

CONTRACT: CONTRACT –Reflective & Non-Reflective Sheeting

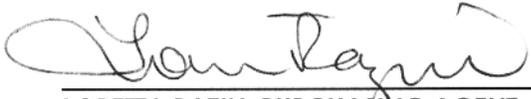
CONTRACT #: 8001455 – 3M

8001456 – Osburn Associates

8001457 – Nippon Carbide

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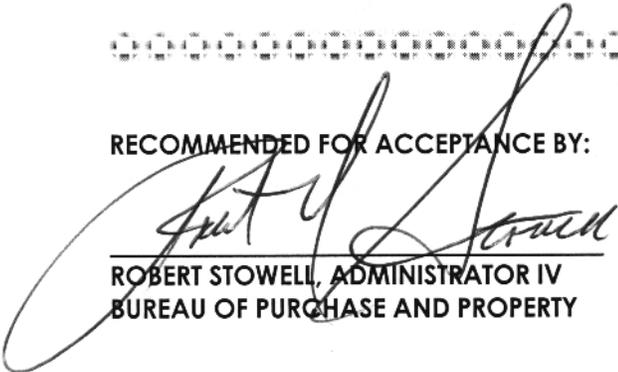
SUBMITTED FOR ACCEPTANCE BY:


LORETTA RAZIN, PURCHASING AGENT
BUREAU OF PURCHASE AND PROPERTY

DATE 10/21/13



RECOMMENDED FOR ACCEPTANCE BY:


ROBERT STOWELL, ADMINISTRATOR IV
BUREAU OF PURCHASE AND PROPERTY

DATE 10/22/13



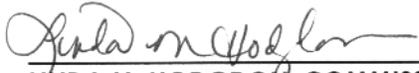
ENDORSED FOR ACCEPTANCE BY:

ENDORSED BY: 
MICHAEL P. CONNOR, DEPUTY COMMISSIONER
PLANT AND PROPERTY MGT.

DATE 10/22/13



ACCEPTED FOR THE STATE OF NEW HAMPSHIRE UNDER THE AUTHORITY GRANTED TO ME BY NEW HAMPSHIRE REVISED STATUTES, ANNOTATED 21-I:14, XII.


LINDA M. HODGDON, COMMISSIONER
DEPARTMENT OF ADMINISTRATIVE SERVICES

DATE 10/23/13

* **NOTES:** This contract is in result of NH Bid 1514-14 for statewide contracts for reflective and non-reflective sheeting. This contract will be in effect 11/1/2013 through 08/30/2016 with 2 one year extensions. I have worked with Dept of Corrections and Dept of Transportation for re-writing of bid specifications for certification and performance requirements.

State of New Hampshire
Division of Plant and Property Management
Bureau of Purchase and Property
25 Capitol Street, State House Annex
Concord, NH 03301-6398

Date: July 24, 2013
Bid No.: 1514-14
Date of Bid Opening: August 5, 2013
Time of Bid Opening: 1:30 PM (EST)

YOU MAY EMAIL YOUR BID TO LORETTA HEAD AT: EMAIL PRCHWEB@NH.GOV
Or if needed, FAX No. 603/271-7664

BID INVITATION FOR CONTRACT: Reflective & Non-Reflective Sheeting

Dear Loretta:

[Insert name of signor] Matthew Leibel on behalf of 3M Company [insert name of entity submitting bid (collectively referred to as "Vendor") hereby submits an offer as contained in the written bid submitted herewith ("Bid") to the State of New Hampshire in response to **BID #1514-14** at the price(s) quoted herein in complete accordance with the bid.

Vendor attests to the fact that:

1. The Vendor has reviewed and agreed to be bound by the Bid.
2. The Vendor has not altered any of the language or other provisions contained in the Bid document.
3. The Bid is effective for a period of 180 days from the Bid Opening date as indicated above.
4. The prices Vendor has quoted in the Bid were established without collusion with other vendors.
5. The Vendor has read and fully understands this bid.
6. Further, in accordance with RSA 21:11-c, the undersigned Vendor certifies that neither the Vendor nor any of its subsidiaries, affiliates or principal officers (principal officers refers to individuals with management responsibility for the entity or association):
 - a. Has, within the past 2 years, been convicted of, or pleaded guilty to, a violation of RSA 386:2, RSA 386:4, or any state or federal law or county or municipal ordinance prohibiting specified bidding practices, or involving antitrust violations, which has not been annulled;
 - b. Has been prohibited, either permanently or temporarily, from participating in any public works project pursuant to RSA 638:20;
 - c. Has previously provided false, deceptive, or fraudulent information on a vendor code number application form, or any other document submitted to the state of New Hampshire, which information was not corrected as of the time of the filing of a bid, proposal, or quotation;
 - d. Is currently debarred from performing work on any project of the federal government or the government of any state;
 - e. Has, within the past 2 years, failed to cure a default on any contract with the federal government or the government of any state;
 - f. Is presently subject to any order of the department of labor, the department of employment security, or any other state department, agency, board, or commission, finding that the applicant is not in compliance with the requirements of the laws or rules that the department, agency, board, or commission is charged with implementing;
 - g. Is presently subject to any sanction or penalty finally issued by the department of labor, the department of employment security, or any other state department, agency, board, or commission, which sanction or penalty has not been fully discharged or fulfilled;
 - h. Is currently serving a sentence or is subject to a continuing or unfulfilled penalty for any crime or violation noted in this section;
 - i. Has failed or neglected to advise the division of any conviction, plea of guilty, or finding relative to any crime or violation noted in this section, or of any debarment, within 30 days of such conviction, plea, finding, or debarment; or
 - j. Has been placed on the debarred parties list described in RSA 21:11-c within the past year.

This document must be signed by a person who is authorized to legally obligate the responding vendor. A signature on this document indicates that all State of New Hampshire terms and conditions are accepted by the responding vendor and that any and all other terms and conditions submitted by the responding vendor are null and void, even if such terms and conditions have terminology to the contrary. The responding vendor shall also be subject to State of New Hampshire terms and conditions as stated on the reverse of the purchase order.

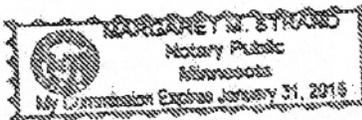
Authorized Signor's Signature *Matthew Leibel* Authorized Signor's Title Contract Administrator

NOTARY PUBLIC/JUSTICE OF THE PEACE

COUNTY: RATHEV STATE: MINNESOTA ZIP: 55144

On the 5 day of AUGUST, 2013, personally appeared before me, the above named Matthew Leibel, in his/her capacity as authorized representative of 3M Company, known to me or satisfactorily proven, and took oath that the foregoing is true and accurate to the best of his/her knowledge and belief.

In witness thereof, I hereunto set my hand and official seal.
Margarey M. Strand
(Notary Public/Justice of the Peace)



My commission expires: 1-31-16 (Date)

Agency obligation: the using agency shall be responsible for dating all the signs at the time of application of sheeting. That date constitutes the start of the certification and performance requirements.

Matched Components:

The State reserves the right to match sheeting manufacture material for any type background being used. For example: Manufacture A is awarded Type IV and Manufacture B is awarded Type XI. The State chooses to make a sign with Type IV background and Type XI copy. The State will have the ability to use Manufacture A Type XI sheeting for construction of this sign.

Catalogs/Price Lists:

All bidders must submit an appropriate catalog and price list for all groups they are bidding on. Successful vendors will supply appropriate catalogs and price lists to agencies that request them. The successful vendor shall furnish a master price list indicating the manufacturers part number, description, size and price per roll, using the awarded prices.

MINIMUM ORDER:

There will be no minimum order whether in item quantity or dollar value associated with any contract resulting from this bid.

DELIVERY LOCATIONS:

The following are the current State of New Hampshire agency/institution locations which, if you are awarded a contract, you are expected to service. The State of New Hampshire reserves the right to add locations to this list at the contract prices or to delete locations, as needed. This listing does not include any eligible participants.

OFFER:

Bidder hereby offers to furnish reflective and non-reflective sheeting to State of New Hampshire agencies and institutions and to any political sub-division and authorized non-profit organization wishing to participate, in accordance with all of the requirements of this bid invitation at the following prices for the entire contract term and any extension.

SECTION A - ASTM D4956 - TYPE I - ENGINEERING GRADE - ENCLOSED LENS GLASS BEAD REFLECTIVE SHEETING

PRESSURE SENSITIVE ADHESIVE ROLL GOODS

	PRICE PER SQ. FT.	MFG. CODE NO.
PRESSURE SENSITIVE	\$ 0.68	3200 Series

MANUFACTURER'S BRAND NAME QUOTING: 3M Engineer Grade Reflective Sheeting

APPLICATION TAPE

PAPER:	PRICE PER SQ. FT.	MFG. CODE NO.
	\$ 0.05	3M SCPS-2/SCPM-3
CLEAR FILM:	PRICE PER SQ. FT.	MFG. CODE NO.
	\$ 0.08	3M TPM-5

MANUFACTURER'S BRAND NAME QUOTING: 3M Application Tapes

GROUP A NOTE:

1. WASHERS to protect the sign surface from damage by bolts or other fasteners shall be supplied at no charge.
2. All colors provided under group A will be at the same price.
3. SCREEN INKS, PROCESS COLORS, TONERS, CLEARS AND SLIP SHEETING SHALL BE SPECIFICALLY FORMULATED FOR USE WITH THOSE SHEETINGS IN GROUP A AND SHALL BE SUPPLIED AT NO CHARGE.

SECTION B - ASTM D4956- TYPE II - SUPER ENGINEERING GRADE - ENCLOSED LENS GLASS BEAD REFLECTIVE SHEETING

PRESSURE SENSITIVE ADHESIVE ROLL GOODS

	PRICE PER SQ. FT.	MFG. CODE NO.
PRESSURE SENSITIVE	\$ <u>NO BID</u>	_____

MANUFACTURER'S BRAND NAME QUOTING: _____

APPLICATION TAPE

PAPER:	PRICE PER SQ. FT.	MFG. CODE NO.
	\$ <u>NO BID</u>	_____
CLEAR FILM:	PRICE PER SQ. FT.	MFG. CODE NO.
	\$ <u>NO BID</u>	_____

MANUFACTURER'S BRAND NAME QUOTING: _____

GROUP B NOTE:

WASHERS (To protect the sign surface from damage by bolts or other fasteners), SCREEN INKS, PROCESS COLORS, TONERS, CLEARS AND SLIP SHEETING SHALL BE SPECIFICALLY FORMULATED FOR USE WITH THOSE SHEETINGS IN GROUP B AND SHALL BE SUPPLIED AT NO CHARGE.

SECTION C - ASTM D4956- TYPE III - HIGH INTENSITY GRADE - ENCAPSULATED LENS REFLECTIVE SHEETING

Note: Type III High Intensity Grade Prismatic Sheeting can be used in replacement of Type III High Intensity as long as it meets ASTM D4956 Type III requirements. Vendors must note if their price is for Type III prismatic sheeting.

C1: PRESSURE SENSITIVE ADHESIVE ROLL GOODS - RIGID SIGN APPLICATION

	PRICE PER SQ. FT.	MFG. CODE NO.
PRESSURE SENSITIVE	\$ <u>1.01</u>	<u>3930 Series</u>

MANUFACTURER'S BRAND NAME QUOTING: 3M High Intensity Prismatic

APPLICATION TAPE

PAPER:	PRICE PER SQ. FT.	MFG. CODE NO.
	\$ <u>0.05</u>	<u>3M SCPS-2/SCPM-3</u>
CLEAR FILM:	PRICE PER SQ. FT.	MFG. CODE NO.
	\$ <u>0.08</u>	<u>3M TPM-5</u>

MANUFACTURER'S BRAND NAME QUOTING: 3M Application Tapes

C2: NON-SIGNING APPLICATION, FLEXIBLE TYPE III ENCAPSULATED LENS REFLECTIVE SHEETING FOR REBOUNDABLE PLASTIC TRAFFIC CONTROL DEVICES - STANDARD MFG COLORS

PRICE PER SQ. FT. MFG. CODE NO.

\$ 1.80 3300 Series

MANUFACTURER'S BRAND NAME QUOTING: 3M Flexible Prismatic Work Zone Sheeting

APPLICATION TAPE

PAPER: PRICE PER SQ. FT. MFG. CODE NO.

\$ 0.05 3M SCRS-2/SCRM-3

CLEAR FILM: PRICE PER SQ. FT. MFG. CODE NO.

\$ 0.08 3M TPM-5

MANUFACTURER'S BRAND NAME QUOTING: 3M Application Tapes

C3: TYPE III ENCAPSULATED LENS REFLECTIVE SHEETING FOR RIGID SUBSTRATE SIGNS AND BARRICADES IN THE CONSTRUCTION WORK ZONE- STANDARD MFG COLORS

PRICE PER SQ. FT. MFG. CODE NO.

\$ 1.01 3M 3934
3M 3334/3336

3M High Intensity Prismatic #3934

MANUFACTURER'S BRAND NAME QUOTING: 3M Flexible Prismatic Barricade Sheeting Series 3334/3336

APPLICATION TAPE

PAPER: PRICE PER SQ. FT. MFG. CODE NO.

\$ 0.05 3M SCRS-2/SCRM-3

CLEAR FILM: PRICE PER SQ. FT. MFG. CODE NO.

\$ 0.08 3M TPM-5

MANUFACTURER'S BRAND NAME QUOTING: 3M Application Tapes

GROUP C NOTE:

WASHERS. (To protect the sign surface from damage by bolts or other fasteners) SCREEN INKS, PROCESS COLORS, TONERS, CLEARS AND GLIP SHEETING SHALL BE SPECIFICALLY FORMULATED FOR USE WITH THOSE SHEETINGS IN GROUP C AND SHALL BE SUPPLIED AT NO CHARGE.

SECTION D - ASTM D4956 - TYPE IV - HIGH INTENSITY GRADE - MICROPRISMATIC LENS REFLECTIVE SHEETING

D1: PRESSURE SENSITIVE ADHESIVE ROLL GOODS

	PRICE PER SQ. FT.	MFG. CODE NO.
PRESSURE SENSITIVE	\$ 1.01	3930 Series

MANUFACTURER'S BRAND NAME QUOTING: 3M High Intensity Prismatic

GROUP D NOTE:

1. WASHERS To protect the sign surface from damage by bolts or other fasteners shall be supplied at no charge.
2. All colors provided under group A will be at the same price.
3. SCREEN INKS, PROCESS COLORS, TONERS, CLEARS AND SLIP SHEETING SHALL BE SPECIFICALLY FORMULATED FOR USE WITH THOSE SHEETINGS IN GROUP D AND SHALL BE SUPPLIED AT NO CHARGE. - This may not apply to Traffic but may apply to the driver.

SECTION E - SHEETING FOR VEHICLE MARKING AS PER THE ATTACHED MINIMUM SPECIFICATIONS

E1: ENCLOSED LENS VEHICLE MARKINGS- REMOVEABLE AND NON-REMOVEABLE

REMOVEABLE:	PRICE PER SQ. FT.	MFG. CODE NO.
WHITE:	\$ 1.9235	5100R-10

MANUFACTURER'S BRAND NAME QUOTING: 3M Scotchlite Reflective Graphic Film, Removable

E2:	NON-REMOVEABLE:	PRICE PER SQ. FT.	MFG. CODE NO.
	WHITE:	\$ 1.4369	5100-10
	COLORS:	\$ 1.5554	5100 Colors

MANUFACTURER'S BRAND NAME QUOTING: 3M Scotchlite Reflective Graphic Film

GROUP E NOTE: SCREEN INKS, PROCESS COLORS, TONERS, CLEARS AND SLIP SHEETING SHALL BE SPECIFICALLY FORMULATED FOR USE WITH THOSE SHEETINGS IN GROUP E AND SHALL BE SUPPLIED AT NO CHARGE

SECTION F - ASTM D4956 - WIDE ANGLE PRISMATIC - TYPE VIII

F: WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL SIGNS
- STANDARD MFG COLORS

	PRICE PER SQ. FT.	MFG. CODE NO.
ALL COLORS (EXCEPT FLUORESCENT)	\$ 1.98	3940 Series
FLUORESCENT ORANGE	\$ 1.98	3M 3926
FLUORESCENT YELLOW	\$ 1.98	3M 3921
FLUORESCENT YELLOW-GREEN	\$ 1.98	3M 3923

MANUFACTURER'S BRAND NAME QUOTING: 3M Prismatic Reflective Sheeting

GROUP F NOTE: WASHERS, (To protect the sign surface from damage by bolts or other fasteners) SCREEN INKS, PROCESS COLORS, TONERS, CLEARS AND SLIP SHEETING SHALL BE SPECIFICALLY FORMULATED FOR USE WITH THOSE SHEETINGS IN GROUP F AND SHALL BE SUPPLIED AT NO CHARGE.

