

Transportation Safety Division

3M™ ElectroCut™ Film Series 1170

Product Bulletin Series 1170 (not including 1170C clear)
October 2022
For U.S.A. and Canada

Replaces Product Bulletin 1170 Dated October 2016

1 Description

3M ElectroCut Film Series 1170 (“Film”) is a durable, transparent, acrylic film coated with a transparent, pressure-sensitive adhesive that is protected by a removable liner that has been designed to enable kiss-cutting with electronic cutting machines. The Film can be used instead of silk screened inks to provide transparent colored background copy for retroreflective street name signs and other traffic control signs.

The Film is available in the colors listed in Table 1.

Table 1. Product codes by color.1

Color	Product Code
Yellow	1171
Blue	1175
Green	1177
Black (Opaque)	1178
Brown	1179

The Film is part of 3M’s system of matched components for signing and has been designed for use in permanent signing constructions. The Film’s clear pressure-sensitive adhesive is compatible with the following white 3M reflective sheetings:

- 3M™ Engineer Grade Prismatic Reflective Sheeting 3430
- 3M™ Engineer Grade Reflective Sheeting 3290
- 3M™ High Intensity Prismatic Reflective Sheeting 3930
- 3M™ Prismatic Reflective Sheeting 3940
- 3M™ Diamond Grade™ VIP Reflective Sheeting 3990
- 3M™ Diamond Grade™ DG³ Reflective Sheeting 4000
- 3M™ Diamond Grade™ Translucent DG³ Reflective Sheeting 4090T
- 3M™ Advanced Flexible Engineer Grade Reflective Sheeting 7310

Various Film widths are available for use in the fabrication of single sign panels up to 48 inches wide. For single panel signs requiring more than one piece of Film or multipanel signs, such as guide signs, be sure to follow the 3M color matching procedures described in [3M Information Folder 1.10](#) to achieve satisfactory results. For best color uniformity on colored multipanel signs, all panels must be made from the same lot of Film.

2 Specifications

When colored Film is applied to a compatible 3M white sheeting (see section 1), it will meet the applicable ASTM D4956 specifications of the equivalent integrally colored sheeting. See Section 9 Literature References for sheeting information.

3 Film Liner

The Film includes a semi-transparent release liner that has been designed to facilitate cutting and the removal of the film weed after cutting.

4 Storage

Store in a cool, dry area at a temperature of 65–75 °F (18–24 °C) and a relative humidity of 30–50%. Use within 2 years of date of manufacture.

5 Fabrication - Cutting and Application Procedures

Important Note: Read the manufacturer's operating manual carefully and follow all prescribed procedures when using cutting equipment.

- 1 Adjust knife pressure to cut cleanly through Film and slightly score the liner. A 30° blade is recommended.
- 2 Use a clean cutting blade. Remove adhesive build-up using a soft cloth dampened with mineral spirits, isopropyl alcohol, or 3M Citrus Base Cleaner.
- 3 Avoid flexing Film excessively when handling it. Flexing the Film may cause it to release from the liner.
- 4 After cutting is complete, lay sheets flat, face to face, back to back. Always store sheets of Film in this manner until they have been weeded and transfer tape has been applied to the sheeting.
- 5 Use a blunt edged stripping tool that has been designed for weeding films; do not use a sharp edge stripping tool.
- 6 Once weeding has been completed, store Film sheets flat, face to face and back to back until transfer tape has been applied.
- 7 TPM-5 Clear Transfer Tape is recommended for best results. SCPM-3 Application Tape may be used on small signs. Other transfer tapes are not recommended.
- 8 Transfer tape can be applied either by hand using a plastic squeegee or using a hand squeeze roll applicator (HSRA). When applying transfer tape by hand, always squeegee from the center to the edge in both directions. When applying transfer tape with a HSRA, set air pressure to 30 psi to avoid stretching the premask during application, cut “lead” edge squarely and feed it into the nip carefully to avoid wrinkling the Film.
- 9 The Film may be applied to sheeting either before or after the sheeting has been applied to the substrate. For best results, use a HSRA. The “split liner method” – start in the middle of the sheet and remove half the liner - can be used to help ensure proper alignment.
- 10 After Film and sheeting have been applied, remove the transfer tape by gently pulling it at as low of an angle as possible.
- 11 **IMPORTANT!** once the transfer tape has been removed, reroll the sign through the laminator to ensure good adhesion.
- 12 Excess or overhanging Film should be trimmed using a sharp utility knife held at an angle of 30° relative to the substrate.
- 13 Cut Film at panel seams.

