



Engineer Grade Reflective Sheeting

Series 3200T

Meets ASTM Type I

Product Bulletin 3200T - International

March 2008

Description

3M™ Engineer Grade Reflective Sheeting meets ASTM Type I¹ and is an enclosed lens, pressure sensitive adhesive-coated sheeting with an easy release liner, intended for production of non-critical traffic signs and pressure sensitive stickers.

Sheeting Colors: 3290T White
 3271T Yellow
 3272T Red
 3275T Blue
 3277T Green
 3279T Brown²

Adhesive: Pressure-sensitive
Adhesive Color: Clear
Application Temperature: 65°F (18°C) minimum
 (sheeting and substrate)

¹Meets ASTM D4956-05 Type I Class 1

²Color fastness and reflectivity data pending

Fabrication

Letters and characters should be a minimum height of 3 inches with a minimum stroke width of 3/8 inch.

- A. Cutting: The sheeting may be hand cut, band sawed, guillotined, cold or hot die cut, and electronically cut.
- B. Screen Printing: Use 3M™ Process Colors Series 700 or 990. See appropriate Product Bulletin for more information.
- C. Electronic Cutting Machines:
Users are encouraged to evaluate cutting procedures for their own equipment and shop conditions. However, these general recommendations should be followed to ensure easy handling.

- 1. There should be enough down force on the knife blade to slightly score the liner. Too little down force will not completely cut through the sheeting and adhesive. Too much down force will cut through the liner, dull the blade and serrate the cut edge.
- 2. The knife blade should be sharp and clean. If there is adhesive on the blade, wipe it off with mineral spirits or isopropyl alcohol.
- 3. Sheeting temperature should be at least 65°F (18°C) or higher. If the sheeting temperature is less than 65°F (18°C), allow it to condition at 65°F - 75°F (18°C - 24°C) for at least 24 hours.

Weeding - Weed (remove) the excess sheeting as soon as possible after cutting. After more than 24 hours, the adhesive may flow into the cut areas and make weeding more difficult.

D. Premasking/Prespacing

- 1. Premasked Markings: application tape SCPM-3.
- 2. Prespaced Markings: prespacing tape SCPS-2 or Application Tape SCPM-3.

Refer to Information Folder 1.10, Prespacing and Premasking Instructions for 3M reflective sheeting.

- E. Drying Colors: Colors should be dried according to recommendations in the appropriate product bulletin: PB 990, PB 700, and Information Folder 1.8.

Application

See Information Folder 1.7 for surface preparation and Information Folder 1.4, 1.5 and 1.6 for recommended application procedures.

Cleaning

Hand wash with sponge, cloth or soft brush using warm water and detergent. Rinse thoroughly. To remove grease, oil, or tar, use cloth moistened with VM&P naphtha or mineral spirits. Avoid excessive rubbing or pressure over screened areas. Then wash with detergent and water and rinse thoroughly.

Storage

Store in a cool, dry area and use within one year after date of receipt. Store rolls in original shipping carton or suspend horizontally from a rod or pipe through the core. Store sheets flat. (Information Folder 1.11) Store color printed, premasked markings at a temperature below 85°F (29°C). If stored above this temperature, blocking of the premask to the sheeting could occur.

Shelf Life

Unprinted sheeting may be stored by the fabricator for a period of up to one year and after printing, markings may be stored for an additional period of up to six months. Shheeting and markings must be stored in a clean area, free from excessive moisture and direct sunlight, with ambient temperatures of 85°F (29°C) or less.

Health and Safety Information

Read all health hazard, precautionary, and first aid statements found in the Material Safety Data Sheet (MSDS), and/or product label of chemicals prior to handling or use. Also refer to MSDS for information about the volatile organic compound (VOC) content of chemical products. Consult local regulations and authorities for possible restrictions on product VOC content and/or VOC emissions.

General Performance Considerations

The performance and durability of 3M™ Engineer Grade Reflective Sheeting Series 3200T will depend upon a number of factors including (but not limited to):

- Selection, preparation and temperature of the substrate
- Application procedures
- Geographic area
- Exposure and atmospheric conditions (e.g. snow, frost)
- Correct combination of sheeting, ink and overlay film
- Ink formulation
- Ink drying/curing methods
- Cleaning and maintenance methods

Warranty

3M warrants for a period up to 7 years from date of application (concrete definition of the period is subject to the terms of sale) that 3M™ Engineer Grade Reflective Sheeting Series 3200T sold by 3M to be used for traffic control signs and delineators is free of defects in material and workmanship, subject to the following provisions: Sheeting Series 3200T must be processed and applied to a vertical $\pm 10^\circ$ surface in accordance with all 3M application and fabrication procedures provided in 3M's product and information folders, technical memos (which will be furnished to the agency upon request), including the exclusive use of 3M matched component systems, process colors, overlay films and recommended application equipment.

Literature Reference

PB 700	3M™ Process Color Series 700
PB 990	3M™ Process Color Series 990
IF 1.4	Instructions for Operation of the Interstate Squeeze Roll Applicator
IF 1.5	3M™ Reflective Sheeting Hand Application Instructions
IF 1.6	Hand Squeeze Roll Applicators
IF 1.7	Sign Base Surface Preparation for 3M™ Reflective Sheeting Application
IF 1.8	3M™ Series 700, 880, and 990 Process Color instructions for use on 3M™ Reflective Sheetings
IF 1.10	Cutting, Matching, Premasking and Prespacing of 3M™ Reflective Sheetings and Films
IF 1.11	Sign Maintenance Management, for 3M™ Reflective Sheeting

FOR INFORMATION OR ASSISTANCE

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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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