SECTION G - ASTM D4956 - CUBE CORNER MICROPRISMATIC - TYPE IX

G: WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL SIGNS
- STANDARD MFG COLORS

	PRICE PER SQ. FT.	MFG. CODE NO.
ALL COLORS (EXCEPT FLUORESCENT)	\$ 1.98	3990 Series
FLUORESCENT ORANGE	\$ 1.98	3M 4084
FLUORESCENT YELLOW	\$ 1.98	3M 3981
FLUORESCENT YELLOW-GREEN	\$ 1.98	3M 3983

MANUFACTURER'S BRAND NAME QUOTING: 3M Diamond Grade Reflective Sheeting

GROUP G NOTE: WASHERS, (To protect the sign surface from damage by bolts or other fasteners) SCREEN INKS, PROCESS COLORS, TONERS, CLEARS AND SLIP SHEETING SHALL BE SPECIFICALLY FORMULATED FOR USE WITH THOSE SHEETINGS IN GROUP G AND SHALL BE SUPPLIED AT NO CHARGE. See Group G for not mark-ups

SECTION H - ASTM D4956 - CUBE CORNER MICROPRISMATIC - TYPE XI

H: WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL SIGNS
- STANDARD MFG COLORS

	PRICE PER SQ. FT.	MFG. CODE NO.
ALL COLORS (EXCEPT FLUORESCENT)	\$ 2.98	4000 Series
FLUORESCENT ORANGE	\$ 1.98	3M 408A
FLUORESCENT YELLOW	\$ 2.98	3M 408L
FLUORESCENT YELLOW-GREEN	\$ 2.98	3M 408B

MANUFACTURER'S BRAND NAME QUOTING: 3M Diamond Grade Cubed Reflective Sheeting

GROUP H NOTE: WASHERS, (To protect the sign surface from damage by bolts or other fasteners) SCREEN INKS, PROCESS COLORS, TONERS, CLEARS AND SLIP SHEETING SHALL BE SPECIFICALLY FORMULATED FOR USE WITH THOSE SHEETINGS IN GROUP C AND SHALL BE SUPPLIED AT NO CHARGE. See Group H for not mark-ups

SECTION I - MARKINGS FOR VEHICLE CONSPICUITY AS PER NHTSA AMENDMENT FMVSS#103 (49CFR571) SPECIFICATIONS

I1: WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING FOR USE ON VEHICLES

	PRICE PER SQ. FT.	MFG. CODE NO.
RED AND WHITE	\$ 2.03	983-32/263-326
WHITE	\$ 2.03	883-10

MANUFACTURER'S BRAND NAME QUOTING: 3M Flexible Prismatic Conspicuity

SECTION J - NON-REFLECTIVE PLASTIC AND VINYL FILM

J1: PRESSURE SENSITIVE NON REFLECTIVE SHEETING, 2 MIL CAST, 8 YEAR DURABILITY

SIZE	PRICE PER SQFT	MFG. CODE NO.
	\$ 0.50	7725 Series
12" X 50 YARDS	\$ 0.50 (\$75/Roll)	7725 Series
15" X 50 YARDS	\$ 0.50 (\$93.75/Roll)	7725 Series
24" X 50 YARDS	\$ 0.50 (\$150/Roll)	7725 Series
30" X 50 YARDS	\$ 0.50 (\$187.50/Roll)	7725 Series
36" X 50 YARDS	\$ 0.50 (\$225/Roll)	7725 Series

48" X 50 YARDS \$ 0.50 (\$100/Roll) 7725 Series

MANUFACTURER'S BRAND NAME QUOTING: 3M Scotchcal ElectroCut Graphic Film

J2: POSITIONABLE PRESSURE SENSITIVE NON REFLECTIVE SHEETING, 2 MIL CAST, 8 YEAR DURABILITY

SIZE	PRICE PER SQFT	MFG. CODE NO.
	\$ 0.80	180C Series
12" X 50 YARDS	\$ 0.80 (\$120/Roll)	180C Series

SECTION J - NON-REFLECTIVE PLASTIC AND VINYL FILM - CONTINUED

SIZE	PRICE PER ROLL	MFG. CODE NO.
15" X 50 YARDS	197.50 \$ 0.80 (\$120/Roll)	180C Series
24" X 50 YARDS	\$ 0.80 (\$240/Roll)	180C Series
30" X 50 YARDS	\$ 0.80 (\$300/Roll)	180C Series
36" X 50 YARDS	\$ 0.80 (\$360/Roll)	180C Series
48" X 50 YARDS	\$ 0.80 (\$480/Roll)	180C Series

MANUFACTURER'S BRAND NAME QUOTING: 3M Controltac Graphic Film with Comply Adhesive

SECTION K - OVERLAY FILMS FOR USE IN RETROREFLECTIVE SHEETING PER THE ATTACHED SPECIFICATIONS AND NHDOT SPECIFICATION SECTION 718 RETROREFLECTIVE SHEETING.

	PRICE PER SQ FT	MFG CODE NO.
K1: OVERLAY FILM	\$ 0.79	1170 Series

MANUFACTURER'S BRAND NAME QUOTING: 3M ElectroCut Film 1170 Series

Group K

OVERLAY FILMS
FOR USE ON RETROREFLECTIVE SHEETING

1.0 General Characteristics and Packaging.

1.1 Roll Goods. When supplied as roll goods, the Overlay film shall be of good appearance, free from ragged edges, cracks and extraneous materials. The maximum number of splices in each roll shall be three per 50 yards of material. Splices shall be butted. The sheeting shall be packed snugly in corrugated fiberboard cartons, in accordance with commercially accepted standards. Each carton shall clearly stipulate the brand, quantity, size, lot or run number, and color. Stored under normal conditions the Overlay film as furnished shall be suitable for use for a minimum period of one year.

1.2 Sign Faces. When supplied as a finished sign face or mounted sign, the sign face, made of Overlay film and retroreflective sheeting, shall comply with the appearance, specification, and good workmanship designated by the using agency for sign faces constructed of colored retroreflective sheeting of the same type.

2.0 Performance Requirements and Obligations.

2.1 Certification. The film manufacturer shall submit with each lot or shipment, a certification which states that the material supplied will meet all of the requirements listed herein.

2.2 Field Performance Requirements. The Overlay film applied to retroreflective sheeting, both materials applied in accordance with the manufacturer's recommendations, shall as a composite perform with the same effective performance life as the using agency specifies for that type of colored retroreflective sheeting. The composite sign will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night driving conditions; or (2) the coefficient of retroreflection is less than the minimums specified by the using agency for colored retroreflective sheeting.

2.3 Overlay Film Manufacturer's Replacement Obligation. Where it can be shown that retroreflective traffic signs with Overlay film supplied and used according to the film manufacturer's recommendations have not met the performance requirements of Section 2.2, the film manufacturer shall cover restoration costs as provided in the using agency specification for colored retroreflective sheeting.

2.4 Government Using Agency Obligation. The using agency shall be responsible for requiring dating of all signs at the time of application. That date constitutes the start of the field performance obligation period.

3.0 Technical Assistance Requirements

3.1 Instruction and Training. As requested the manufacturer supplying the Overlay film requirement shall provide the services of a qualified technician for instruction and training at the primary sign manufacturing facility designated by the agency. This instruction shall be available on a quarterly basis if needed at no additional cost, and shall include but not be limited to, training films, material application, equipment operation, packaging, storage and other proven sign shop practices as they apply to the Overlay film supplied by the manufacturer, and to assure that the resulting signs can comply with the applicable specifications. Additional on-site technical assistance by the manufacturer supplying the Overlay film shall be provided at each of the sign shops designated in the bid invitation. This assistance will be provided at least once each quarter of sign production, if required.

VENDOR CONTACT INFORMATION:

The following information is for this office to be able to contact a person knowledgeable of your bid response, and who can answer questions regarding it:

<u>Matthew Leibel</u>	<u>800-553-1380, Opt 2</u>	<u>800-553-1380, Opt 2</u>
Contact Person	Local Telephone Number	Toll Free Telephone Number
<u>888-246-9793</u>	<u>bidgroup@mmi.com</u>	<u>www.3m.com/tee</u>
Fax Number	E-mail Address	Company Website

3M Company
Company Name

Note: To be considered, bid must be signed and notarized on front cover sheet in the space provided.

3M Traffic Safety & Security Division 3M Center, Bldg 235-2A-09
St. Paul, MN 55144-1000
(800)533-1380 Office
(888)246-9793 Fax



August 5, 2013

State of New Hampshire
Attn: Loretta Head
State House Annex
25 Capitol Street
Concord, NH 03301

Bid Title: Reflective & Non-Reflective Sheeting
Bid Number: 1514-14

Qualifications and Explanations

Bid Prices, Page 7

3M offers pricing terms based on the length of a contract, the breadth of products covered, the size of the sales opportunity, the contract's other terms, the competitive situation and many other market factors. In this instance, 3M is offering a competitive price based on these factors but is not necessarily offering the lowest prices for each item. 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.

Audits and Accounting, Page 7

The records and documents subject to audit do not include the disclosure of the 3M's manufacturing costs, processes or any other proprietary information. These records and any and all copies remain the property of the 3M. 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.

Certification and Performance Requirements, Page 8

Due to industry standards established for construction work zone environments, signs and barricades used in these applications follow a 3-year warranty period. 3M 3924S, 3934, and 4084 follow the industry standard warranty period of 3-years. 3M Attached are the respective product bulletins that further clarify the warranty information for these products.

3M 3300 and 3334/3336 Series do not offer a warranty. For further information, please see attached product bulletins.

Vendor Background Information, Page 1, Section 6

3M is one of 30 companies that make up the Dow Jones Industrial Average and is also a component of the Standard & Poor's 500 Index. 3M is a multinational company with \$30 billion in sales and approximately 88,000 employees (year-end 2012). 3M has operations in over 70 countries, including operations in approximately 28 states within the U.S.

Because of 3M's size and global breadth, it is impossible to respond to questions 6a through 6j on behalf of all 3M subsidiaries and affiliates. 3M and its officers and directors have not in the last two years been convicted or found liable for any act prohibited by law in any jurisdiction involving conspiracy or collusion with respect to bidding on any public contract. In addition, it is impossible to address without qualification whether 3M has been the subject of any order of noncompliance from any state agency or department. In the spirit of full responsiveness, the following information relating to past and ongoing investigations is submitted. The matters referenced herein will not affect 3M Company's ability to perform this New Hampshire contract.

3M Company provides an overview of legal proceedings by federal, state and local government agencies that are deemed material, and any subsequent action resulting therefrom, in its annual report and Form 10-K. At 3M Company, given our size and diversity, government oversight is a routine occurrence. The Company regularly has OSHA inspections; minor fines or penalties may occasionally be assessed. 3M Company also may be assessed minor fines or penalties in other regulated areas, such as health care. However, minor fines are not considered material and, therefore, and not disclosed in our annual report.

3M Company has occasionally been investigated by government agencies as part of its ongoing business operations. In some instances, the company has been assessed penalties or has agreed to stipulated penalties with federal and state environmental and occupational health agencies.

The 3M Company's Form 10-K for the fiscal year ended December 31, 2012, provides an overview of ongoing legal proceedings, claims, lawsuits, regulatory proceedings and other matters that could be considered to be under investigation. This and more information, including a copy of 3M's 2011 annual report, can be found on 3M's Internet site at www.3m.com. 3M Company's Form 10-K is available on the 3M Company website by searching as follows: Investor Relations -> SEC Filings -> then in the "Groupings Filter" search box, choose "Annual Filings" -> then select Form10-K filed 2/14/13.

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 services¹) 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 regulations² (hereafter referred to as "certifications"), the following attorneys-in-fact are hereby appointed. Authority may not be sub-delegated.

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.

- | | | | |
|--|--|---|---|
| • <u>3M Purification Inc.</u>
Richard P. Conroy | • <u>Electronics Markets
Materials Division</u>
Joseph F. Koch | • <u>Industrial Adhesive and Tapes
Division</u>
Authority for the below individual(s)
applies to Federal Supply Schedule
contracts only:
Perry M. Canniff | • <u>Traffic Safety and
Security Division</u>
Catherine J. LeClair
Chad Reed
Dan J. McGurnan
Daniel P. Moran
David A. Puntor
Ells M. Schraff
John N. Morris
John F. Eerz
John W. Lehman
Linda M. Gombinger
Mary K. Zillea
Matthew J. Bignell
Matthew R. Littel
Nicole A. Christopherson
Richard J. LeClair
Robert L. Skorsgard
Tim O'Leary |
| • <u>3M ESPE Division</u>
Todd M. Scott | • <u>Electrical Markets Division</u>
Timothy A. Keating | • <u>Infection Prevention Division</u>
Melanie J. Zelder
-Health Care Service Support
Bill J. Biebesheimer | • <u>Vehicle Tape Corporation</u>
Perry M. Canniff |
| • <u>3M United Corporation</u>
Vincent Martinez | • <u>Food Safety Department</u>
Melissa A. Mahak | • <u>Optical Systems Division</u>
Micki A. Summers | |
| • <u>Aero Technologies LLC</u>
Perry M. Canniff | • <u>Government R&D
Contracts Department</u>
Steven L. Kays
Ruth P. Charles
Vivian L. Smith | • <u>Personal Safety Division</u>
Thomas L. Kestoman | |
| • <u>Aerospace and Aircraft
Maintenance Division</u>
Perry M. Canniff | • <u>IT&MIL, Inc.</u>
Perry M. Canniff | • <u>Quest Technologies</u>
James D. Sarach | |
| • <u>Abrasive Systems Division</u>
Perry M. Canniff | • <u>Health Information
Systems Division</u>
Andee S. Andros
Deborah A. Mason
Garr L. Garrison
Gary W. Karpovich
Gerald R. Jennings
James R. McDonough
Jan C. Cline
John C. Mathison
Lisa M. Black
Kyoung H. Kim
Paula S. Brisley
Ray J. Terrell Jr.
Teri G. McCuslin | • <u>Stationery and Office
Supplies Division</u>
Malcolm P. West | |
| • <u>Advanced Materials Division</u>
Scott R. Hanson | | | |
| • <u>Critical and Chronic Care
Solutions Division</u>
Melanie J. Zelder | | | |

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

- | | |
|---|---|
| • <u>Global Channel Services</u>
Paul H. Sander
Derrick E. Hiller | • <u>Government Markets</u>
Karen A. Kindom
Laurie A. Patrick |
| • <u>Government Contract
Compliance</u>
Elizabeth A. Gimes
Karin Stein O'Boyle
Richard J. Gordas | • <u>Office of General Counsel</u>
Richard N. Kovath |

¹ Authority to submit proposals and sign contracts for research and development services is managed by the Executive Vice President & Chief Technology Officer for Research & Development.

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 Purification Inc.
Richard P. Comare
- 3M ESSE Division
Todd M. Best
- 3M United Corporation
Vincent Harmsel
- Aears Technologies LLC
Perry M. Canniff
- Abrasive Systems Division
Perry M. Canniff
- Aerospace and Aircraft Maintenance Division
Perry M. Canniff
- Advanced Materials Division
Scott R. Hanson
- Critical and Chronic Care Solutions Division
Melanie J. Zander
- Electronics, Packets, Materials Division
Joseph F. Koch
- Food Safety Development
Melissa A. Malak
- Government R&D Contracts, Department
Steven L. Kaye
Ruth P. Charles
Vivian L. Smith
- GTATell, Inc
Perry M. Canniff
- Health Information Systems Division
Andee S. Arnold
Deborah A. Hesson
Garr L. Garrison
Cay W. Kinnick
Gerald R. Jennings
James R. McDonough
Jan C. Chino
John C. Matheson
Lisa N. Black
Myung H. Kim
Paulette Erdmley
Ray J. Yarril Jr
Terri G. McCubbin
- Infection Prevention Division
Melanie J. Zander
- Industrial Adhesive and Tapes Division
Authority for the below individual(s) applies in Federal Supply Schedule contracts only.
Perry M. Canniff
- Personal Safety Division
Thomas L. Kellerman
- Quest Technologies
James D. Banach
- Traffic Safety and Security Division
Clint Reed
Dan J. McGurran
Dana F. Moran
John N. Morris
John P. Benz
Linda M. Gonsinger
Ray K. Zilles
Matthew J. Bignell
Matthew R. Laibel
Richard J. LaClair
Robert L. Howard
Tim O'Leary
- Venture Tape Corporation
Perry M. Canniff

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

- Global Channel Services
Derrick E. Hoffer
- Government Contracts Compliance
Elizabeth A. Gomez
Karin Stein O'Boyle
Richard J. Berdas
- Government Journals
Karen A. Kintoch
Laura A. Patrick
- Office of General Counsel
Richard N. Kuzath

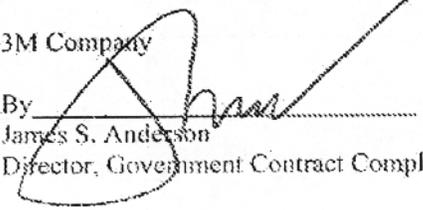
(c) To make Country of Origin certifications, the following attorney(s)-in-fact are hereby appointed:

- Office of General Counsel
Richard N. Kuzath
- Trade Compliance Department
Authority may be sub-delegated in writing:
Doug G. Whitman

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

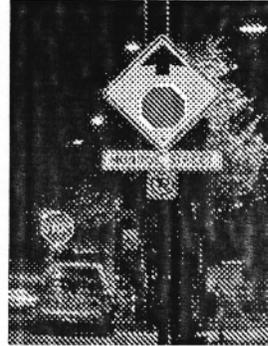
18th day of July, 2013.

3M Company
By 
James S. Anderson
Director, Government Contract Compliance

3M™ Diamond Grade™ DG³ Reflective Sheeting

Series 4000

Highly reflective, durable, microprismatic lens sheeting with pressure sensitive adhesive. Performs at all sight distances – short, medium and long – and where signs are positioned in disadvantaged locations such as overhead or left shoulder. Signs are highly visible, even in visually complex nighttime roadway environments. **Exceeds ASTM D4956 Type XI specifications.**



Additional Information:

- State-of-the-art “full cube” prismatic technology
- 100 percent efficient optical elements, returning 60% of available light – nearly double that of traditional prismatics
- Delivers optimal performance where and when drivers need it most
- Carries 3M's MCS™ (Matched Component System) Warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 4000 for full details

Rolls

\$ 5.50/sq. ft.

Size	4090 White	4091 Yellow	4092 Red	4095 Blue	4097 Green	4099 Brown	Net Price Per Roll
3/4" x 50 yds.	NS	NS	NS	NS	NS	NS	\$ 51.56
1" x 50 yds.	NS	NS	NS	NS	NS	NS	68.75
2" x 50 yds.	NS	NS	NS	NS	NS	NS	137.50
3" x 50 yds.	NS	NS	NS	NS	NS	NS	206.25
6" x 50 yds.	NS	NS	NS	NS	NS	NS	412.50
9" x 50 yds.	NS	NS	NS	NS	NS	NS	618.75
12" x 50 yds.	NS	NS	NS	NS	NS	NS	825.00
12-3/4" x 50 yds.	NS	NS	NS	NS	NS	NS	876.56
18" x 50 yds.	NS	NS	NS	NS	NS	NS	1,237.50
24" x 50 yds.	S	S	NS	NS	NS	NS	1,650.00
30" x 50 yds.	S	S	NS	NS	NS	NS	2,062.50
36" x 50 yds.	S	S	NS	NS	S	NS	2,475.00
48" x 50 yds.	S	S	NS	NS	S	NS	3,300.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths.
24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

3M™ Diamond Grade™ Translucent DG³ Reflective Sheeting

Series 4090T

\$ 6.00/sq. ft.

A wide angle prismatic lens translucent reflective sheeting designed for the production of internally illuminated traffic control signs.

Size	4090T White	Net Price Per Roll
18" x 50 yds.	NS	\$ 1,350.00
24" x 50 yds.	NS	1,800.00
36" x 50 yds.	NS	2,700.00

S = Standard
NS = Non Standard
C = Custom

Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.
Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
See Glossary in the front of this catalog.

3M™ Diamond Grade™ Fluorescent DG³ Reflective Sheeting

4081 Fluorescent Yellow

Fluorescent yellow microprismatic reflective sheeting with pressure sensitive adhesive backing. Highly visible in daytime, twilight, and inclement weather as well as at night. Performs at wide entrance and observation angles. Exceeds ASTM D4956 Type XI specifications.

Additional Information:

- Fluorescent yellow meets all of the color specifications for yellow traffic control signs and devices
- Highly visible in the viewing range from 200 to 600 feet
- Ideal for signs that must be seen at relatively short viewing distances
- Covered by 3M's MCS™ (matched component system) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 4000 for full details

Rolls

\$ 5.60/sq. ft.

