RL, 3M 3930-3	10.0000	RL	_____	_____
18	SHEETING, HI INTENS, WHT,30 50YD/375SF/RL, 3M 3930-30	150.0000	RL	_____	_____
19	SHEETING, HI INTENS, WHT,36 50YD/450SF/RL, 3M 3930-36	50.0000	RL	_____	_____

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Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
20	SHEETING, HI INTENS, WHT,48 50YD/600SF/RL, 3M 3930-48	75.0000	RL	_____	_____
21	SHEETING,HI INTENS,BLUE, 12.75 100YD/318.75SF/RL, 3935-12.75	10.0000	RL	_____	_____
22	SHEETING,HI INTENS,BLUE, 36 50YD/450SF/RL, 3M 3935-36	10.0000	RL	_____	_____
23	SHEETING,HI INTENS,BLUE, 48 50YD/600SF/RL, 3M 3935-48	10.0000	RL	_____	_____
24	SHEETING,HI INTENS,GRN,12.75 100YD/318.75SF/RL, 3937-12.75	100.0000	RL	_____	_____
25	SHEETING,HI INTENS,GRN,16 50YD/200SF/RL, 3M 3937-16	10.0000	RL	_____	_____
26	SHEETING,HI INTENS,GRN,18 50YD/225SF/RL, 3M 3937-18	50.0000	RL	_____	_____
27	SHEETING,HI INTENS,GRN,24 50YD/300SF/RL, 3M 3937-24	40.0000	RL	_____	_____
28	SHEETING,HI INTENS,GRN,30 50YD/375SF/RL, 3M 3937-30	40.0000	RL	_____	_____
29	SHEETING,HI INTENS,GRN,36 50YD/450SF/RL, 3M 3937-36	40.0000	RL	_____	_____
30	SHEETING,HI INTENS,GRN,48 50YD/600SF/RL, 3M 3937-48	40.0000	RL	_____	_____
31	SHEETING,HI INTENS,BRN,12.75 100YD/318.75SF/RL, 3939-12.75	10.0000	RL	_____	_____
32	SHEETING,HI INTENS,BRN,24 50YD/300SF/RL, 3M 3939-24	10.0000	RL	_____	_____
33	SHEETING,HI INTENS,BRN,30 50YD/375SF/RL, 3M 3939-30	10.0000	RL	_____	_____
34	SHEETING,HI INTENS,BRN,36	10.0000	RL	_____	_____

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## INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
	50YD/450SF/RL, 3M 3939-36				
35	SHEETING,HI INTENS,BRN,40 3M 3939-48	10.0000	RL		
36	SHEETING, YELLOW DG3, 12.75 3M 4081-12.75	40.0000	RL		
37	SHEETING, YELLOW DG3, 18 3M 4081-18	100.0000	RL		
38	SHEETING, YELLOW DG3, 24 3M 4081-24	100.0000	RL		
39	SHEETING, YELLOW DG3, 30 3M 4081-30	40.0000	RL		
40	SHEETING, YELLOW DG3, 36 3M 4081-36	75.0000	RL		
41	SHEETING, YELLOW DG3, 48 3M 4081-48	100.0000	RL		
42	SHEETING, YELLOW GREEN DG3,36 3M 4083-36	10.0000	RL		
43	SHEETING, WHITE DG3,48 3M 4090-48	10.0000	RL		
44	SHEETING, GREEN DG3,12.75 3M 4097-12.75	20.0000	RL		
45	SHEETING, GREEN DG3,48 3M 4097-48	10.0000	RL		
46	SHEETING, VINYL, BLACK,1 3M 7725-12-1	50.0000	RL		
47	SHEETING, VINYL, BLACK,18 3M 7725-12-18	50.0000	RL		
48	SHEETING, VINYL, BLACK,2 3M 7725-12-2	10.0000	RL		

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800 PIONEERS BLVD  
LINCOLN NE 68502

## INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
49	SHEETING, VINYL, BLACK,24 3M 7725-12-24	20.0000	RL	_____	_____
50	SHEETING, VINYL, BLACK,30 3M 7725-12-30	50.0000	RL	_____	_____
51	SHEETING, VINYL, BLACK,36 3M 7725-12-36	75.0000	RL	_____	_____
52	SHEETING, VINYL, BLACK,48 3M 7725-12-48	100.0000	RL	_____	_____
53	SHEETING, HI INTENS, WHITE,48 3M 3930-48	100.0000	RL	_____	_____
54	SHEETING, TACK PAPER 24 3M TPM5-24	300.0000	RL	_____	_____
55	PRE-SPACING TAPE, 48" ROLL 3M SCPS-2, SPECIFY SLITTING	10.0000	RL	_____	_____

