

Series 7725

Product Description

- 2-mil cast, vinyl film

Product Features

- Pressure-sensitive permanent adhesive
- Same color on both sides
- Transparent synthetic liner resists moisture absorption and static build up
- Lays flat for easier assembly of multi-color graphics
- Superior cutting as small as 0.25 inch (0.64 cm) and weeding
- Ideal for prespaced and electronically cut, screen printed or used in narrow width thermal transfer printing systems
- Expected Performance Life of 8 years (unwarranted period for unprinted film with no graphic protection, applied to a flat, vertical, outdoor surface)

Recommended Types of Graphics and End Uses

See 3Mgraphics.com/warranties for a complete list of compatible products that are approved by 3M for use with the base film covered in this Bulletin and used for the creation of a graphic that may be eligible for the 3M™ MCS™ Warranty.

- Prespaced and electronically cut graphics
- Commercial and industrial graphic applications, including emblems, vehicle graphics, labels, striping, general signage, and two-way window markings
- Thermal transfer printed graphics

Recommended Compatible Products

See 3Mgraphics.com/warranties for a complete list of compatible products that are approved by 3M for use with the base film covered in this Bulletin and used for the creation of a graphic that may be eligible for the 3M™ MCS™ Warranty.

Screen Printing Inks for 3M™ MCS™ Warranty

- [3M™ Screen Printing Ink Series 1900 \(Solvent\)](#), line color only
- [3M™ Screen Printing UV Ink Series 9800](#), line color only

Graphic Protection

- [3M™ Screen Print Gloss Clear 1920DR](#)
- [3M™ Screen Print Matte Clear 1930](#)
- [3M™ Screen Print UV Gloss Clear 9800CL](#)
- [3M™ Screen Print Matte Clear 9730UV](#)
- [3M™ Screen Print UV Gloss Clear 9740i](#)

Application Tapes

See [3M Instruction Bulletin AT-1](#) to determine what application tape is recommend for your film or finished graphic.

Quick Links

- [3M Graphics Warranties](#)
- [Technical Information Selector](#)
- [Safety Data Sheets \(SDS\)](#)
- [Flammability \(ASTM E84 Reports\)](#)
- [Videos](#)

Some of these links lead to web-based resources that are not product-specific.

3M™ Scotchcal™ ElectroCut™ Graphic Film

Characteristics

These are typical values for unprocessed product. Processing may change the values.

Physical Characteristics

Characteristic	Value																		
Material	Cast vinyl, glossy finish																		
Opacity	Opaque																		
Film Color	See "Colors" on page 3																		
Thickness	Without adhesive: 2 mil (0.05 mm) With adhesive: 2.5 – 3.5 mils (0.063 – 0.09 mm)																		
Adhesive	Pressure sensitive																		
Adhesive Color	Clear																		
Liner	Transparent synthetic																		
Adhesion, Typical 24 hours after application	<table> <tbody> <tr> <td>ABS</td> <td>4 pounds/inch (0.7 kg/cm)</td> </tr> <tr> <td>Acrylic</td> <td>4 pounds/inch (0.7 kg/cm)</td> </tr> <tr> <td>Acrylic enamel</td> <td>4 pounds/inch (0.7 kg/cm)</td> </tr> <tr> <td>Fruehauf pre-painted panels</td> <td>4 pounds/inch (0.7 kg/cm)</td> </tr> <tr> <td>Polycarbonate</td> <td>4 pounds/inch (0.7 kg/cm)</td> </tr> <tr> <td>Urethane paints</td> <td>4 pounds/inch (0.7 kg/cm)</td> </tr> <tr> <td>Aluminum, alodine</td> <td>8 pounds/inch (1.4 kg/cm)</td> </tr> <tr> <td>Chrome</td> <td>5 pounds/inch (0.9 kg/cm)</td> </tr> <tr> <td>Polypropylene</td> <td>3 pounds/inch (0.5 kg/cm)</td> </tr> </tbody> </table>	ABS	4 pounds/inch (0.7 kg/cm)	Acrylic	4 pounds/inch (0.7 kg/cm)	Acrylic enamel	4 pounds/inch (0.7 kg/cm)	Fruehauf pre-painted panels	4 pounds/inch (0.7 kg/cm)	Polycarbonate	4 pounds/inch (0.7 kg/cm)	Urethane paints	4 pounds/inch (0.7 kg/cm)	Aluminum, alodine	8 pounds/inch (1.4 kg/cm)	Chrome	5 pounds/inch (0.9 kg/cm)	Polypropylene	3 pounds/inch (0.5 kg/cm)
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Tensile Strength	5 pounds/inch at 73 °F (0.9 kg/cm at 23 °C)																		
Chemical Resistance	<ul style="list-style-type: none"> Resists mild alkalis, mild acids, and salt Excellent resistance to water (does not include immersion) 																		
Flammability	ASTM E84 test report: click here or go to the On-line Catalog at 3Mgraphics.com All available test reports: call 1-800-328-3908																		

Application Characteristics

Characteristic	Value
Finished Graphic Application Recommendation	Graphic Orientation: Vertical, non-vertical and horizontal Surface type: Flat, with and without rivets, simple curves Substrate type: Metal, glass, acrylic, polycarbonate, fiberglass, painted surfaces Application method: Wet Application temperature: (air and substrate): 50–100 °F (10–38 °C)
Applied Shrinkage	0.010 inches (0.3 mm) maximum
Temperature Range After Application	-40 to +225 °F (-40 to +107 °C) (not for extended periods of time at the extremes)
Graphic Removal	None, permanent