Size	4081 Fluorescent Yellow	Net Price Per Roll
12-3/4" x 50 yds.	NS	\$ 892.50
18" x 50 yds.	NS	1,260.00
24" x 50 yds.	S	1,680.00
30" x 50 yds.	S	2,100.00
36" x 50 yds.	S	2,520.00
48" x 50 yds.	S	3,360.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths.
24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

Durable Sign Sheeting
Rolls and Sheets

3M™ Diamond Grade™ Fluorescent DG³ Reflective Sheeting

4083 Fluorescent Yellow Green

Fluorescent yellow green microprismatic reflective sheeting with pressure sensitive adhesive backing. Highly visible in daytime, twilight, and inclement weather as well as at night. Performs at wide entrance and observation angles. Exceeds ASTM D4956 Type XI specifications.

Additional Information:

- Fluorescent yellow green color approved in U.S. for signs warning of the presence of non-motorized traffic – school zone, pedestrian and bicycle crossing signs
- Highly visible in the viewing range from 200 to 600 feet
- Ideal for signs that must be seen at relatively short viewing distances
- Covered by 3M's MCS™ (matched component system) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 4000 for full details



Rolls

\$ 5.60/sq. ft.

Size	4083 Fluorescent Yellow Green	Net Price Per Roll
6" x 50 yds.	NS	\$ 420.00
12" x 50 yds.	NS	840.00
18" x 50 yds.	NS	1,260.00
24" x 50 yds.	S	1,680.00
30" x 50 yds.	S	2,100.00
36" x 50 yds.	S	2,520.00
48" x 50 yds.	S	3,360.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths.
24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

S = Standard
NS = Non Standard
C = Custom

Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.
Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
See Glossary in the front of this catalog.

Durable Sign Sheeting
Rolls and Sheets

3M™ Diamond Grade™ Fluorescent VIP Reflective Sheeting

3981 and 3983 Fluorescent

Fluorescent microprismatic reflective sheeting with pressure sensitive adhesive backing. Highly visible in daytime, twilight, and inclement weather as well as at night. Performs at wide entrance and observation angles. **Exceeds ASTM D 4956 Spec Type IX standards.**

Additional Information:

- Fluorescent yellow meets all color specifications for yellow traffic control signs and devices
- Fluorescent yellow green color approved in U.S. for signs warning of the presence of non-motorized traffic - school zone, pedestrian and bicycle crossing signs
- Highly visible in the viewing range from 200 to 600 feet
- Ideal for signs that must be seen at relatively short viewing distances
- Covered by 3M's MCS™ (matched component system) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 3980 for full details

Rolls

\$ 5.80/sq. ft.

Size	3981 VIP Fluorescent Yellow	3983 VIP Fluorescent Yellow Green	Net Price Per Roll
6" x 50 yds.	NS	NS	\$ 435.00
12" x 50 yds.	NS	NS	870.00
12-3/4" x 50 yds.	NS	NS	924.38
18" x 50 yds.	NS	NS	1,305.00
24" x 50 yds.	NS	NS	1,740.00
30" x 50 yds.	NS	NS	2,175.00
36" x 50 yds.	NS	NS	2,610.00
48" x 50 yds.	NS	NS	3,480.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths. 24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

3M™ Diamond Grade™ VIP Reflective Sheeting

Series 3990

Highly reflective, durable, microprismatic lens sheeting with pressure sensitive adhesive for application to aluminum, using a hand or Interstate squeeze roller applicator. Signs are highly visible, even in visually complex nighttime roadway environments. **Exceeds ASTM D 4956 Spec Type IX standards.**

Additional Information:

- Microprismatic lens optics have higher sign brightness than sheeting made with glass bead optical elements
- Highly visible in the viewing range of 200 to 600 feet
- Ideal for signs in locations with relatively short viewing distances
- Carries 3M's MCS™ (matched component system) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 3990 for full details

Rolls

\$ 5.70/sq. ft.

Size	3990 White	3991 Yellow	3992 Red	3995 Blue	3997 Green	Net Price Per Roll
3/4" x 50 yds.	NS	NS	NS	NS	NS	\$ 53.44
1" x 50 yds.	NS	NS	NS	NS	NS	71.25
2" x 50 yds.	NS	NS	NS	NS	NS	142.50
3" x 50 yds.	NS	NS	NS	NS	NS	213.75
6" x 50 yds.	NS	NS	NS	NS	NS	427.50
9" x 50 yds.	NS	NS	NS	NS	NS	641.25
12" x 50 yds.	NS	NS	NS	NS	NS	855.00
12-3/4" x 50 yds.	NS	NS	NS	NS	NS	908.44
18" x 50 yds.	NS	NS	NS	NS	NS	1,292.50
24" x 50 yds.	NS	NS	NS	NS	NS	1,710.00
30" x 50 yds.	NS	NS	NS	NS	NS	2,137.50
36" x 50 yds.	NS	NS	NS	NS	NS	2,565.00
48" x 50 yds.	NS	NS	NS	NS	NS	3,420.00

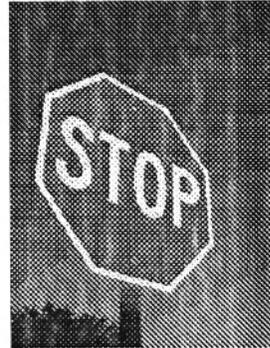
10 yard rolls are available at a 25% upcharge for 36" and 48" widths. 24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

S = Standard Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.
NS = Non Standard Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
C = Custom See Glossary in the front of this catalog.

3M™ High Intensity Prismatic Reflective Sheeting

Series 3930 With Pressure Sensitive Adhesive

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, with an improved optical package to increase nighttime safety. Its unique prismatic construction provides a high level of retroreflectivity for multiple traffic control situations. Meets both ASTM D4956-09 Type III, Type IV, and ASTM D4956-07 Type X specifications.



Additional Information:

- Carries 3M's MCS™ (matched component system) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 3930 for additional information

\$ 2.00/sq. ft.

Size	3930 White	3931 Yellow	3932 Red	3935 Blue	3937 Green	3939 Brown	Net Price Per Roll
1/2" x 50 yds.	NS	NS	NS	NS	NS	NS	\$ 12.50
3/4" x 50 yds.	NS	NS	NS	NS	NS	NS	18.75
1" x 50 yds.	NS	NS	NS	NS	NS	NS	25.00
1-1/4" x 50 yds.	NS	NS	NS	NS	NS	NS	31.25
2" x 50 yds.	NS	NS	NS	NS	NS	NS	50.00
3" x 50 yds.	NS	NS	NS	NS	NS	NS	75.00
4" x 50 yds.	NS	NS	NS	NS	NS	NS	100.00
6" x 50 yds.	S	NS	NS	NS	NS	NS	150.00
6-3/4" x 50 yds.	NS	NS	NS	NS	NS	NS	168.75
8" x 50 yds.	NS	NS	NS	NS	NS	NS	200.00
9" x 50 yds.	S	NS	NS	NS	NS	NS	225.00
12" x 50 yds.	NS	NS	NS	NS	NS	NS	300.00
12-3/4" x 50 yds.	NS	NS	NS	NS	NS	NS	318.75
15" x 50 yds.	NS	NS	NS	NS	NS	NS	375.00
18" x 50 yds.	S	NS	NS	NS	NS	NS	450.00
24" x 50 yds.	S	S	NS	NS	S	NS	600.00
30" x 50 yds.	S	S	NS	NS	NS	NS	750.00
36" x 50 yds.	S	S	NS	NS	S	NS	900.00
42" x 50 yds.	NS	NS	NS	NS	NS	NS	1,050.00
48" x 50 yds.	S	S	NS	NS	S	NS	1,200.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths.
24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

S = Standard Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.
NS = Non Standard Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
C = Custom See Glossary in the front of this catalog.

3M™ Engineer Grade Reflective Sheeting

Series 3200 With Pressure Sensitive Adhesive

Enclosed lens reflective sheeting with pressure sensitive adhesive backing for application to directional and route signage, off-road signage such as parking lots, handicap signs, etc. Meets ASTM D 4956 Spec Type I, Class 1.

Additional Information:

- Screen process with 3M™ Process Colors Series 990
- See Product Bulletin 3200 for full details

\$1.05/sq. ft.

Size	3290 White	3271 Yellow	3272 Red	3275 Blue	3277 Green	3279 Brown	Net Price Per Roll
3/8" x 50 yds.	NS	NS	NS	NS	NS	NS	\$ 4.92
1/2" x 50 yds.	NS	NS	NS	NS	NS	NS	6.56
5/8" x 50 yds.	NS	NS	NS	NS	NS	NS	8.20
3/4" x 50 yds.	NS	NS	NS	NS	NS	NS	9.84
2" x 50 yds.	NS	NS	NS	NS	NS	NS	26.25
3" x 50 yds.	NS	NS	NS	NS	NS	NS	39.38
6" x 50 yds.	NS	NS	NS	NS	NS	NS	78.75
8" x 50 yds.	NS	NS	NS	NS	NS	NS	105.00
9" x 50 yds.	NS	NS	NS	NS	NS	NS	118.13
12" x 50 yds.	NS	NS	NS	NS	NS	NS	157.50
15" x 50 yds.	NS	NS	NS	NS	NS	NS	196.88
18" x 50 yds.	NS	S	NS	NS	NS	NS	236.25
24" x 50 yds.	S	S	S	S	S	NS	315.00
30" x 50 yds.	S	S	S	S	S	NS	393.75
36" x 50 yds.	S	S	S	S	NS	NS	472.50
48" x 50 yds.	S	S	S	S	S	NS	630.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths.
24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

3M™ ElectroCut™ Engineer Grade Reflective Sheeting

Series 3260

Durable, enclosed lens reflective sheeting with pressure sensitive adhesive for use in electronic cutting apparatus. Intended for signs, copy and logos. Meets ASTM D 4956, Type I, Class 1.

\$ 2.05/sq. ft.

Size	3260 White	3261 Yellow	3262 Red	3265 Blue	3267 Green	Net Price Per Roll
15" x 50 yds.	NS	NS	NS	NS	NS	\$ 384.38
30" x 50 yds.	NS	NS	NS	NS	NS	768.75

Note that machines made by Gerber Scientific, Inc. require a slotted hole pattern.

S = Standard Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.
NS = Non Standard Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
C = Custom See Glossary in the front of this catalog.

3M™ Diamond Grade™ Fluorescent DG³ Sheeting

Series 4084

3M™ Diamond Grade™ DG³ Fluorescent Orange Series 4084 is a wide angle full cube prismatic reflective sheeting designed for use on rigid substrate work zone signs to provide high visual impact under nighttime and daytime driving conditions. Highly visible under nighttime and daytime driving conditions including low visibility periods such as dawn, dusk, and overcast days. **Exceeds ASTM D4956 Type XI specification.**

Additional Information:

- State-of-the-art "full cube" prismatic technology
- 100 percent efficient optical elements, returning 60% of available light – nearly double that of traditional prismatic
- Delivers optimal performance where and when drivers need it most
- Carries 3M's MCS™ (Matched Component System) Warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 4000 for full details

Rolls

\$ 5.60/sq. ft.

Size	4084 Fluorescent Orange	Net Price Per Roll
12" x 50 yds.	NS	\$ 840.00
18" x 50 yds.	NS	1,260.00
24" x 50 yds.	NS	1,680.00
30" x 50 yds.	NS	2,100.00
36" x 50 yds.	S	2,520.00
48" x 50 yds.	S	3,360.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths.
24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

Construction Work Zone
Rolls and Sheets

3M™ Diamond Grade™ Fluorescent Work Zone Sheeting

3924S Fluorescent Orange

Fluorescent orange micropismatic reflective sheeting with pressure sensitive adhesive for production of high quality work zone signs. Highly visible in daytime, twilight, inclement weather and at night. **Exceeds ASTM D4956-09 Type VIII, and ASTM 4956-07 Type VII, Type VIII and Type X standards.**

Additional Information:

- Highly visible at wide angles to approaching traffic and at long sight distances
- Approved in the U.S. Manual on Uniform Traffic Control Devices for all construction/maintenance work zone signs and devices
- Distinctive seal pattern assists work site inspection
- Suitable for rigid substrates
- Covered by 3M's MCS™ (matched component system) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 3924S for full details.

Rolls

\$ 3.45/sq. ft.

Size	3924S Fluorescent Orange	Net Price Per Roll
12" x 50 yds.	NS	\$ 517.50
24" x 50 yds.	S	1,035.00
30" x 50 yds.	S	1,293.75
36" x 50 yds.	S	1,552.50
48" x 50 yds.	S	2,070.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths.
24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

S = Standard Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.
NS = Non Standard Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
C = Custom See Glossary in the front of this catalog.

3M™ High Intensity Prismatic Reflective Sheeting

Series 3934 With Pressure Sensitive Adhesive

Non-metalized microprismatic lens reflective sheeting designed for production of reflective durable traffic control signs, work zone devices and delineators. Applied to properly prepared sign substrates, 3M High Intensity Prismatic Sheeting provides long-term reflectivity and durability, with an improved optical package to increase nighttime safety. Its unique prismatic construction provides a high level of retroreflectivity for multiple traffic control situations. Meets both ASTM D4956 Type III and Type IV specifications. See Product Bulletin 3930 for additional information.

Rolls

\$ 2.00/sq. ft.

Size	3934 Orange	Net Price Per Roll
12' x 50 yds.	NS	\$ 300.00
24' x 50 yds.	S	600.00
30' x 50 yds.	S	750.00
36' x 50 yds.	S	900.00
48' x 50 yds.	S	1,200.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths.

24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

3M™ Engineer Grade Work Zone Sheeting

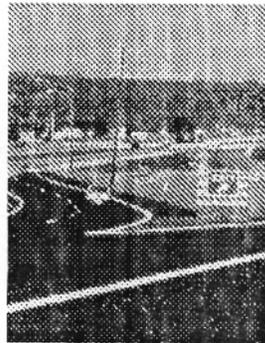
Series CW80

Enclosed lens reflective sheeting with universal pressure sensitive adhesive for wood, metal and plastic substrates, and polyethylene devices. Meets ASTM D 4956, Type 1, Class 1. See Product Bulletin CW80 for details.

Sign Sheeting and Drum Wrap

\$ 1.25/sq. ft.

Size	CW80 White	CW84 Orange	Net Price Per Roll
4' x 50 yds.	S	S	\$ 62.50
6' x 50 yds.	S	S	93.75
8' x 50 yds.	C	NS	125.00
12' x 50 yds.	NS	NS	187.50
18' x 50 yds.	C	NS	281.25
24' x 50 yds.	NS	S	375.00
30' x 50 yds.	NS	S	468.75
36' x 50 yds.	NS	S	562.50
48' x 50 yds.	NS	S	750.00


 Construction Work Zone
Rolls and Sheets

S = Standard

NS = Non Standard

C = Custom

Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.

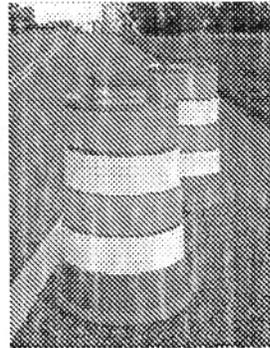
Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.

See Glossary in the front of this catalog.

3M™ Diamond Grade™ Work Zone Sheeting

Series 3910/3914

3M™ Diamond Grade™ Fluorescent orange and white highly reflective, wide angle, flexible, prismatic lens sheeting with pressure sensitive adhesive for use on reboundable, plastic substrate work zone traffic control devices such as drums.



Rolls \$ 6.55/sq. ft.

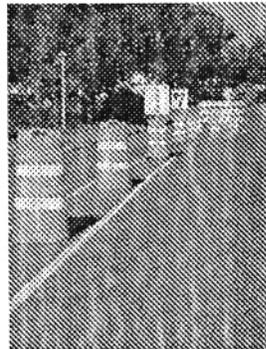
Size	3910 White	3914 Fluorescent Orange	Net Price Per Roll
4' x 50 yds.	S	S	\$ 327.50
6' x 50 yds.	S	S	491.25

Construction Work Zone Rolls and Sheets

3M™ Flexible Prismatic Work Zone Sheeting

Series 3300

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 ASTM D4956 Type III.



Additional Information:

- Designed for plastic and semi-flexible plastic work zone device substrates
- Flexible construction better absorbs impact to protect the integrity of the adhesive bond
- Withstands the rigors of work zone environments, such as impacts, scratching and gouging, as well as rough handling during transport and storage

\$ 2.64/sq. ft.

Size	3310 White	3311 Yellow	3314 Orange	Net Price Per Roll
3' x 50 yds.	S	S	NS	\$ 99.00
4' x 50 yds.	S	S	S	132.00
6' x 50 yds.	S	NS	S	198.00
18' x 50 yds.	NS	NS	NS	594.00
24' x 50 yds.	NS	NS	NS	792.00

For 3M™ Engineer Grade drum wrap see CW80 on page 10 for more information.

S = Standard Prepackaged finished goods material that is ready to ship to the customer in 1-2 days
NS = Non Standard Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
C = Custom See Glossary in the front of this catalog.

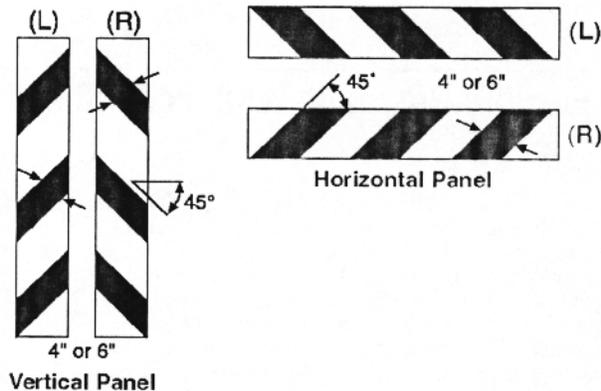
3M™ Flexible Prismatic Reflective Barricade Sheeting With Pressure Sensitive Adhesive

Series 3334/3336 Orange and White Work Zone Barricades

3M Flexible Prismatic Sheeting Series 3300 consists of impact resistant prismatic lens reflective sheeting precoated with pressure sensitive adhesive. It withstands the rigors of work zone environments, such as impacts, scratching and gouging, as well as rough handling during transport and storage. Series 3300 barricade sheeting is prestriped orange and is intended for reflectorizing work zone traffic control barricades. Series 3300 sheetings are designed for use on work zone substrates and detailed in Information Folder 1.7. See Product Bulletin 3300 for additional information. Exceeds ASTM D4956 Spec Type III and IV.

Prestriped Orange & White Barricade

Barricades with stripes beginning at the upper right side and sloping downward to the lower left side are to be designated as right (R) barricades. Right barricades are placed on the right side of the road and are designed to move traffic to the left. Barricade stripes beginning at the upper left side and sloping downward to the right side are to be designated as left (L) barricades. Left barricades are placed on the left side of the road and are designed to move traffic to the right. Barricade sheeting has alternating 4" or 6" orange and white stripes running diagonally across the sheeting at an angle of 45°.



\$ 1.95/sq. ft.