5.1 Splices

The Film must be butt spliced when more than one piece is used on a single piece of substrate. Film pieces should not touch one another. This is to prevent the buckling that can occur as Film expands under extreme temperature and humidity conditions.

6 Health and Safety Information

Read all health hazard, precautionary, and first aid statements found in the Safety Data Sheets (SDS) and Article Information Sheets for important health, safety and environmental information. To obtain SDSs and Article Information Sheets for 3M products, go to 3M.com/SDS, contact 3M by mail, or for urgent requests call 1-800-364-3577.

7 Warranty Information

7.1 3M Standard Warranty

3M has no control over application methods or the quality of the surface to which materials are applied. Therefore, 3M's warranty for Film shall be limited to the quality of materials supplied.

The Film is warranted (“**3M Standard Warranty**”) to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this product bulletin. If the Film is proven not to have met the 3M Standard Warranty on their shipment date, then a buyer's exclusive remedy, and 3M's sole obligation, at 3M's option, will be refund or replacement of the Film.

7.2 3M MCS™ Warranty, MCS Warranty for Traffic, and Limited Remedy

For the MCS Warranty, MCS Warranty for Traffic, and limited remedies applicable to the Film, refer to the [3M Sign Warranty Bulletin](#).

7.3 Disclaimer

THE 3M WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING OR OF PERFORMANCE, CUSTOM, OR USAGE OF TRADE.

7.4 Limitation of Liability

Except for the limited remedy stated above, and except where prohibited by law, 3M will not be liable for any loss or damage arising from the Signs or any 3M product, whether direct, indirect, special, incidental, or consequential damages (including but not limited to lost profits, business, or revenue in any way), regardless of the legal theory asserted including warranty, contract, negligence, or strict liability.

8 Other Product Information

Always confirm that you have the most current version of the applicable product bulletin, information folder, or other product information from 3M's website at <http://www.3M.com/roadsafety>.

9 Literature References

3M IF 1.10	Cutting, Premasking, and Prespacing
3M PB 3290	3M™ Engineer Grade Reflective Sheeting Series 3200 and 3M™ Utility Grade Reflective Sheeting Series 5200
3M PB 3430	Engineer Grade Prismatic Reflective Sheeting Series 3430
3M PB 3930	3M™ High Intensity Prismatic Reflective Sheeting Series 3930
3M PB 3930DS	3M™ High Intensity Prismatic Reflective Digital Sheeting Series 3930DS
3M PB 3990	Diamond Grade™ VIP Reflective Sheeting Visual Impact Performance (VIP) Series 3990
3M PB 4000	3M™ Diamond Grade™ DG ³ Reflective Sheeting Series 4000
3M PB 4000DS	3M™ Diamond Grade™ DG ³ Prismatic Reflective Digital Sheeting Series 4000DS
3M PB 4090T	Diamond Grade™ Translucent DG ³ Reflective Sheeting Series 4090T
3M Sign Warranty Bulletin	

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

For Information or Assistance

Call: 1-800-553-1380

In Canada Call:

1-800-3M HELPS (1-800-364-3577)

Internet:

<http://www.3M.com/roadsafety>

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Transportation Safety Division
3M Center, Building 0225-04-N-14
St. Paul, MN 55144-1000 USA

Phone 1-800-553-1380
Web 3M.com/roadsafety

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