

Electronic Cuttable (EC) Film Process

Colored ElectroCut™ Film or EC Film is a common alternative to silk screened inks that provides transparent colored background copy for retroreflective street name signs and other traffic control signs.

3M™ ElectroCut™ Film Series 1170 is a durable, transparent (except for black), acrylic colored film coated with a transparent, pressure-sensitive adhesive that is protected by a removable liner available in the following colors: Yellow 1171, Red 1172, Orange 1174, Blue 1175, Green 1176, Green 1177, Brown 1179, Black (Opaque) 1178

Series 1170 is intended for use on 3M™ Reflective Sheeting used in permanent signing:

- Engineer Grade Prismatic Series 3430
- Advanced Engineer Grade Prismatic Series 7930
- High Intensity Prismatic Series 3930
- Diamond Grade™ DG3 Series 4000



A. Cutter/Plotter



B. Weeding Process



C. Laminating to sheeted aluminum blank



A. The sign legends and background are created using computer sign and graphics software. The images are then sent to a cutter/plotter where the paths that form the edges of the images are cut into the material, but leaves the liner of the material intact.

B. The material is then "weeded". This is the process of picking out the parts of the material that will not be part of the final sign. Application tape is applied to the top of the weeded image, taking care not to get air bubbles under the tape. This will hold the legend together while being transferred to the sign face.

C. The prepared legend is then applied to the sign face, often with the use of a Hand Squeeze Roll Applicator or a hand applicator. The liner is separated from the legend as it is pressed onto the prepared sign face. Care is taken not to introduce air pockets while rolling the legend onto the material. The application tape is then removed and the sign trimmed if needed.

Due to the high transparency of 3M™ acrylic EC Films, retro-reflective signs made with these EC Films give equal or better retroreflective performance than the same sheeting which has been screen printed with transparent inks. Signs made with 3M™ ElectroCut™ Film, using 3M™ reflective sheeting and fabricated to 3M™ specifications, includes the same 3M™ Match Component System™ (MCS) warranty as traditional screen printing.*

*The 3M™ MCS™ Warranty applies to 3930 High Intensity Prismatic sheeting and above.

Comparative Factors	Electronic Cuttable (EC) Film	Screen Printing
Color Availability	3M™ Yellow, Red, Orange, Blue, Green, Black (Opaque) and Brown	Can produce all MUTCD colors. Color matching is available for nearly any color you need
Multi-color Production	Recommended only for simple, separate (unconnected) objects	Superior production process, especially for intricate designs
Graphics Size Constraints	Lettering larger than 1" in height is recommended, and intricate designs may be difficult to cut	Intricate graphics possible
Production Time	Faster only for small quantities (1 or 2) with simple graphics	Usually faster, especially in larger quantities
Unique Processes Required	Film Cutting and Weeding; Transfer Tape application	Screen Prep, Burning & Washing Screening & Drying
Retroreflectivity	Equal or slightly higher: depends on overlay and brightness of substrate	Equal or slightly lower with identical substrate (reflective sheeting)
Durability	Good durability under most conditions, backed by 3M™ warranties	Good durability under most conditions, backed by 3M™ warranties

For more information visit tapconet.com | (800) 236-0112 | sales@tapconet.com



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