Size	3334L 4" Stripe/Left	3334R 4" Stripe/Right	3336L 6" Stripe/Left	3336R 6" Stripe/Right	Net Price Per Roll
6" x 50 yds.	NS	NS	NS	NS	\$ 146.25
7" x 50 yds.	NS	NS	NS	NS	170.63
7-3/4" x 50 yds.	S	S	S	S	188.91
8" x 50 yds.	S	S	S	S	195.00
10" x 50 yds.	NS	NS	NS	NS	243.75
11-3/4" x 50 yds.	NS	NS	NS	NS	286.41
12" x 50 yds.	S	S	S	S	292.50
24" x 50 yds.	NS	NS	NS	NS	585.00

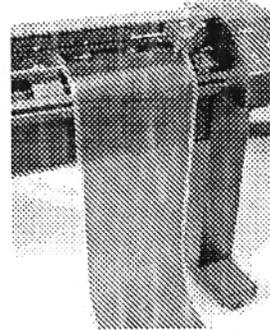
S = Standard Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.
 NS = Non Standard Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
 C = Custom See Glossary in the front of this catalog.

Construction Work Zone
Rolls and Sheets

3M™ ElectroCut™ Film (E.C.Film)

Series 1170

Transparent, acrylic, colored film with pressure sensitive adhesive for application over reflective sheeting to produce durable sign backgrounds, copy, or logos. Designed for use in electronic cutting apparatus.



Additional Information:

- Essential part of the 3M MCS™ (matched component system)
- Developed to provide optimal cutting, weeding, lifting, and transfer features when used with electronic cutting machines
- Available in both pre-punched and non-punched roll goods in a variety of widths and colors
- Dimensionally stable and intended for application over 3M™ reflective sheeting
- See Product Bulletin 1170 for detail

Size	\$ 1.38/sq. ft.							\$ 1.51/sq. ft.			
	1170 Clear	1171 Yellow	1172 Red	1175 Blue	1177 Green	1178 Black	1179 Brown	Non-Punched Net Price Per Roll	1171S Yellow	1172S Red	Punched Net Price Per Roll
9" x 50 yds.	NS	NS	NS	NS	NS	NS	NS	\$ 155.25			N/A
12" x 50 yds.	NS	NS	NS	NS	NS	NS	NS	207.00			N/A
15" x 50 yds.	NS	NS	NS	NS	NS	NS	NS	258.75	NS	S	\$ 283.13
18" x 50 yds.	NS	NS	NS	S	NS	NS	NS	310.50			N/A
24" x 50 yds.	NS	S	S	S	S	NS	NS	414.00			N/A
30" x 50 yds.	NS	S	S	S	S	NS	NS	517.50	NS	S	566.25
36" x 50 yds.	NS	S	S	S	S	S	S	621.00			N/A
48" x 50 yds.	NS	S	S	S	S	S	NS	828.00			N/A

Note: Pre-space with TPM-5 Clear Transfer Tape.

10 yard rolls are available at a 25% upcharge for widths listed above.

TPM-5 Clear Transfer Tape

Designed to be used to transfer prepositioned copy.



Product Roll or Sheet	Size	Net Price
TPM-5	4" x 100 yds.	\$ 36.00
TPM-5	6" x 100 yds.	54.00
TPM-5	9" x 100 yds.	81.00
TPM-5	12" x 100 yds.	108.00
TPM-5	18" x 100 yds.	162.00
TPM-5	24" x 100 yds.	216.00
TPM-5	30" x 100 yds.	270.00
TPM-5	36" x 100 yds.	324.00
TPM-5	48" x 100 yds.	432.00

S = Standard Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.
 NS = Non Standard Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
 N/A = Not Available this size punched

Durable Sign Sheeting
Rolls and Sheets

3M™ Flexible Prismatic Conspicuity Marking – DOT-C2

Series 963

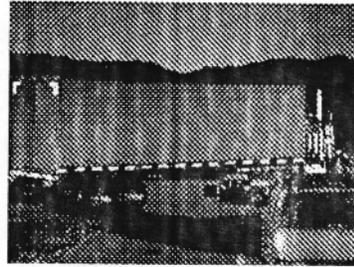
Highly reflective microprismatic lens sheeting with pressure sensitive adhesive for application to sides and rear of the large trucks, trailers, and other vehicles to increase their visibility, especially when the vehicle is turning or crossing roadways.

Additional Information:

- Exceeds NHTSA requirements.
- Reflective at wide angles to almost 90 degrees from perpendicular
- Pre-edge sealed for extra protection
- Aggressive pressure sensitive adhesive
- Easy to remove liner
- 5 year warranty
- With DOT mark
- Available in continuous and kiss-cut rolls
- See Product Bulletin for more information

Colors:

963-10	Silver
963-32	Red / Silver 11"/7"
963-326	Red / Silver 6"/6"
963-72	Red



Standard Rolls

\$ 3.45/sq. ft.

Product	Roll Size	Net Price Per Roll
All colors	1-1/2" x 50 yds.	\$ 64.69
All colors	2" x 50 yds.	86.25
All colors	3" x 50 yds.	129.38
All colors	4" x 50 yds.	172.50

Call for quote on other size rolls

Kiss-Cut Rolls*

\$ 3.45/sq. ft.

Product	Roll Size	Net Price
All colors	2" x 50 yds.	\$ 86.25

* Specify Kiss-cut Strip length

Accessories

Code	Size	Item	Net Price
RBA-1	None	Rivet Brush Applicator	\$ 8.41
391X	None	Air Release Tool	27.58
392X	None	Replacement Point	9.15
Rubber	2"	Hand Roller	18.19
SA-1	None	Low Friction Sleeve (100 Per Pkg)	32.17

3M™ Scotchlite™ Reflective Graphic Film Series 5100 and IJ5100-10

These 7-mil, enclosed lens, retroreflective films offer flexibility and excellent angularity. Use these long-term durable films for decals, commercial and non-regulated signage, vehicle markings, emblems and striping on vertical, flat or curved surfaces with or without rivets. Use film series 5100 for screen printing, film IJ5100-10 for inkjet printing, and film 5100-10 for electrostatic and thermal mass transfer printing.

Additional Information:

- Can be imaged by piezo ink jet printing.
- Electronic cuttable.
- Pressure sensitive adhesive.
- Vehicle bodies with simple curves.
- Excellent angular brightness.
- See product bulletins for specific recommendations.

Film Colors

Product	Basic Colors
5100-10	White
IJ5100-10	White

Product	Standard Colors
5100-14	Orange
5100-64	Gold
5100-65	Rich Gold
5100-71	Yellow
5100-72	Red
5100-74	Royal Purple
5100-75	Blue
5100-76	Light Blue
5100-77	Green
5100-78	Light Green
5100-79	Brown
5100-81	Lemon Yellow
5100-82	Ruby Red
5100-85	Black

Roll Size	Square Feet	Net Price	Basic Colors 5100-10 / IJ5100-10		Net Price	Standard Colors	
			C	D		C	D
15" x 10 yds.	37.5	\$ 81.64	\$ 55.52	\$ 53.88	\$ 88.38	\$ 60.10	\$ 58.33
24" x 10 yds.	60	130.63	88.82	86.21	141.40	96.16	93.32
30" x 10 yds.	75	163.28	111.03	107.77	176.75	120.20	116.66
48" x 10 yds.	120	261.25	177.65	172.43	282.80	192.31	186.65
15" x 50 yds.	187.5	408.21	277.58	269.42	441.88	300.49	291.64
24" x 50 yds.	300	653.13	444.12	431.07	707.01	480.78	466.62
30" x 50 yds.	375	816.41	555.15	538.84	883.76	600.98	583.28
48" x 50 yds.	600	1306.26	888.24	862.14	1414.02	961.56	933.24

Commercial Graphics

3M™ Scotchlite™ Reflective Graphic Film Series 5100R and IJ5100R-10

These 7-mil, removable, enclosed lens, retroreflective films offer flexibility and excellent angularity. Use these long-term durable films for decals, commercial and non-regulated signage, vehicle markings, emblems and striping on vertical, flat or curved surfaces with or without rivets. Use film series 5100R for screen printing, film IJ5100R for inkjet printing, and film 5100R-10 for electrostatic and thermal mass transfer printing.

Additional Information:

- Can be imaged by piezo ink jet.
- Electronic cuttable.
- Pressure sensitive adhesive.
- Vehicle bodies with simple curves.
- Excellent angular brightness.
- See product bulletins for specific recommendations.

Film Colors

Product	Basic Colors
5100R-10	White
IJ5100R-10	White

Product	Standard Colors
5100R-14	Orange
5100R-64	Gold
5100R-65	Rich Gold
5100R-71	Yellow
5100R-72	Red
5100R-74	Royal Purple
5100R-75	Blue
5100R-76	Light Blue
5100R-77	Green
5100R-78	Light Green
5100R-79	Brown
5100R-81	Lemon Yellow
5100R-82	Ruby Red
5100R-85	Black

Roll Size	Square Feet	Net Price	Basic Colors 5100R-10 / IJ5100R-10		Net Price	Standard Colors	
			C	D		C	D
15" x 10 yds.	37.5	\$ 109.29	\$ 74.31	\$ 72.13	\$ 118.03	\$ 80.26	\$ 77.90
24" x 10 yds.	60	174.86	118.90	115.40	188.85	128.42	124.64
30" x 10 yds.	75	218.57	148.63	144.26	236.06	160.52	155.81
48" x 10 yds.	120	349.72	237.80	230.81	377.70	256.84	249.29
15" x 50 yds.	187.5	546.43	371.57	360.64	590.16	401.31	389.51
24" x 50 yds.	300	874.29	594.51	577.02	944.25	642.09	623.22
30" x 50 yds.	375	1092.86	743.14	721.28	1180.31	802.61	779.03
48" x 50 yds.	600	1748.58	1189.02	1154.04	1888.50	1264.18	1246.44

* Punched rolls are available in 15 inch widths and 30 inch widths in 10 yard and 50 yard lengths at no additional charge.

3M™ Controltac™ Graphic Film with Comply™ Adhesive Series 180C

These 2-mil films offer great versatility along with slideable, repositionable pressure-activated adhesive. These long-term durable and removable films have excellent hiding power and stability, making them perfect for indoor and outdoor signs and fleet graphics, including surfaces with corrugations and rivets. Film series 180C with Comply adhesive also have air release channels for fast and easy bubble-free graphic installations. Film 180Cv2-10 (white only) features invisible air release channels. Use for screen printing.

All Plus Series 180C Custom Colored Films

Call for availability.

Film Colors

Product	Basic Colors-1
180C-10	White
180Cv2-10	White

Product	Basic Colors-2
180C-12	Black
180C-22	Matte Black
180C-114	Transparent

Product	Standard Colors
180C-13	Tomato Red
180C-14	Bright Orange
180C-15	Bright Yellow
180C-17	Vivid Blue
180C-23	Deep Red
180C-25	Sunflower
180C-27	Indigo
180C-31	Medium Gray
180C-37	Sapphire Blue
180C-47	Intense Blue
180C-53	Cardinal Red
180C-56	Dark Green
180C-57	Olympic Blue
180C-58	Burgundy
180C-63	Geranium
180C-98	Dark Violet
180C-120	Satin Aluminum
180C-131	Satin Gold
180C-186	Bright Green

3M™ Controllac™ Graphic Film with Comply™ Adhesive Series 180C**Basic Colors**

Prices in \$ per roll

Roll Size	Square Feet	Net Price	Basic Colors-1 180C-10 / 180Cv2-10		Net Price	Basic Colors-2 180C-12, -22, -114	
			C	D		C	D
1" x 50 yds.	12.5	\$ 18.87	\$ 12.83	\$ 12.46	\$ 19.54	\$ 13.28	\$ 12.89
2" x 50 yds.	25	37.75	25.67	24.91	39.07	26.57	25.79
3" x 50 yds.	37.5	56.62	38.50	37.37	58.61	39.85	38.68
4" x 50 yds.	50	75.49	51.33	49.82	78.14	53.14	51.57
5" x 50 yds.	62.5	94.36	64.16	62.28	97.68	66.42	64.46
6" x 50 yds.	75	113.24	77.00	74.73	117.21	79.70	77.36
7" x 50 yds.	87.5	132.11	89.83	87.19	135.75	92.99	90.25
8" x 50 yds.	100	150.98	102.66	99.64	155.28	106.27	103.14
9" x 50 yds.	112.5	169.85	115.49	112.10	175.82	119.55	116.03
10" x 50 yds.	125	188.73	128.33	124.55	195.35	132.04	128.93
11" x 50 yds.	137.5	207.60	141.16	137.01	214.89	146.12	141.82
12" x 50 yds.	150	226.47	153.99	149.46	234.42	159.41	154.71
13" x 50 yds.	162.5	245.34	166.82	161.92	253.96	172.69	167.60
14" x 50 yds.	175	264.22	179.66	174.37	273.49	185.97	180.50
15" x 50 yds.	187.5	283.09	192.49	186.83	293.03	199.26	193.39
16" x 50 yds.	200	301.96	205.32	199.28	312.56	212.54	206.28
17" x 50 yds.	212.5	320.83	218.15	211.74	332.10	225.82	219.17
18" x 50 yds.	225	339.71	230.99	224.19	351.63	239.11	232.07
19" x 50 yds.	237.5	358.58	243.82	236.65	371.17	252.39	244.96
20" x 50 yds.	250	377.45	256.65	249.10	390.70	265.68	257.85
21" x 50 yds.	262.5	396.32	269.48	261.56	410.24	278.96	270.74
22" x 50 yds.	275	415.20	282.32	274.01	429.77	292.24	283.64
23" x 50 yds.	287.5	434.07	295.15	286.47	449.31	305.53	296.53
24" x 50 yds.	300	411.75	279.99	271.77	426.21	289.83	281.31
25" x 50 yds.	312.5	471.81	320.81	311.38	488.38	332.09	322.31
26" x 50 yds.	325	490.69	333.65	323.83	507.91	345.38	335.21
27" x 50 yds.	337.5	509.56	346.48	336.29	527.45	358.66	348.10
28" x 50 yds.	350	528.43	359.31	348.74	546.98	371.95	360.99
29" x 50 yds.	362.5	547.30	372.14	361.20	566.52	385.23	373.88
30" x 50 yds.	375	566.18	384.98	373.65	586.05	398.51	386.78
31" x 50 yds.	387.5	585.05	397.81	386.11	605.59	411.80	399.67
32" x 50 yds.	400	603.92	410.64	398.56	625.12	425.08	412.56
33" x 50 yds.	412.5	622.79	423.47	411.02	644.66	438.36	425.45
34" x 50 yds.	425	641.67	436.31	423.47	664.19	451.65	438.35
35" x 50 yds.	437.5	660.54	449.14	435.93	683.73	464.93	451.24
36" x 50 yds.	450	617.63	419.99	407.66	639.32	434.75	421.97
37" x 50 yds.	462.5	698.28	474.80	460.84	722.80	491.50	477.02
38" x 50 yds.	475	717.16	487.64	473.29	742.33	504.78	489.92
39" x 50 yds.	487.5	736.03	500.47	485.75	761.87	518.07	502.81
40" x 50 yds.	500	754.90	513.30	498.20	781.40	531.35	515.70
41" x 50 yds.	512.5	773.77	526.13	510.66	800.94	544.63	528.59
42" x 50 yds.	525	792.65	538.97	523.11	820.47	557.92	541.49
43" x 50 yds.	537.5	811.52	551.80	535.57	840.01	571.20	554.38
44" x 50 yds.	550	830.39	564.63	548.02	859.54	584.49	567.27
45" x 50 yds.	562.5	849.26	577.46	560.48	879.08	597.77	580.16
46" x 50 yds.	575	868.14	590.30	572.93	898.61	611.05	593.06
47" x 50 yds.	587.5	887.01	603.13	585.39	918.15	624.34	605.95
48" x 50 yds.	600	905.88	615.96	597.84	937.68	637.62	618.84
24" x 100 yds.	600	823.50	559.98	543.54	852.42	579.66	562.62
36" x 100 yds.	900	1235.25	839.97	815.31	1278.63	869.49	843.93
48" x 100 yds.	1200	1647.00	1119.96	1087.08	1704.84	1159.32	1125.24

Call for availability of 60" width.

**3M™ Controltac™ Graphic Film with Comply™ Adhesive Series 180C
Standard Colors**

Prices in \$ per roll

Roll Size	Square Feet	Net Price	Standard Colors 180C	
			C	D
1" x 50 yds.	12.5	\$ 22.97	\$ 15.62	\$ 15.16
2" x 50 yds.	25	45.95	31.25	30.33
3" x 50 yds.	37.5	68.92	46.87	45.49
4" x 50 yds.	50	91.90	62.49	60.65
5" x 50 yds.	62.5	114.87	78.11	75.81
6" x 50 yds.	75	137.84	93.74	90.98
7" x 50 yds.	87.5	160.82	109.36	106.14
8" x 50 yds.	100	183.79	124.98	121.30
9" x 50 yds.	112.5	206.76	140.60	136.46
10" x 50 yds.	125	229.74	156.23	151.63
11" x 50 yds.	137.5	252.71	171.85	166.79
12" x 50 yds.	150	275.69	187.47	181.95
13" x 50 yds.	162.5	298.66	203.09	197.11
14" x 50 yds.	175	321.63	218.72	212.28
15" x 50 yds.	187.5	344.61	234.34	227.44
16" x 50 yds.	200	367.58	249.96	242.60
17" x 50 yds.	212.5	390.55	265.58	257.76
18" x 50 yds.	225	413.53	281.21	272.93
19" x 50 yds.	237.5	436.50	296.83	288.09
20" x 50 yds.	250	459.48	312.45	303.25
21" x 50 yds.	262.5	482.45	328.07	318.41
22" x 50 yds.	275	505.42	343.70	333.58
23" x 50 yds.	287.5	528.40	359.32	348.74
24" x 50 yds.	300	501.24	340.83	330.81
25" x 50 yds.	312.5	574.34	390.56	379.06
26" x 50 yds.	325	597.32	406.19	394.23
27" x 50 yds.	337.5	620.29	421.81	409.39
28" x 50 yds.	350	643.27	437.43	424.55
29" x 50 yds.	362.5	666.24	453.05	439.71
30" x 50 yds.	375	689.21	468.68	454.88
31" x 50 yds.	387.5	712.19	484.30	470.04
32" x 50 yds.	400	735.16	499.92	485.20
33" x 50 yds.	412.5	758.13	515.54	500.36
34" x 50 yds.	425	781.11	531.17	515.53
35" x 50 yds.	437.5	804.08	546.79	530.69
36" x 50 yds.	450	751.86	511.25	496.22
37" x 50 yds.	462.5	850.03	578.03	561.01
38" x 50 yds.	475	873.00	593.66	576.18
39" x 50 yds.	487.5	895.98	609.28	591.34
40" x 50 yds.	500	918.95	624.90	606.50
41" x 50 yds.	512.5	941.92	640.52	621.66
42" x 50 yds.	525	964.90	656.15	636.83
43" x 50 yds.	537.5	987.87	671.77	651.99
44" x 50 yds.	550	1010.85	687.39	667.15
45" x 50 yds.	562.5	1033.82	703.01	682.31
46" x 50 yds.	575	1056.79	718.64	697.48
47" x 50 yds.	587.5	1079.77	734.26	712.64
48" x 50 yds.	600	1002.48	681.66	661.62
24" x 100 yds.	600	1002.48	681.66	661.62
36" x 100 yds.	900	1503.72	1022.49	992.43
48" x 100 yds.	1200	2004.96	1363.32	1323.24

Non-standard widths subject to standard slitting fee.

3M™ Scotchcal™ ElectroCut™ Graphic Film Series 7725

Film series 7725 are 2 mil, pressure-sensitive films designed for permanent graphics that may be prespaced and electronically cut, screen printed or used in narrow width thermal transfer printing systems. These films which are the same color on both sides have a transparent synthetic liner that resists moisture absorption and static buildup, lays flat for easier assembly of multicolor graphics, and allows superior cutting and weeding. This film is available in 62 colors.

All Series 7725 Custom Colored Films

Call for availability.

Film Colors

Product	Basic Colors
7725-10	White
7725-12	Black
7725-20	Matte White
7725-22	Matte Black
7725-114	Transparent

Product	Standard Colors
7725-11	Pearl Gray
7725-13	Tomato Red
7725-14	Bright Orange
7725-15	Bright Yellow
7725-17	Vivid Blue
7725-19	Deep Mahogany Brown
7725-25	Sunflower
7725-29	Russet Brown
7725-31	Medium Gray
7725-37	Sapphire Blue
7725-41	Dark Gray
7725-46	Kelly Green
7725-47	Intense Blue
7725-49	Beige
7725-53	Cardinal Red
7725-54	Light Orange
7725-56	Dark Green
7725-57	Olympic Blue
7725-58	Burgundy
7725-63	Geranium
7725-66	Forest Green
7725-120	Satin Aluminum
7725-131	Satin Gold
7725-186	Bright Green
7725-196	Apple Green
7725-197	Light Navy
7725-263	Perfect Match Red
7725-276	Bottle Green

Some colors available in 60" width - Call for availability.

Maximum length is 250 yards. There is no additional charge for slitting and sheeting full web width.

3M™ Scotchcal™ ElectroCut™ Graphic Film Series 7725**Basic Colors (7725-10, -12, -20, -22, -114)**

Roll Size	Square Feet	Net Price	C	D
1" x 50 yds.	12.5	\$ 16.94	\$ 11.52	\$ 11.18
2" x 50 yds.	25	33.87	23.03	22.36
3" x 50 yds.	37.5	50.81	34.55	33.53
4" x 50 yds.	50	67.75	46.07	44.71
5" x 50 yds.	62.5	84.68	57.58	55.89
6" x 50 yds.	75	101.62	69.10	67.07
7" x 50 yds.	87.5	118.55	80.61	78.24
8" x 50 yds.	100	135.49	92.13	89.42
9" x 50 yds.	112.5	152.43	103.65	100.60
10" x 50 yds.	125	169.36	115.16	111.78
11" x 50 yds.	137.5	186.30	126.68	122.95
12" x 50 yds.	150	203.24	138.20	134.13
13" x 50 yds.	162.5	220.17	149.71	145.31
14" x 50 yds.	175	237.11	161.23	156.49
15" x 50 yds.	187.5	230.94	157.05	152.42
16" x 50 yds.	200	270.98	184.26	178.84
17" x 50 yds.	212.5	287.92	195.78	190.02
18" x 50 yds.	225	304.85	207.29	201.20
19" x 50 yds.	237.5	321.79	218.81	212.37
20" x 50 yds.	250	307.93	209.40	203.23
21" x 50 yds.	262.5	355.66	241.84	234.73
22" x 50 yds.	275	372.60	253.36	245.91
23" x 50 yds.	287.5	389.53	264.87	257.08
24" x 50 yds.	300	369.51	251.28	243.87
25" x 50 yds.	312.5	423.41	287.91	279.44
26" x 50 yds.	325	440.34	299.42	290.62
27" x 50 yds.	337.5	457.28	310.94	301.79
28" x 50 yds.	350	474.22	322.46	312.97
29" x 50 yds.	362.5	491.15	333.97	324.15
30" x 50 yds.	375	461.89	314.10	304.84
31" x 50 yds.	387.5	525.02	357.00	346.50
32" x 50 yds.	400	541.96	368.52	357.68
33" x 50 yds.	412.5	558.90	380.04	368.86
34" x 50 yds.	425	575.83	391.55	380.04
35" x 50 yds.	437.5	592.77	403.07	391.21
36" x 50 yds.	450	554.27	376.92	365.81
37" x 50 yds.	462.5	626.64	426.10	413.57
38" x 50 yds.	475	643.58	437.62	424.75
39" x 50 yds.	487.5	660.51	449.13	435.92
40" x 50 yds.	500	677.45	460.65	447.10
41" x 50 yds.	512.5	694.39	472.17	458.28
42" x 50 yds.	525	711.32	483.68	469.46
43" x 50 yds.	537.5	728.26	495.20	480.63
44" x 50 yds.	550	745.20	506.72	491.81
45" x 50 yds.	562.5	762.13	518.23	502.99
46" x 50 yds.	575	779.07	529.75	514.17
47" x 50 yds.	587.5	796.00	541.26	525.34
48" x 50 yds.	600	739.02	502.56	487.74

Maximum length: 250 yards, 200 yards premasked.
 Custom Color Matched Film: Custom color matched films are available in
 this product line. Please request availability.

Some colors available in 60" widths - Call for availability.
 Rolls longer than 100 yards are available in 50 yard increments.
 Rolls 100 yds., 150 yds., 200 yds., and 250 yds. in length receive
 5% discount.

3M™ Scotchcal™ ElectroCut™ Graphic Film Series 7725**Standard Colors**

Roll Size	Square Feet	Net Price	C	D
1" x 50 yds.	12.5	\$ 19.68	\$ 13.36	\$ 12.99
2" x 50 yds.	25	39.36	26.76	25.98
3" x 50 yds.	37.5	59.03	40.14	38.96
4" x 50 yds.	50	78.71	53.53	51.95
5" x 50 yds.	62.5	98.39	66.91	64.94
6" x 50 yds.	75	118.07	80.29	77.93
7" x 50 yds.	87.5	137.74	93.67	90.91
8" x 50 yds.	100	157.42	107.05	103.90
9" x 50 yds.	112.5	177.10	120.43	116.89
10" x 50 yds.	125	196.78	133.81	129.88
11" x 50 yds.	137.5	216.45	147.19	142.86
12" x 50 yds.	150	236.13	160.58	155.85
13" x 50 yds.	162.5	255.81	173.96	168.84
14" x 50 yds.	175	275.49	187.34	181.83
15" x 50 yds.	187.5	268.33	182.46	177.09
16" x 50 yds.	200	314.04	214.10	207.80
17" x 50 yds.	212.5	334.52	227.48	220.79
18" x 50 yds.	225	354.20	240.86	233.78
19" x 50 yds.	237.5	373.87	254.24	246.76
20" x 50 yds.	250	357.78	243.28	236.13
21" x 50 yds.	262.5	413.23	281.01	272.74
22" x 50 yds.	275	432.91	294.39	285.73
23" x 50 yds.	287.5	452.59	307.77	298.71
24" x 50 yds.	300	429.33	291.93	283.35
25" x 50 yds.	312.5	491.94	334.53	324.69
26" x 50 yds.	325	511.62	347.91	337.68
27" x 50 yds.	337.5	531.29	361.29	350.66
28" x 50 yds.	350	550.97	374.68	363.65
29" x 50 yds.	362.5	570.65	388.06	376.64
30" x 50 yds.	375	536.66	364.91	354.19
31" x 50 yds.	387.5	610.00	414.82	402.61
32" x 50 yds.	400	629.68	428.20	415.60
33" x 50 yds.	412.5	649.36	441.58	428.59
34" x 50 yds.	425	669.04	454.96	441.58
35" x 50 yds.	437.5	688.71	468.34	454.56
36" x 50 yds.	450	644.00	437.90	425.03
37" x 50 yds.	462.5	728.07	495.11	480.54
38" x 50 yds.	475	747.75	508.49	493.53
39" x 50 yds.	487.5	767.42	521.87	506.51
40" x 50 yds.	500	787.10	535.25	519.50
41" x 50 yds.	512.5	806.78	548.63	532.49
42" x 50 yds.	525	826.46	562.01	545.48
43" x 50 yds.	537.5	846.13	575.39	558.46
44" x 50 yds.	550	865.81	588.78	571.45
45" x 50 yds.	562.5	885.49	602.16	584.44
46" x 50 yds.	575	905.17	615.54	597.43
47" x 50 yds.	587.5	924.84	628.92	610.41
48" x 50 yds.	600	858.66	583.86	566.70

Maximum length: 250 yards, 200 yards premasked.

Custom Color Matched Film: Custom color matched films are available in this product line. Please request availability.

Some colors available in 60" widths - Call for availability.

Rolls longer than 100 yards are available in 50 yard increments.

Rolls 100 yds., 150 yds., 200 yds., and 250 yds. in length receive 5% discount.

3M™ Application Tapes and Liners – Unapplied

Premasking Tapes - Unapplied (SCPM-3, SCPM-19, SCPM-44X)

Product Roll or Sheet	Square Feet	Net Price	C	D
SCPM-3, -44X	24" x 100 yds.	132.24	89.94	87.30
SCPM-44X	30" x 100 yds.	165.30	112.43	109.13
SCPM-3, -44X	36" x 100 yds.	198.36	134.91	130.95
SCPM-3, -19, -44X	48" x 100 yds.	264.48	179.88	174.60
SCPM-44X	54" x 100 yds.	297.54	202.37	196.43
SCPM-3, -44X	60" x 100 yds.	330.60	224.85	218.25
SCPM-3, -44X	24" x 250 yds.	330.60	224.85	218.25
SCPM-3, -44X	36" x 250 yds.	495.90	337.28	327.38
SCPM-3, -44X	48" x 250 yds.	661.20	449.70	436.50
SCPM-3, -44X	60" x 250 yds.	826.50	562.13	545.63

SCPS-2 Prespacing Tape

Product Roll or Sheet	Square Feet	Net Price	C	D
SCPS-2	24" x 100 yds.	\$ 132.24	\$ 89.94	\$ 87.30
SCPS-2	30" x 100 yds.	165.30	112.43	109.13
SCPS-2	36" x 100 yds.	198.36	134.91	130.95
SCPS-2	48" x 100 yds.	264.48	179.88	174.60
SCPS-2	24" x 250 yds.	330.60	224.85	218.25

SCPS-53X Prespacing Tape

Product Roll or Sheet	Square Feet	Net Price	C	D
SCPS-53X	24" x 100 yds.	\$ 138.78	\$ 94.38	\$ 91.62
SCPS-53X	36" x 100 yds.	208.17	141.57	137.43
SCPS-53X	48" x 100 yds.	277.56	188.76	183.24

3M™ Application Tapes – Applied

SCPM-3 Premasking Tape

Product Roll or Sheet	Net Price	C	D
All listed widths	\$/Sq. Ft.	\$ 0.21	\$ 0.21



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 ¹	
	0.2°	0.5°
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 ¹	
	0.2°	0.5°
White	170	72
Orange	68	28
Yellow	135	54
Orange/White	68/170	28/72
Red/White	30/170	13/72

¹Observation Angle - The angle between the illumination axis and the observation axis.

Table II - CIE Chromaticity Coordinate Limits² 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

²The 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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Fluorescent Orange Prismatic Work Zone Sheeting

Series 3924S Sheeting With Pressure Sensitive Adhesive

Product Bulletin 3924S

October 2007

Description

3M™ Fluorescent Prismatic Reflective Sheeting Series 3924S is a prismatic lens 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 Sheeting

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.²

²The 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_A)

The values in Table B are minimum coefficients of retroreflection expressed in candelas per lux per square meter (cd/lux/m²).

Table A - CIE Daytime Chromaticity Coordinate Limits¹

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

¹The 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_A limits in Table B.

Table B - Minimum Coefficient of Retroreflection R_A for new fluorescent sheeting (cd/lux/m²)

-4° Entrance Angle ³	Observation Angle ²	
	0.2°	0.5°
Orange	230	75

30° Entrance Angle ³	Observation Angle ²	
	0.2°	0.5°
Orange	130	41

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

³Entrance (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.

Test Methods of Adhesive and Film Standard Test Panels

Unless otherwise specified, the reflective sheeting shall be applied according to the manufacturer's recommendations to smooth 0.063 inches (1.6mm) minimum thickness 6061-T6, 5052-H38 or equivalent aluminum panels that have been degreased and lightly acid etched. Lack of contamination of test panels must be confirmed by passing the water break test and tape snap test as described in Information Folder 1.7.

Properties

Standard Conditioning - all mounted and unmounted test specimens shall be conditioned for 24 hours at 73°F +/- 2°F (23°C +/- 1°C) and 50% +/- 4% R.H. before testing.

1. Adhesion

Test Weight 1-3/4 lbs. (0.8 kg) Test Method - Apply 4 inches (10cm) of 1 inch x 6 inch (2.54x15cm) strip to panel and condition, face panel down and suspend test weight from free end. Requirement - Not more than 2 inches (5.0cm) of peel in 5 minutes.

2. Impact Resistance

Test Method - Apply sheeting to a standard panel 3 inch x 6 inch (7.6x15.2cm) and condition. Subject sheeting to a 50-inch pounds (5.7Nm) impact in accordance with ASTM D-2794. Requirement - No separation from panel or cracking outside immediate impact area.

3. Shrinkage

Test Method - Following conditioning of 9 inch x 9 inch samples, remove liner, place specimen on flat surface with adhesive side up. Requirement - Shrinkage not greater than 1/32 inch (0.8mm) in 10 minutes or more than 1/8 inch (3.2mm) in 24 hours in any dimension.

4. Gloss

Test Method - Test in accordance with ASTM D523 using an 85° glossmeter. Requirement - Rating not less than 50.

5. Optical Stability

Test Method - Apply sheeting to standard panel and condition. Measure coefficients of retroreflection for all test geometries. Expose panel in an air circulating oven at 160 +/- 5°F (71 +/- 3°C) for a period of 24 hours. Re-condition after exposure and re-measure at all test geometries.

Requirement - Coefficients of retroreflection measured after exposure shall be between 85% and 115% of the values measured before exposure.

Sign Fabrication Methods

Application

3M™ Fluorescent Prismatic Reflective Sheeting 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. Application of sheeting for complete signs or backgrounds must be done with a roll laminator, either mechanical or hand. See Information Folder 1.5 for more details.

Hand applications will show some visual irregularities that 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.

Splices

Series 3924S sheeting should 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 at the splice and a gap of up to 1/16 inch is acceptable. This is to prevent buckling as the sheeting expands in extreme temperature/humidity exposure. If the visual appearance of the splice is important or a slight gap is undesirable, the following procedures must be followed:

1. Overlap the sheeting at least one inch, with or without the liner attached.
2. Using a straight edge and a sharp utility knife, cut through both layers of reflective sheeting.
3. Peel back and remove cut remnants. If liner was left on, remove and roll down remaining sheeting.
4. Seal edge with thinned 4430R Clear using a fine artist paintbrush.

Substrates

For traffic sign use, product application is limited to properly prepared aluminum, high or medium density plywood and approved plastic substrates (see Information Folder 1.7). Users are urged to carefully evaluate all other substrates for adhesion and sign durability. Series 3924S sheeting is designed primarily for application 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 essential, 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.

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 880 (see Product Bulletin 880I). Series 880 process colors can

be screen processed 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. Use of other process colors series is not recommended. 3M assumes no responsibility for failure of sign face legends or backgrounds that have been processed with non-3M process colors or 3M process colors other than those listed above.

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.

Cutting and Matching

The sheeting may be hand cut or die cut one sheet at a time, and band sawed or guillotined in stacks. Series 3924S sheeting can be hand cut from either side with a razor blade or other sharp hand tool. Like all reflective sheetings, when two or more pieces are used side by side on a sign, they must be matched to assure uniform day color and night appearance.

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 1-1/2 inch or 50 sheets. Details on cutting can be found in Information Folder 1.10.

Edge sealing Series 3924S sheeting is generally not required. Following extended exposure, airborne dust particles may become trapped within the row of cut cells along the sheeting edge. This should have no adverse effect on sign performance. If the user chooses to edge seal, series 880I toner should be used.

Cleaning

Signs that require cleaning should be flushed with water and then washed with a detergent solution and 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.

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 signs must be protected by the plastic adhesive liner, smooth glossy side against the face of the sign. Pad the face with closed cell packaging foam. Double-faced signs must have the glossy side of the liner against each face of the sign.

Unmounted screened faces must be stored flat and interleaved with the adhesive liner, 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.

See Information Folder 1.11 for instructions on packing for storage and shipment.

Installation

Nylon washers are recommended between the heads of all twist fasteners (such as screw heads, bolts, or nuts) and the sheeting to protect the sheeting from the twisting action of the bolt heads.

General Performance Considerations

The durability of 3M™ Fluorescent Orange Prismatic Grade Reflective Sheeting Series 3924S will depend upon substrate selection and preparation, compliance with recommended application procedures, geographic area, exposure conditions, and maintenance.

Maximum durability of series 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 on Sign Substrate Surface Preparation.

The user must determine the suitability of any nonmetallic sign backing for its intended use.

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™ ElectroCut™ Film Series 1170, Series 3650, Series 7720 and Series 7725 Scotchcal™ Vinyl can be expected to perform satisfactorily for the life of the sign when direct applied to series 3924S sheeting.

Warranty

3M warrants that 3M™ Fluorescent Work Zone Sheeting Series 3924S sold by 3M to be used as components for traffic control devices used in work zones in the United States and Canada will remain effective for its intended use and meet the stated minimum values noted in Table C for three years, subject to the following provisions:

- R_A shall be measured per ASTM E810.
- All measurements shall be made after cleaning according to 3M recommendations.

If a 3M 3924S fluorescent sign surface is processed and applied to sign blank materials in accordance with all 3M application and fabrication procedures found in 3M's product bulletins, information folders and technical memos (which will be furnished to the agency upon request), including the exclusive use of 3M matched component systems, process colors, electronic cuttable films, protective overlay films, and recommended application equipment; and

If the sign deteriorates due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night driving conditions by a driver with normal vision; or (2) the coefficient of retroreflection, after cleaning is less than the minimum specified in Table C; or (3) the luminance factor after cleaning is less than the minimum

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 ² at -4° Entrance Angle		Minimum Luminance Factor (Y)
	Observation		%
Color	Angle	R_A	
Orange	0.2	115	25

specified in Table C, 3M's sole responsibility and the purchaser's and user's sole remedy shall be that 3M will provide pro-rated replacement of the 3M materials.

Conditions

Such failure must be solely the result of design or manufacturing defects in the prismatic reflective sheeting and not of outside causes such as: improper fabrication, handling, maintenance or installation; use of process colors, thinners, coatings, or overlay films and sheetings not made by 3M; use of application equipment not recommended by 3M; failure of sign substrate; exposure to chemicals, abrasion and other mechanical damage from fasteners used to mount the sign; sign burial; collisions, vandalism or malicious mischief.

3M reserves the right to determine the method of replacement. Replacement sheeting will carry the unexpired warranty of the sheeting it replaces.

Claims made under this warranty will be honored only if the signs have been dated at the time of sheeting application, which constitutes the start of the warranty period. Claims made under this warranty will be honored only if 3M is notified of a failure within a reasonable time, reasonable information requested by 3M is provided, and 3M is permitted to verify the cause of the failure.

Limitation of Liability and Remedies

3M's liability under this warranty is limited to replacement or allowance as stated herein, and 3M assumes no liability for incidental or consequential damages such as lost profits, business or revenue in any way related to the product regardless of the legal theory on which the claim is based.

THIS WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY, OF FITNESS FOR A PARTICULAR PURPOSE, ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING OR OF PERFORMANCE, CUSTOM OR USAGE OF TRADE.

Health and Safety Information

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

Literature

- IF 1.3 Instructions for Squeeze Roll Applicator
- IF 1.5 Hand Application Instructions
- IF 1.6 Instructions for Hand Squeeze Roll Applicator
- IF 1.7 Sign Base Materials
- IF 1.8 Color Application Instructions
- IF 1.10 Cutting, Matching, Premasking, and Prespacing Instructions
- IF 1.11 Storage Maintenance, and Removal Instructions

"Standard Highway Signs, As Specified in the Manual on Uniform Traffic Control Devices", U.S. Department of Transportation, Federal Highway Administration, 1979.

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**

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 2012

Replaces PB 3930 dated Aug. 2008

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
Color – TT Series	Product Code
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.²

²The 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_s)

The values in Table B are minimum coefficients of retroreflection expressed in candelas per lux per square meter (cd/lux/m²).

Table A - Daytime Color Specification Limits¹

Color	x		y		x		y		Daytime Luminance Limit	
	x	y	x	y	x	y	x	y	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	

¹The 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/m²)

	Observation Angle ⁴	
	0.2°	0.5°
- 4° Entrance Angle³		
White	560	200
Yellow	420	150
Red	84	30
Orange	210	75
Green	56	20
Blue	28	10
Brown	17	6
30° Entrance Angle³		
	0.2°	0.5°
White	280	100
Yellow	210	75
Red	42	15
Orange	105	37
Green	28	10
Blue	14	5
Brown	8.4	3

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

⁴ 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).

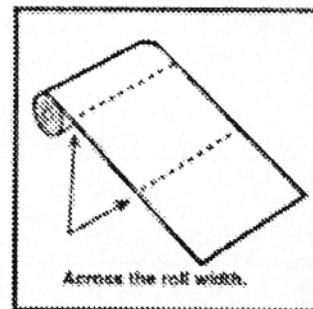


Figure 1 - Fabrication Lines

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 $71^\circ\text{C} \pm 3^\circ\text{C}$ ($160^\circ\text{F} \pm 5^\circ\text{F}$) for 24 hours followed by conditioning at standard conditions for 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 squeezeed 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.

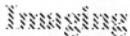
Substrates

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.



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 1/2 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

1. 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/m²) (0.2° observation and -4° entrance)

Warranty Period	Minimum R _A
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

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

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Diamond Grade™ DG³ Reflective Sheeting Series 4000

Product Bulletin 4000

January 2012

Description

3M™ Diamond Grade™ DG³ 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. DG³ sheeting is designed to have the highest retroreflective characteristics at medium and short road distances as determined by the R_a 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 DG³ fluorescent reflective sheeting provides higher visibility than ordinary (non-fluorescent) colored sheetings.

Applied to properly prepared sign substrates Diamond Grade DG³ 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.²

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.²

Table A - Daytime Color Specification Limits¹

Color	x		y		x		y		Daytime Luminance Limit (Y%)	
	x	y	x	y	x	y	x	y	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	

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

²The 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_A)

The values in Table B are minimum coefficients of retroreflection expressed in candelas per lux per square meter (cd/lux/m²).

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 sheeting (cd/lux/m²)

-4° Entrance Angle ³	Observation Angle ⁴		
	0.2°	0.5°	1.0°
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
30° Entrance Angle ³	0.2°	0.5°	1.0°
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

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

⁴Observation 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 DG³ 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)

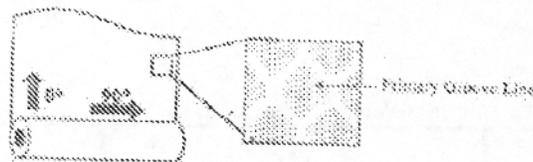


Figure 1

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 DG³ 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).

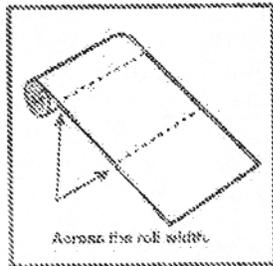


Figure 2 - Fabrication Lines

Adhesive

Diamond Grade DG³ 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, DG³ 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° C ± 3° C (160°F ± 5°F) for 24 hours followed by conditioning at standard conditions for two 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

Diamond Grade DG³ 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 DG³ 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 DG³ 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 DG³ 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 DG³ 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 DG³ sheeting before and especially after screening to eliminate the possibility of cracking from improper handling techniques.

Thermal Transfer Printing

Diamond Grade DG³ 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 DG³ sheeting. Refer to Product Bulletin 1170 for fabrication procedures.

Applied Cut-Out Copy

Diamond Grade DG³ cut letters may be applied to a DG³ 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 DG³ 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 DG³ 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 DG³ 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 DG³ 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 DG³ 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 DG³ 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™ DG³ 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 DG³ 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™ DG³ 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_A for applicable Warranty Period for Ordinary Colors (white, yellow, red, green, blue and brown)

Warranty Period	Minimum Percentage R _A 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 ⁵
Fluorescent Yellow Green	10/7 Years ⁵
Fluorescent Orange	3 Years

⁵ 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

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3M™ Diamond Grade™ Fluorescent DG3 Reflective Sheeting

4081 Fluorescent Yellow

Fluorescent yellow microprismatic reflective sheeting with pressure sensitive adhesive backing. Highly visible in daytime, nighttime, and inclement weather as well as at night. Performs at wide entrance and observation angles. Exceeds ASTM D4956 Type XI specifications.

Additional Information:

- Fluorescent yellow meets all of the color specifications for yellow traffic control signs and devices
- Highly visible in the viewing range from 200 to 600 feet
- Ideal for signs that must be seen at relatively short viewing distances
- Covered by 3M's MCS™ (Matched Component System) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 4090 for full details

Rolls	4081 Fluorescent Yellow	Net Price Per Roll
12' x 50 yds.	NS	\$ 822.50
16' x 50 yds.	NS	1,260.00
24' x 50 yds.	S	2,100.00
36' x 50 yds.	S	2,350.00
48' x 50 yds.	S	3,380.00

10 yard rolls are available at a 25% upcharge for 36' and 48' widths.
24' x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

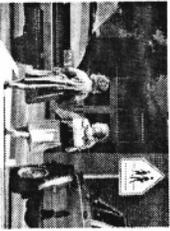
3M™ Diamond Grade™ Fluorescent DG3 Reflective Sheeting

4083 Fluorescent Yellow Green

Fluorescent yellow green microprismatic reflective sheeting with pressure sensitive adhesive backing. Highly visible in daytime, nighttime, and inclement weather as well as at night. Performs at wide entrance and observation angles. Exceeds ASTM D4956 Type XI specifications.

Additional Information:

- Fluorescent yellow green color approved in U.S. for signs warning of the presence of non-surfaced traffic – school zone, pedestrian and bicyclist crossing signs
- Highly visible in the viewing range from 200 to 600 feet
- Ideal for signs that must be seen at relatively short viewing distances
- Covered by 3M's MCS™ (Matched Component System) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 4090 for full details



Rolls	4083 Fluorescent Yellow Green	Net Price Per Roll
6' x 50 yds.	NS	\$ 420.00
12' x 50 yds.	NS	840.00
18' x 50 yds.	NS	1,260.00
24' x 50 yds.	S	1,680.00
30' x 50 yds.	S	2,100.00
36' x 50 yds.	S	2,320.00
48' x 50 yds.	S	3,360.00

10 yard rolls are available at a 25% upcharge for 36' and 48' widths.
24' x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

Durable Sign Sheeting Rolls and Sheets

Durable Sign Sheeting Rolls and Sheets

3M™ Diamond Grade™ DG3 Reflective Sheeting

Series 4090

Highly reflective, durable, microprismatic lens sheeting with pressure sensitive adhesive. Performs at all sight distances – short, medium and long – and where signs are positioned in disadvantaged locations such as overhead or left shoulder. Signs are highly visible, even in visually complex nighttime roadway environments. Exceeds ASTM D4956 Type XI specifications.

Additional Information:

- State-of-the-art "full cube" prismatic technology
- 100 percent efficient optical elements, returning 60% of available light – nearly double that of traditional prismatic
- Delivers optimal performance where and when drivers need it most
- Carnis 3M's MCS™ (Matched Component System) Warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 4900 for full details



Rolls	4090 White	4091 Yellow	4092 Red	4095 Blue	4097 Green	4099 Brown	Net Price Per Roll
6' x 50 yds.	NS	NS	NS	NS	NS	NS	\$ 515.6
12' x 50 yds.	NS	NS	NS	NS	NS	NS	687.5
18' x 50 yds.	NS	NS	NS	NS	NS	NS	1,025.25
24' x 50 yds.	S	NS	NS	NS	NS	NS	1,375.00
30' x 50 yds.	S	NS	NS	NS	NS	NS	2,062.25
36' x 50 yds.	S	NS	NS	NS	NS	NS	4,125.00
48' x 50 yds.	S	NS	NS	NS	NS	NS	6,187.5
12' x 50 yds.	NS	NS	NS	NS	NS	NS	625.00
18' x 50 yds.	NS	NS	NS	NS	NS	NS	875.56
24' x 50 yds.	S	NS	NS	NS	NS	NS	1,297.50
30' x 50 yds.	S	NS	NS	NS	NS	NS	1,650.00
36' x 50 yds.	S	NS	NS	NS	NS	NS	2,625.00
48' x 50 yds.	S	NS	NS	NS	NS	NS	2,475.00
							3,300.00

10 yard rolls are available at a 25% upcharge for 36' and 48' widths.
24' x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

3M™ Diamond Grade™ Translucent DG3 Reflective Sheeting

Series 4090T

A wide angle prismatic lens translucent reflective sheeting designed for the production of internally illuminated traffic control signs.

Rolls	4090T White	Net Price Per Roll
18' x 50 yds.	NS	\$ 1,350.00
24' x 50 yds.	NS	1,800.00
36' x 50 yds.	NS	2,700.00

10 yard rolls are available at a 25% upcharge for 36' and 48' widths.
24' x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

3M™ Durable Sign Sheeting Rolls and Sheets

3 = Standard
NS = Non Standard
C = Custom

Repackaged finished goods material that is ready to ship to the customer in 1-2 days.
Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
See Glossary in the front of this catalog.

3M™ High Intensity Prismatic Reflective Sheeting

Series 3930 With Pressure Sensitive Adhesive

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 Reflective Sheeting provides long-term reflectivity and durability, with an improved optical package to increase nighttime safety. Its unique prismatic construction provides a high level of retroreflectivity for multiple traffic control situations. Meets both ASTM D4956-09 Type III, Type IV, and ASTM D4956-07 Type X specifications.

Additional Information:

- Carries 3M's MCS™ (matched component system) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 3930 for additional information

Durable Sign Sheeting
Rolls and Sheets



Size	3930 White	3931 Yellow	3932 Red	3935 Blue	3937 Green	3938 Brown	Net Price Per Roll
12' x 50 yds.	NS	NS	NS	NS	NS	NS	\$ 12.50
34' x 50 yds.	NS	NS	NS	NS	NS	NS	18.75
1' x 50 yds.	NS	NS	NS	NS	NS	NS	25.00
1-1/4' x 50 yds.	NS	NS	NS	NS	NS	NS	31.25
2' x 50 yds.	NS	NS	NS	NS	NS	NS	50.00
3' x 50 yds.	NS	NS	NS	NS	NS	NS	75.00
4' x 50 yds.	NS	NS	NS	NS	NS	NS	100.00
6' x 50 yds.	NS	NS	NS	NS	NS	NS	150.00
6-3/4' x 50 yds.	NS	NS	NS	NS	NS	NS	168.75
8' x 50 yds.	NS	NS	NS	NS	NS	NS	200.00
9' x 50 yds.	S	NS	NS	NS	NS	NS	225.00
12' x 50 yds.	NS	NS	NS	NS	NS	NS	300.00
12-3/4' x 50 yds.	NS	NS	NS	NS	NS	NS	312.75
15' x 50 yds.	NS	NS	NS	NS	NS	NS	375.00
18' x 50 yds.	S	NS	NS	NS	NS	NS	450.00
24' x 50 yds.	S	S	NS	NS	NS	NS	600.00
30' x 50 yds.	S	S	NS	NS	NS	NS	750.00
36' x 50 yds.	S	S	NS	NS	NS	NS	900.00
42' x 50 yds.	NS	NS	NS	NS	NS	NS	1,050.00
48' x 50 yds.	S	S	NS	NS	NS	NS	1,200.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths.
24' x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

S = Standard
NS = Non Standard
C = Custom
Priced and finished goods material that is ready to ship to the customer in 1-2 days.
Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
See Glossary in the front of this catalog.

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3M™ Durable Sign Sheeting Rolls and Sheets

Durable Sign Sheeting
Rolls and Sheets

3M™ Diamond Grade™ Fluorescent VIP Reflective Sheeting

3981 and 3983 Fluorescent

Fluorescent microprismatic reflective sheeting with pressure sensitive adhesive backing. Highly visible in daytime, twilight, and inclement weather as well as at night. Performs at wide entrance and observation angles. Exceeds ASTM D 4956 Spec Type IX standards.

Additional Information:

- Fluorescent yellow meets all color specifications for yellow traffic control signs and devices
- Fluorescent yellow green color approved in U.S. for signs warning of the presence of non-motorized traffic - school zone, pedestrian and bicycle crossing signs
- Highly visible in the viewing range from 200 to 600 feet
- Ideal for signs that must be seen at relatively short viewing distances
- Covered by 3M's MCS™ (matched component system) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 3980 for full details

Rolls

Size	3981 VIP Fluorescent Yellow	3983 VIP Fluorescent Yellow Green	Net Price Per Roll
6' x 50 yds.	NS	NS	\$ 435.00
12' x 50 yds.	NS	NS	870.00
12-3/4' x 50 yds.	NS	NS	924.38
15' x 50 yds.	NS	NS	1,035.00
24' x 50 yds.	NS	NS	1,740.00
30' x 50 yds.	NS	NS	2,175.00
36' x 50 yds.	NS	NS	2,610.00
48' x 50 yds.	NS	NS	3,480.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths.
24' x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

3M™ Diamond Grade™ VIP Reflective Sheeting

Series 3990

Highly reflective, durable, microprismatic lens sheeting with pressure sensitive adhesive for application to aluminum, using a hand or in-vehicle aqueous roller applicator. Signs are highly visible, even in visually complex nighttime roadway environments.

Exceeds ASTM D 4956 Spec Type IX standards.

- Carries 3M's MCS™ (matched component system) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 3990 for full details

Additional Information:

- Microprismatic lens optics have higher sign brightness than sheeting made with glass bead optical elements
- Highly visible in the viewing range of 200 to 600 feet
- Ideal for signs in locations with relatively short viewing distances

Rolls

Size	3990 White	3991 Yellow	3992 Red	3995 Blue	3997 Green	Net Price Per Roll
3-1/4' x 50 yds.	NS	NS	NS	NS	NS	\$ 53.44
1' x 50 yds.	NS	NS	NS	NS	NS	71.25
2' x 50 yds.	NS	NS	NS	NS	NS	142.50
3' x 50 yds.	NS	NS	NS	NS	NS	213.75
6' x 50 yds.	NS	NS	NS	NS	NS	427.50
9' x 50 yds.	NS	NS	NS	NS	NS	641.25
12' x 50 yds.	NS	NS	NS	NS	NS	855.00
12-3/4' x 50 yds.	NS	NS	NS	NS	NS	908.44
18' x 50 yds.	NS	NS	NS	NS	NS	1,282.50
24' x 50 yds.	NS	NS	NS	NS	NS	1,710.00
30' x 50 yds.	NS	NS	NS	NS	NS	2,137.50
36' x 50 yds.	NS	NS	NS	NS	NS	2,565.00
48' x 50 yds.	NS	NS	NS	NS	NS	3,420.00

10 yard rolls are available at a 25% upcharge for 36" and 48" widths. 24' x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

S = Standard
NS = Non Standard
C = Custom
Priced and finished goods material that is ready to ship to the customer in 1-2 days.
Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
See Glossary in the front of this catalog.

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3M™ Durable Sign Sheeting Rolls and Sheets

3M™ Diamond Grade™ Fluorescent DG3 Sheeting

Series 4084

3M™ Diamond Grade™ DG3 Fluorescent Orange Series 4084 is a wide angle full cube prismatic reflective sheeting designed for use on rigid substrate work zone signs to provide high visibility impact under nighttime and daytime driving conditions. Highly visible under nighttime and daytime driving conditions including low visibility periods such as adverse weather and overcast days. Exceeds ASTM D4956 Type XI specification.

- Additional Information:**
- State-of-the-art "full cube" prismatic technology
 - 100 percent efficient optical elements, returning 60% of available light – nearly double that of traditional prisms
 - Delivers optimal performance where and when drivers need it most
 - Carries 3M's MCS™ (Matched Component System) Warranty
 - Screen process with 3M™ Process Color Series 880
 - See Product Bulletin 4000 for full details

Construction Work Zone

Rolls	4084	Net Price Per Roll
12' x 50 yds.	NS	\$ 8,60.00
18' x 50 yds.	NS	1,260.00
24' x 50 yds.	NS	1,680.00
30' x 50 yds.	NS	2,100.00
36' x 50 yds.	S	2,520.00
48' x 50 yds.	S	3,360.00

10 yard rolls are available at a 25% upcharge for 36' and 48' widths.
24' x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

3M™ Diamond Grade™ Fluorescent Work Zone Sheeting

3924S Fluorescent Orange

Fluorescent orange retroreflective sheeting with pressure sensitive adhesive for production of high quality work zone signs. Exceeds ASTM D4956-09 Type VIII, and ASTM 4956-07 Type VII, Type VIII and Type X standards.

Additional Information:

- Highly visible at wide angles to approaching traffic and at long sight distances
- Approved in the U.S. Manual on Uniform Traffic Control Devices for all construction/maintenance work zone signs and devices
- Distinctive seal pattern assists work site inspection
- Suitable for rigid substrates
- Covered by 3M's MCS™ (Matched Component System) warranty
- Screen process with 3M™ Process Color Series 880
- See Product Bulletin 3924S for full details.

Rolls	3924S	Net Price Per Roll
12' x 50 yds.	NS	\$ 1,171.50
24' x 50 yds.	S	1,635.00
30' x 50 yds.	S	1,997.75
36' x 50 yds.	S	2,322.00
48' x 50 yds.	S	2,970.00

10 yard rolls are available at a 25% upcharge for 36' and 48' widths.
24' x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

Durable Sign Sheeting

3M™ Engineer Grade Reflective Sheeting

Series 3200 With Pressure Sensitive Adhesive

Engineered lens reflective sheeting with pressure sensitive adhesive backing for application to directional and route signage, off-road signage such as parking lots, handicap signs, etc. Meets ASTM D 4956 Spec Type I, Class 1.

- Additional Information:**
- Screen process with 3M™ Process Colors Series 990
 - See Product Bulletin 3200 for full details

Size	3290 White	3271 Yellow	3272 Red	3275 Blue	3277 Green	3278 Brown	Net Price Per Roll
36" x 50 yds.	NS	NS	NS	NS	NS	NS	\$ 4.92
12' x 50 yds.	NS	NS	NS	NS	NS	NS	6.56
18' x 50 yds.	NS	NS	NS	NS	NS	NS	8.29
24' x 50 yds.	NS	NS	NS	NS	NS	NS	9.84
30' x 50 yds.	NS	NS	NS	NS	NS	NS	11.83
36' x 50 yds.	NS	NS	NS	NS	NS	NS	13.82
48' x 50 yds.	NS	NS	NS	NS	NS	NS	15.81
12' x 50 yds.	NS	NS	NS	NS	NS	NS	196.89
18' x 50 yds.	NS	NS	NS	NS	NS	NS	226.25
24' x 50 yds.	NS	NS	NS	NS	NS	NS	261.00
30' x 50 yds.	NS	NS	NS	NS	NS	NS	315.00
36' x 50 yds.	NS	NS	NS	NS	NS	NS	393.75
48' x 50 yds.	NS	NS	NS	NS	NS	NS	477.50
10 yard rolls are available at a 25% upcharge for 36" and 48" widths. 24" x 10 yard rolls are available at a 25% upcharge in 2 roll increments.							620.00

3M™ ElectroCut™ Engineer Grade Reflective Sheeting

Series 3260

Durable, enclosed lens reflective sheeting with pressure sensitive adhesive for use in electronic coating apparatus. Intended for signs, copy and logos. Meets ASTM D 4956, Type I, Class 1.

Size	3260 White	3261 Yellow	3262 Red	3265 Blue	3267 Green	Net Price Per Roll
15' x 50 yds.	NS	NS	NS	NS	NS	\$ 384.38
30' x 50 yds.	NS	NS	NS	NS	NS	768.75

Note that machines made by Gerber Scientific, Inc. require a slotted hole pattern.

3M™ Diamond Grade™ Fluorescent DG3 Sheeting

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3M™ Construction Work Zone Rolls and Sheets

3M™ Engineer Grade Reflective Sheeting

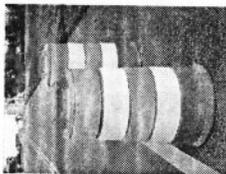
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3M™ Durable Sign Sheeting Rolls and Sheets

3M™ Diamond Grade™ Work Zone Sheeting

Series 3910/3914

3M™ Diamond Grade™ Fluorescent orange and white highly reflective, wide angle, flexible, prismatic lens sheeting with pressure sensitive adhesive for use on reboundable, plastic substrate work zone traffic control devices such as drums.



Rolls	3910 White	3914 Fluorescent Orange	Net Price Per Roll
4' x 50 yds.	S	S	\$ 327.50
6' x 50 yds.	S	S	491.25

Construction Work Zone
Rolls and Sheets

3M™ Flexible Prismatic Work Zone Sheeting

Series 3300

3M™ Flexible Prismatic, Reflective Sheeting, Series 3300 is intended for retroreflecting rigid or reboundable traffic control devices such as drums, barricades and channelizers. Series 3300 sheeting is designed for use on clean, smooth, relatively non-porous, rubber flooring materials as 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 provided with pressure sensitive adhesive and exceeds ASTM D4856 Type III.



- Additional Information:**
- Designed for plastic and semi-flexible plastic work zone device substrates
 - Flexible construction better absorbs impact to protect the integrity of the adhesive bond
 - Withstands the rigors of work zone environments, such as impacts, scratching and gouging, as well as rough handling during transport and storage

Rolls	3310 White	3311 Yellow	3314 Orange	Net Price Per Roll
3' x 50 yds.	S	S	NS	\$ 98.00
4' x 50 yds.	S	S	S	122.00
6' x 50 yds.	S	NS	S	180.00
18' x 50 yds.	NS	NS	NS	594.00
24' x 50 yds.	NS	NS	NS	792.00

For 3M™ Engineer Grade drum wrap see CW80 on page 10 for more information.

S = Standard
NS = Non Standard
C = Custom
Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.
Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
See Glossary in the front of this catalog.

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3M™ Construction Work Zone Rolls and Sheets

3M™ High Intensity Prismatic Reflective Sheeting

Series 3934 With Pressure Sensitive Adhesive

Non-metalized microprismatic lens reflective sheeting designed for production of reflective durable traffic control signs, work zone, devices and delineators. Applied to properly prepared sign substrates, 3M High Intensity Prismatic Sheeting provides long-term reflectivity and durability, with an improved optical package to increase nighttime safety. Its unique prismatic construction provides a high level of retroreflectivity for multiple traffic control situations. Meets both ASTM D4856 Type III and Type IV specifications. See Product Bulletin 3930 for additional information.

Rolls

Size	3934 Orange	MS	Net Price Per Roll
12' x 50 yds.	S	S	\$ 300.00
24' x 50 yds.	S	S	600.00
30' x 50 yds.	S	S	750.00
36' x 50 yds.	S	S	900.00
48' x 50 yds.	S	S	1,200.00

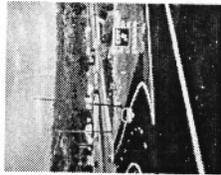
10 yard rolls are available at a 25% upcharge for 36' and 48' widths.
24' x 10 yard rolls are available at a 25% upcharge in 2 roll increments.

Construction Work Zone
Rolls and Sheets

3M™ Engineer Grade Work Zone Sheeting

Series CW80

Engineered lens reflective sheeting with unimproved pressure sensitive adhesive for wood, metal and plastic substrates, and polyethylene Bulletin CW80 for details.



Sign Sheeting and Drum Wrap

Size	CW80 White	CW84 Orange	MS	NS	Net Price Per Roll
4' x 50 yds.	S	S	S	S	\$ 62.50
6' x 50 yds.	S	S	S	S	83.75
8' x 50 yds.	C	C	NS	NS	125.00
12' x 50 yds.	NS	NS	MS	MS	187.50
18' x 50 yds.	C	C	MS	MS	281.25
24' x 50 yds.	NS	NS	S	S	375.00
30' x 50 yds.	NS	NS	S	S	468.75
36' x 50 yds.	NS	NS	C	C	562.50
48' x 50 yds.	NS	NS	S	S	750.00

S = Standard
NS = Non Standard
C = Custom
Prepackaged finished goods material that is ready to ship to the customer in 1-2 days.
Material that requires at least one processing step before packaging due to size, color, configuration, etc. typically shipped 3-5 business days.
See Glossary in the front of this catalog.

3M™ Construction Work Zone Rolls and Sheets

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3M™ Scotchlite™ Reflective Graphic Film Series 5100 and IJ5100-10

These 7-mil, enclosed lens, retroreflective films offer flexibility and excellent angularity. Use these long-term durable films for decals, commercial and non-regulated signage, vehicle markings, emblems and striping on vertical, flat or curved surfaces with or without rivets. Use film series 5100 for screen printing, film IJ5100-10 for inkjet printing, and film 5100-10 for electrostatic and thermal mass transfer printing.

Additional Information:

- Can be imaged by piezo ink jet printing.
- Electronic curable.
- Pressure sensitive adhesive.
- Vehicle bodies with simple curves.
- Excellent angular brightness.
- See product bulletins for specific recommendations.

Commercial Graphics

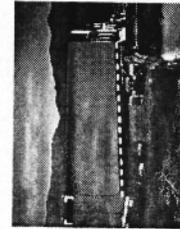
Film Colors

Product	Basic Colors
5100-10	White
IJ5100-10	White

Product	Standard Colors
5100-14	Orange
5100-64	Gold
5100-65	Rich Gold
5100-71	Yellow
5100-72	Red
5100-74	Royal Purple
5100-75	Blue
5100-76	Light Blue
5100-77	Green
5100-78	Light Green
5100-79	Brown
5100-31	Lemon Yellow
5100-82	Ruby Red
5100-85	Black

Roll Size	Square Feet	Basic Colors			Standard Colors		
		5100-10 / IJ5100-10	C	D	C	D	
15' x 10 yds.	37.5	\$ 81.64	\$ 55.92	\$ 53.88	\$ 60.10	\$ 58.33	
24' x 10 yds.	60	130.60	88.82	86.21	96.16	93.32	
30' x 10 yds.	75	163.38	111.03	107.77	120.20	116.66	
48' x 10 yds.	120	261.26	177.05	172.43	192.31	186.65	
15' x 50 yds.	187.5	405.21	277.58	269.42	300.48	291.64	
24' x 50 yds.	300	653.13	444.12	431.07	480.78	466.92	
30' x 50 yds.	375	816.41	555.15	536.34	600.98	583.26	
48' x 50 yds.	600	1326.26	888.24	862.14	1114.02	1032.24	

3M™ Flexible Prismatic Conspicuity Marking – DOT-C2



Series 963

Highly reflective microprismatic lens sheeting with pressure sensitive adhesive for application to sides and rear of the large trucks, trailers, and other vehicles to increase their visibility, especially when the vehicle is turning or crossing roadways.

Additional Information:

- Exceeds NHTSA requirements.
- Reflective at wide angles to almost 90 degrees from perpendicular
- Pre-edge sealed for extra protection
- Aggressive pressure sensitive adhesive
- Easy to remove; film
- 5 year warranty
- With DOT mark
- Available in continuous and kiss-cut rolls
- See Product Bulletin for more information

Standard Rolls

Product	Roll Size	Net Price Per Roll
All colors	1-1/2' x 50 yds.	\$ 64.60
All colors	2' x 50 yds.	86.25
All colors	3' x 50 yds.	129.38
All colors	4' x 50 yds.	172.50

Call for quote on other size rolls

Kiss-Cut Rolls*

Product	Roll Size	Net Price
All colors	2' x 50 yds.	\$ 86.25

* Specify Kiss-cut Strip length

Colors:

- 963-10 Silver
- 963-32 Red / Silver 11/77
- 963-326 Red / Silver 6/76*
- 963-72 Red

ACCESSORIES

Code	Size	Item	Net Price
RBA-1	None	Finest Brush Applicator	\$ 9.41
391X	None	Air Release Tool	27.58
392X	None	Replacement Point	9.15
Roller	2'	Hand Roller	18.19
SA-1	None	Low Friction Sheeva (100 Per Pkg)	52.17

Vehicle Safety Marking
Roll Goods

3M™ Controltac™ Graphic Film with Comply™ Adhesive Series 180C

These 2-mil films offer great versatility along with slideable, repositionable pressure-activated adhesive. These long-term durable and removable films have excellent hiding power and stability, making them perfect for indoor and outdoor signs and fleet graphics, including surfaces with corrugations and rivets. Film series 180C with Comply adhesive also have air release channels for fast and easy bubble-free graphic installations. Film 180C2-10 (white only) features invisible air release channels. Use for screen printing.

All Plus Series 180C Custom Colored Films

Call for availability.

Film Colors	
Product	Basic Colors-1
180C-10	White
180C2-10	White
Product	Basic Colors-2
180C-12	Black
180C-22	Black
180C-114	Transparent
Product	Standard Colors
180C-13	Tomato Red
180C-14	Bright Orange
180C-15	Bright Yellow
180C-17	Vivid Blue
180C-23	Deep Red
180C-25	Sunflower
180C-27	Indigo
180C-31	Medium Gray
180C-37	Sapphire Blue
180C-47	Intense Blue
180C-53	Cardinal Red
180C-56	Dark Green
180C-57	Olympic Blue
180C-58	Burgundy
180C-63	Genanium
180C-98	Dark Violet
180C-100	Satin Aluminum
180C-131	Satin Gold
180C-186	Bright Green

Commercial Graphics

Commercial Graphics

3M™ Scotchite™ Reflective Graphic Film Series 5100R and L5100R-10

These 7-mil, removable, embossed lens, retroreflective films offer flexibility and excellent angularity. Use these long-term durable films for decals, commercial and non-regulated signage, vehicle markings, emblems and striping on vertical, flat or curved surfaces with or without rivets. Use film series 5100R for screen printing. Film L5100R for riblet printing, and film 5100R-10 for electrostatic and thermal mass transfer printing.

Additional Information:

- Can be imaged by piezo ink jet.
- Electronic etchable.
- Pressure sensitive adhesive.
- Vehicle bodies with simple curves.
- Excellent angular brightness.
- See product bulletins for specific recommendations.

Film Colors	
Product	Basic Colors
5100R-10	White
L5100R-10	White
Product	Standard Colors
5100R-14	Orange
5100R-64	Gold
5100R-65	Rich Gold
5100R-71	Yellow
5100R-72	Red
5100R-74	Royal Purple
5100R-75	Blue
5100R-76	Light Blue
5100R-77	Green
5100R-78	Light Green
5100R-79	Brown
5100R-81	Lemon Yellow
5100R-82	Ruby Red
5100R-85	Black

Roll Size	Square Feet	Net Price	Basic Colors		Standard Colors		
			5100R-10 / L5100R-10	C	D	C	D
15 x 10 yds.	37.5	\$ 109.29	\$ 74.31	\$ 72.13	\$ 110.03	\$ 80.26	\$ 77.90
24 x 10 yds.	60	174.86	118.90	115.40	188.85	128.42	124.64
30 x 10 yds.	75	218.57	148.63	144.26	236.06	160.52	155.81
48 x 10 yds.	120	340.72	237.60	230.81	377.70	256.84	248.29
15 x 50 yds.	187.5	546.45	371.57	360.64	590.16	401.31	389.51
24 x 50 yds.	300	814.29	594.51	577.02	944.25	642.29	623.22
30 x 50 yds.	375	1,092.86	743.14	721.28	1,180.31	822.61	779.03
48 x 50 yds.	600	1,748.58	1,163.02	1,151.04	1,888.50	1,204.18	1,246.44

* Punched rolls are available in 15 inch widths and 30 inch widths in 10 yard and 50 yard lengths at no additional charge.

3M™ Controltac™ Graphic Film with Comply™ Adhesive Series 180C
Standard Colors

Prices in \$ per roll

Roll Size	Standard Colors		
	180C	C	D
1' x 50 yds.	\$ 22.97	\$ 15.02	\$ 15.16
2' x 50 yds.	45.95	31.25	30.33
3' x 50 yds.	68.92	46.87	45.48
4' x 50 yds.	91.90	62.49	60.65
5' x 50 yds.	114.87	78.11	75.81
6' x 50 yds.	137.84	93.74	90.96
7' x 50 yds.	160.82	109.36	106.14
8' x 50 yds.	183.79	124.98	121.30
9' x 50 yds.	206.76	140.60	136.46
10' x 50 yds.	229.74	156.23	151.63
11' x 50 yds.	252.71	171.85	166.79
12' x 50 yds.	275.68	187.47	181.95
13' x 50 yds.	298.65	203.09	197.11
14' x 50 yds.	321.63	218.72	212.28
15' x 50 yds.	344.61	234.34	227.44
16' x 50 yds.	367.58	249.96	242.60
17' x 50 yds.	390.55	265.58	257.76
18' x 50 yds.	413.53	281.21	272.93
19' x 50 yds.	436.50	296.83	288.09
20' x 50 yds.	459.48	312.45	303.25
21' x 50 yds.	482.45	328.07	318.41
22' x 50 yds.	505.42	343.70	333.58
23' x 50 yds.	528.40	359.32	348.74
24' x 50 yds.	551.37	374.95	363.90
25' x 50 yds.	574.34	390.58	379.06
26' x 50 yds.	597.32	406.21	394.23
27' x 50 yds.	620.29	421.83	409.39
28' x 50 yds.	643.27	437.46	424.55
29' x 50 yds.	666.24	453.09	439.71
30' x 50 yds.	689.21	468.72	454.88
31' x 50 yds.	712.19	484.35	470.04
32' x 50 yds.	735.16	499.98	485.20
33' x 50 yds.	758.13	515.61	500.36
34' x 50 yds.	781.11	531.24	515.52
35' x 50 yds.	804.08	546.87	530.69
36' x 50 yds.	827.05	562.50	545.85
37' x 50 yds.	850.03	578.13	561.01
38' x 50 yds.	873.00	593.76	576.18
39' x 50 yds.	895.98	609.39	591.34
40' x 50 yds.	918.95	625.02	606.50
41' x 50 yds.	941.92	640.65	621.66
42' x 50 yds.	964.90	656.28	636.83
43' x 50 yds.	987.87	671.91	651.99
44' x 50 yds.	1010.85	687.54	667.15
45' x 50 yds.	1033.82	703.17	682.31
46' x 50 yds.	1056.79	718.80	697.48
47' x 50 yds.	1079.77	734.43	712.64
48' x 50 yds.	1102.74	750.06	727.80
49' x 50 yds.	1125.72	765.69	742.96
50' x 50 yds.	1148.69	781.32	758.12
51' x 50 yds.	1171.67	796.95	773.28
52' x 50 yds.	1194.64	812.58	788.44
53' x 50 yds.	1217.62	828.21	803.60
54' x 50 yds.	1240.59	843.84	818.76
55' x 50 yds.	1263.57	859.47	833.92
56' x 50 yds.	1286.54	875.10	849.08
57' x 50 yds.	1309.52	890.73	864.24
58' x 50 yds.	1332.49	906.36	879.40
59' x 50 yds.	1355.47	921.99	894.56
60' x 50 yds.	1378.44	937.62	909.72
61' x 50 yds.	1401.42	953.25	924.88
62' x 50 yds.	1424.39	968.88	940.04
63' x 50 yds.	1447.37	984.51	955.20
64' x 50 yds.	1470.34	1000.14	970.36
65' x 50 yds.	1493.32	1015.77	985.52
66' x 50 yds.	1516.29	1031.40	1000.68
67' x 50 yds.	1539.27	1047.03	1015.84
68' x 50 yds.	1562.24	1062.66	1031.00
69' x 50 yds.	1585.22	1078.29	1046.16
70' x 50 yds.	1608.19	1093.92	1061.32
71' x 50 yds.	1631.17	1109.55	1076.48
72' x 50 yds.	1654.14	1125.18	1091.64
73' x 50 yds.	1677.12	1140.81	1106.80
74' x 50 yds.	1700.09	1156.44	1121.96
75' x 50 yds.	1723.07	1172.07	1137.12
76' x 50 yds.	1746.04	1187.70	1152.28
77' x 50 yds.	1769.02	1203.33	1167.44
78' x 50 yds.	1791.99	1218.96	1182.60
79' x 50 yds.	1814.97	1234.59	1197.76
80' x 50 yds.	1837.94	1250.22	1212.92
81' x 50 yds.	1860.92	1265.85	1228.08
82' x 50 yds.	1883.89	1281.48	1243.24
83' x 50 yds.	1906.87	1297.11	1258.40
84' x 50 yds.	1929.84	1312.74	1273.56
85' x 50 yds.	1952.82	1328.37	1288.72
86' x 50 yds.	1975.79	1344.00	1303.88
87' x 50 yds.	1998.77	1359.63	1319.04
88' x 50 yds.	2021.74	1375.26	1334.20
89' x 50 yds.	2044.72	1390.89	1349.36
90' x 50 yds.	2067.69	1406.52	1364.52
91' x 50 yds.	2090.67	1422.15	1379.68
92' x 50 yds.	2113.64	1437.78	1394.84
93' x 50 yds.	2136.62	1453.41	1410.00
94' x 50 yds.	2159.59	1469.04	1425.16
95' x 50 yds.	2182.57	1484.67	1440.32
96' x 50 yds.	2205.54	1500.30	1455.48
97' x 50 yds.	2228.52	1515.93	1470.64
98' x 50 yds.	2251.49	1531.56	1485.80
99' x 50 yds.	2274.47	1547.19	1500.96
100' x 50 yds.	2297.44	1562.82	1516.12

Non-standard widths subject to standard slitting fee.

Commercial Graphics

Commercial Graphics

3M™ Controltac™ Graphic Film with Comply™ Adhesive Series 180C
Basic Colors

Prices in \$ per roll

Roll Size	Basic Colors-1 180C-10/180C2-10			Basic Colors-2 180C-12/-22/-114		
	C	D	Net Price	C	D	Net Price
1' x 50 yds.	\$ 12.83	\$ 12.46	\$ 12.87	\$ 12.83	\$ 12.46	\$ 12.87
2' x 50 yds.	25.67	24.91	25.74	25.67	24.91	25.74
3' x 50 yds.	37.50	37.37	37.59	37.50	37.37	37.59
4' x 50 yds.	49.33	49.82	49.48	49.33	49.82	49.48
5' x 50 yds.	61.16	62.28	61.56	61.16	62.28	61.56
6' x 50 yds.	73.00	74.73	73.00	73.00	74.73	73.00
7' x 50 yds.	84.83	87.19	84.83	84.83	87.19	84.83
8' x 50 yds.	96.67	99.64	96.64	96.67	99.64	96.64
9' x 50 yds.	108.50	112.10	108.50	108.50	112.10	108.50
10' x 50 yds.	120.33	124.55	120.33	120.33	124.55	120.33
11' x 50 yds.	132.17	137.01	132.17	132.17	137.01	132.17
12' x 50 yds.	144.00	149.46	144.00	144.00	149.46	144.00
13' x 50 yds.	155.83	161.92	155.83	155.83	161.92	155.83
14' x 50 yds.	167.67	174.37	167.67	167.67	174.37	167.67
15' x 50 yds.	179.50	186.83	179.50	179.50	186.83	179.50
16' x 50 yds.	191.33	199.28	191.33	191.33	199.28	191.33
17' x 50 yds.	203.17	211.74	203.17	203.17	211.74	203.17
18' x 50 yds.	215.00	224.19	215.00	215.00	224.19	215.00
19' x 50 yds.	226.83	236.65	226.83	226.83	236.65	226.83
20' x 50 yds.	238.67	249.10	238.67	238.67	249.10	238.67
21' x 50 yds.	250.50	261.56	250.50	250.50	261.56	250.50
22' x 50 yds.	262.33	274.01	262.33	262.33	274.01	262.33
23' x 50 yds.	274.17	286.47	274.17	274.17	286.47	274.17
24' x 50 yds.	286.00	298.92	286.00	286.00	298.92	286.00
25' x 50 yds.	297.83	311.38	297.83	297.83	311.38	297.83
26' x 50 yds.	309.67	323.83	309.67	309.67	323.83	309.67
27' x 50 yds.	321.50	336.29	321.50	321.50	336.29	321.50
28' x 50 yds.	333.33	348.74	333.33	333.33	348.74	333.33
29' x 50 yds.	345.17	361.20	345.17	345.17	361.20	345.17
30' x 50 yds.	357.00	373.65	357.00	357.00	373.65	357.00
31' x 50 yds.	368.83	386.11	368.83	368.83	386.11	368.83
32' x 50 yds.	380.67	398.56	380.67	380.67	398.56	380.67
33' x 50 yds.	392.50	411.02	392.50	392.50	411.02	392.50
34' x 50 yds.	404.33	423.47	404.33	404.33	423.47	404.33
35' x 50 yds.	416.17	435.93	416.17	416.17	435.93	416.17
36' x 50 yds.	428.00	448.38	428.00	428.00	448.38	428.00
37' x 50 yds.	439.83	460.84	439.83	439.83	460.84	439.83
38' x 50 yds.	451.67	473.29	451.67	451.67	473.29	451.67
39' x 50 yds.	463.50	485.75	463.50	463.50	485.75	463.50
40' x 50 yds.	475.33	498.20	475.33	475.33	498.20	475.33
41' x 50 yds.	487.17	510.66	487.17	487.17	510.66	487.17
42' x 50 yds.	499.00	523.11	499.00	499.00	523.11	499.00
43' x 50 yds.	510.83	535.57	510.83	510.83	535.57	510.83
44' x 50 yds.	522.67	548.02	522.67	522.67	548.02	522.67
45' x 50 yds.	534.50	560.48	534.50	534.50	560.48	534.50
46' x 50 yds.	546.33	572.93	546.33	546.33	572.93	546.33
47' x 50 yds.	558.17	585.39	558.17	558.17	585.39	558.17
48' x 50 yds.	570.00	597.84	570.00	570.00	597.84	570.00
49' x 50 yds.	581.83	610.30	581.83	581.83	610.30	581.83
50' x 50 yds.	593.67	622.75	593.67	593.67	622.75	593.67
51' x 50 yds.	605.50	635.21	605.50	605.50	635.21	605.50
52' x 50 yds.	617.33	647.66	617.33	617.33	647.66	617.33
53' x 50 yds.	629.17	660.12	629.17	629.17	660.12	629.17
54' x 50 yds.	641.00	672.57	641.00	641.00	672.57	641.00
55' x 50 yds.	652.83	685.03	652.83	652.83	685.03	652.83
56' x 50 yds.	664.67	697.48	664.67	664.67	697.48	664.67
57' x 50 yds.	676.50	710.94	676.50	676.50	710.94	676.50
58' x 50 yds.	688.33	723.39	688.33	688.33	723.39	688.33
59' x 50 yds.	700.17	735.85	700.17	700.17	735.85	700.17
60' x 50 yds.	712.00	748.30	712.00	712.00	748.30	712.00
61' x 50 yds.	723.83	760.76	723.83	723.83	760.76	723.83
62' x 50 yds.	735.67	773.21	735.67	735.67	773.21	735.67
63' x 50 yds.	747.50	785.67	747.50	747.50	785.67	747.50
64' x 50 yds.	759.33	798.12	759.33	759.33	798.12	759.33
65' x 50 yds.	771.17	810.58	771.17	771.17	810.58	771.17
66' x 50 yds.	783.00	823.03	783.00	783.00	823.03	783.00
67' x 50 yds.	794.83	835.49	794.83	794.83	835.49	794.83
68' x 50 yds.	806.67	847.94	806.67	806.67	847.94	806.67
69' x 50 yds.	818.50	860.40	818.50	818.50	860.40	818.50
70' x 50 yds.	830.33	872.85	830.33	830.33	872.85	830.33
71' x 50 yds.	842.17	885.31	842.17	842.17	885.31	842.17
72' x 50 yds.	854.00	897.76	854.00	854.00	897.76	854.00
73' x 50 yds.	865.83	910.22	865.83	865.83	910.22	865.83
74' x 50 yds.	877.67	922.67	877.67	877.67	922.67	877.67
75' x 50 yds.	889.50	935.13	889.50	889.50	935.13	889.50
76' x 50 yds.	901.33					

3M™ Application Tapes and Liners – Unapplied

Premasking Tapes - Unapplied (SCPM-3, SCPM-19, SCPM-44X)

Product Roll or Sheet	Square Feet	Net Price	C	D
SCPM-3, -44X	24" x 100 yds.	132.24	89.94	87.30
SCPM-44X	36" x 100 yds.	165.30	112.43	109.13
SCPM-3, -44X	36" x 100 yds.	168.36	134.31	130.95
SCPM-3, -19, -44X	48" x 100 yds.	264.48	179.88	174.60
SCPM-44X	54" x 100 yds.	287.34	202.37	196.43
SCPM-3, -44X	67" x 100 yds.	330.60	224.85	218.25
SCPM-3, -44X	24" x 250 yds.	330.60	224.85	218.25
SCPM-3, -44X	36" x 250 yds.	485.90	337.29	327.39
SCPM-3, -44X	48" x 250 yds.	661.20	449.70	436.50
SCPM-3, -44X	67" x 250 yds.	826.50	567.13	545.53

SCPS-2 Premasking Tape

Product Roll or Sheet	Square Feet	Net Price	C	D
SCPS-2	24" x 100 yds.	\$ 132.24	\$ 89.94	\$ 87.30
SCPS-2	36" x 100 yds.	165.30	112.43	109.13
SCPS-2	36" x 100 yds.	198.36	134.91	130.95
SCPS-2	48" x 100 yds.	264.48	179.88	174.60
SCPS-2	24" x 250 yds.	330.60	224.85	218.25

SCPS-53X Premasking Tape

Product Roll or Sheet	Square Feet	Net Price	C	D
SCPS-53X	24" x 100 yds.	\$ 138.78	\$ 94.38	\$ 91.42
SCPS-53X	36" x 100 yds.	208.17	141.57	137.43
SCPS-53X	48" x 100 yds.	277.56	188.76	183.24

3M™ Application Tapes – Applied

SCPM-3 Premasking Tape

Product Roll or Sheet	Sq Ft	Net Price	C	D
All listed widths		\$ 0.21	\$ 0.21	\$ 0.21

Commercial Graphics

Commercial Graphics

3M™ ScotchCal™ ElectroCut™ Graphic Film Series 7725 Standard Colors

Roll Size	Square Feet	Net Price	C	D
1' x 50 yds.	12.5	\$ 10.63	\$ 13.38	\$ 12.99
2' x 50 yds.	25	39.96	26.76	25.98
3' x 50 yds.	37.5	59.00	40.14	38.95
4' x 50 yds.	50	78.71	53.53	51.95
5' x 50 yds.	62.5	98.39	66.91	64.94
6' x 50 yds.	75	118.07	80.29	77.93
7' x 50 yds.	87.5	137.74	93.67	90.91
8' x 50 yds.	100	157.42	107.05	103.90
9' x 50 yds.	112.5	177.10	120.43	116.89
10' x 50 yds.	125	196.78	133.81	129.88
11' x 50 yds.	137.5	216.46	147.19	142.86
12' x 50 yds.	150	236.13	160.58	155.85
13' x 50 yds.	162.5	255.81	173.96	168.84
14' x 50 yds.	175	275.49	187.34	181.83
15' x 50 yds.	187.5	295.17	200.72	194.82
16' x 50 yds.	200	314.84	214.10	207.80
17' x 50 yds.	212.5	334.52	227.48	220.79
18' x 50 yds.	225	354.20	240.86	233.78
19' x 50 yds.	237.5	373.87	254.24	246.76
20' x 50 yds.	250	393.55	267.62	259.75
21' x 50 yds.	262.5	413.23	281.01	272.74
22' x 50 yds.	275	432.91	294.39	285.73
23' x 50 yds.	287.5	452.58	307.77	298.71
24' x 50 yds.	300	472.26	321.15	311.70
25' x 50 yds.	312.5	491.94	334.53	324.69
26' x 50 yds.	325	511.62	347.91	337.68
27' x 50 yds.	337.5	531.30	361.29	350.66
28' x 50 yds.	350	550.97	374.68	363.65
29' x 50 yds.	362.5	570.65	388.06	376.64
30' x 50 yds.	375	590.33	401.44	389.63
31' x 50 yds.	387.5	610.00	414.82	402.61
32' x 50 yds.	400	629.68	428.20	415.60
33' x 50 yds.	412.5	649.36	441.58	428.59
34' x 50 yds.	425	669.04	454.96	441.58
35' x 50 yds.	437.5	688.71	468.34	454.56
36' x 50 yds.	450	708.39	481.72	467.55
37' x 50 yds.	462.5	728.07	495.10	480.54
38' x 50 yds.	475	747.75	508.49	493.53
39' x 50 yds.	487.5	767.42	521.87	506.51
40' x 50 yds.	500	787.10	535.25	519.50
41' x 50 yds.	512.5	806.78	548.63	532.49
42' x 50 yds.	525	826.46	562.01	545.48
43' x 50 yds.	537.5	846.13	575.39	558.46
44' x 50 yds.	550	865.81	588.78	571.45
45' x 50 yds.	562.5	885.49	602.16	584.44
46' x 50 yds.	575	905.17	615.54	597.43
47' x 50 yds.	587.5	924.84	628.92	610.41
48' x 50 yds.	600	944.52	642.30	623.40

Maximum length: 250 yds. 200 yds. premasked.
 Custom color Mechanical Film. Custom color premasked films are available in this product line. Please request availability.
 Some colors available in 60" widths - Call for availability.
 Rolls longer than 100 yds. are available in 50 yd increments.
 Rolls 100 yds., 150 yds., 200 yds., and 250 yds. in length receive 5% discount.

3M™ Scotchcal™ ElectroCut™ Graphic Film Series 7725
Basic Colors (7725-10, -12, -20, -22, -114)

Roll Size	Square Feet	Net Price	C	D
1' x 50 yds.	12.5	\$ 16.94	\$ 11.52	\$ 11.18
2' x 50 yds.	25	33.87	23.03	22.36
3' x 50 yds.	37.5	50.81	34.55	33.53
4' x 50 yds.	50	67.75	46.07	44.71
5' x 50 yds.	62.5	84.68	57.58	55.89
6' x 50 yds.	75	101.62	69.10	67.01
7' x 50 yds.	87.5	118.55	80.61	78.24
8' x 50 yds.	100	135.49	92.13	89.42
9' x 50 yds.	112.5	152.43	103.65	100.60
10' x 50 yds.	125	169.36	115.16	111.78
11' x 50 yds.	137.5	186.30	126.68	122.95
12' x 50 yds.	150	203.24	138.20	134.13
13' x 50 yds.	162.5	220.17	149.71	145.31
14' x 50 yds.	175	237.11	161.23	156.49
15' x 50 yds.	187.5	254.04	172.74	167.67
16' x 50 yds.	200	270.98	184.26	178.84
17' x 50 yds.	212.5	287.92	195.78	190.02
18' x 50 yds.	225	304.85	207.29	201.20
19' x 50 yds.	237.5	321.79	218.81	212.37
20' x 50 yds.	250	338.73	230.32	223.55
21' x 50 yds.	262.5	355.66	241.84	234.73
22' x 50 yds.	275	372.60	253.36	245.91
23' x 50 yds.	287.5	389.53	264.87	257.08
24' x 50 yds.	300	406.47	276.39	268.26
25' x 50 yds.	312.5	423.41	287.91	279.44
26' x 50 yds.	325	440.34	299.42	290.62
27' x 50 yds.	337.5	457.28	310.94	301.79
28' x 50 yds.	350	474.22	322.46	312.97
29' x 50 yds.	362.5	491.15	333.97	324.15
30' x 50 yds.	375	508.09	345.49	335.33
31' x 50 yds.	387.5	525.02	357.00	346.50
32' x 50 yds.	400	541.96	368.52	357.68
33' x 50 yds.	412.5	558.90	380.04	368.85
34' x 50 yds.	425	575.83	391.55	380.04
35' x 50 yds.	437.5	592.77	403.07	391.21
36' x 50 yds.	450	609.70	414.58	402.39
37' x 50 yds.	462.5	626.64	426.10	413.57
38' x 50 yds.	475	643.58	437.62	424.75
39' x 50 yds.	487.5	660.51	449.13	435.92
40' x 50 yds.	500	677.45	460.65	447.10
41' x 50 yds.	512.5	694.39	472.17	458.28
42' x 50 yds.	525	711.32	483.68	469.46
43' x 50 yds.	537.5	728.26	495.20	480.63
44' x 50 yds.	550	745.20	506.72	491.81
45' x 50 yds.	562.5	762.13	518.23	502.99
46' x 50 yds.	575	779.07	529.75	514.17
47' x 50 yds.	587.5	796.00	541.26	525.34
48' x 50 yds.	600	812.94	552.78	536.52

Maximum length: 250 yds. 200 yards premasked.
 Custom Color Matched Film: Custom color matched films are available in this printed line. Please request availability.
 Some colors available in 60" widths. Call for availability.
 Rolls longer than 100 yards are available in 50' increments.
 Rolls 100 yds., 150 yds., 200 yds., and 250 yds. in length receive 5% discount.

Commercial Graphics

Commercial Graphics

3M™ Scotchcal™ ElectroCut™ Graphic Film Series 7725

Film series 7725 are 2 mil. pressure sensitive films designed for permanent graphics that may be prepasted and electronically cut, screen printed or used in narrow width thermal transfer printing systems. These films which are the same color on both sides have a transparent synthetic liner that resists moisture absorption and static buildup, lays flat for easier assembly of multicolor graphics, and allows superior cutting and weeding. This film is available in 62 colors.

Film Colors

Product	Basic Colors
7725-10	White
7725-12	Black
7725-20	Matte White
7725-22	Matte Black
7725-114	Transparent

All Series 7725 Custom Colored Films

Call for availability.

Product	Standard Colors
7725-11	Pearl Gray
7725-13	Tomato Red
7725-14	Bright Orange
7725-15	Bright Yellow
7725-17	Vivid Blue
7725-19	Deep Mahogany Brown
7725-25	Sunflower
7725-29	Russet Brown
7725-31	Medium Gray
7725-37	Sapphire Blue
7725-41	Dark Gray
7725-46	Kelly Green
7725-47	Intense Blue
7725-49	Beige
7725-53	Cardinal Red
7725-54	Light Orange
7725-56	Dark Green
7725-57	Olympic Blue
7725-58	Burnt Red
7725-63	Ceruleum
7725-66	Forest Green
7725-120	Satin Aluminum
7725-131	Satin Gold
7725-186	Bright Green
7725-196	Apple Green
7725-197	Light Gray
7725-563	Perfect Match Red
7725-776	Rome Green

Some colors available in 60" width - Call for availability.
 Maximum length is 250 yards. There is no additional charge for stiffing and sheeting full web width.