3M™ Scotchcal™ ElectroCut™ Graphic Film

Colors

Solid Colors			Metallic and Transparent
10 White	53 Cardinal Red	101 Nimbus Gray	201 Slate
11 Pearl gray	54 Light Orange	103 Magenta	211 Charcoal
12 Black	56 Dark Green	105 Harvest Gold	217 Dark Blue
13 Tomato Red	57 Olympic Blue	107 Light Blue	227 Bright Blue
14 Bright Orange	58 Burgundy	117 Persian Blue	229 Copper
15 Bright Yellow	59 Putty	120 Satin Aluminum	239 Chocolate Brown
16 Khaki Green	61 Mid Gray	121 Light Gray	241 Gold
17 Vivid Blue	63 Geranium	127 Boat Blue	243 Steampunk Red
19 Deep Mahogany Brown	64 Apricot	131 Satin Gold	247 Petroleum Blue
20 Matte White	65 Light Lemon Yellow	136 Lime Green	249 Champagne
22 Matte Black	66 Forest Green	151 Traffic Gray	114 Transparent
23 Deep Red	69 Duranodic	177 Shadow Blue	
24 Terra Cotta	74 Red Orange	186 Bright Green	
25 Sunflower	77 Peacock Blue	187 Wedgewood Blue	
27 Indigo (Navy)	78 Plum	196 Apple Green	
29 Russet Brown	81 Stone Gray	197 Light Navy	
31 Medium Gray	86 Robin Egg Blue	263 Perfect match Red	
37 Sapphire Blue	89 Sandstone	273 Process Magenta	
38 Royal Purple	90 Antique White	276 Bottle Green	
39 Tan	91 Dove gray	293 Atomic Red	
41 Dark Gray	93 Imperial Red	307 Dark Aqua	
46 Kelly Green	96 Teal	357 Bermuda Blue	
47 Intense Blue	97 Soft Blue	397 Dark Blue	
48 Purple	98 Dark Violet		
49 Beige	99 Fawn		

Warranty Information

i IMPORTANT NOTE

Warranty information including limitations and exceptions and warranty periods for this product can be found at 3Mgraphics.com/warranties.

i IMPORTANT NOTE

Screen printed vehicle graphics require a liquid clear coat in order to be eligible for the 3M™ MCS™ Warranty. Liquid clear coats 1930 and 9730UV may haze, which is not covered by the 3M™ MCS™ Warranty.

i IMPORTANT NOTE

Graphics exposed to abrasive washing conditions, harsh cleaners or chemicals are not eligible for the 3M™ MCS™ Warranty.

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3M™ Scotchcal™ ElectroCut™ Graphic Film

Warranty Coverage Overview

The warranty coverage for eligible graphics is based on the user both reading and following all applicable and current 3M Graphics Product and Instruction Bulletins. The warranty period for eligible graphics is as stated in the 3M Graphics Warranties Matrices at the time that the film was purchased. Information found at 3Mgraphics.com/warranties includes:

- [3M Graphics Warranties Bulletin](#)
 - This bulletin contains information on limitations and exceptions, and warranty period reductions for 3M Graphics Warranties. The warranty period may be reduced and stipulations may apply for certain constructions and applications, and graphic exposures as covered in this Bulletin.
- [3M Graphics Warranties Selector](#)
 - Use this selector to search for your vertical warranty period by product number, ink type, and ink/printer platform.
- [U.S. Desert Southwest Region Map](#)
 - Use this map of hot, arid desert areas to determine if you are subject to reduced warranted durabilities.

The warranties set forth in this Bulletin are made in lieu of all other express or implied warranties, including any implied warranty of merchantability, fitness for a particular purpose, or arising out of a course of dealing, custom, or usage of trade.

3M Basic Product Warranty

3M Graphics Products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in its applicable 3M Graphics Product Bulletin and as further set forth in the [3M Graphics Warranties Bulletin](#).

Limited Remedy

The limited remedy applicable to each warranty is addressed in the 3M Graphics Warranties Bulletin found at 3MGraphics.com/warranties.

Limitation of Liability

Except to the extent prohibited by law, 3M SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO PURCHASER OR USER FOR ANY DIRECT (EXCEPT FOR THE LIMITED REMEDY PROVIDED HEREIN), INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LABOR, NON-3M MATERIAL CHARGES, LOSS OF PROFITS, REVENUE, BUSINESS, OPPORTUNITY, OR GOODWILL) RESULTING FROM OR IN ANY WAY RELATED TO 3M'S GRAPHICS PRODUCTS, SERVICES, OR THIS BULLETIN. This limitation of liability applies regardless of the legal or equitable theory under which such losses or damages are sought.

Warranty Period Matrices (Film Colors 10, 12, 20, 22)

Table A. Warranty Period for Finished Graphics in a Standard U.S. Vertical Exposure.

Graphic Protection	No Printing			SOLVENT Ink Series 1900			UV Ink Series 9800			UV Ink Series 9800 Metallic		
	VEH	OUT	IN	VEH	OUT	IN	VEH	OUT	IN	VEH	OUT	IN
1920DR air dry	—	—	—	5	5	5	—	—	—	—	—	—
1920DR oven dry	—	—	—	6 ¹	6 ¹	6 ¹	—	—	—	—	—	—
1930	—	—	—	2	2	2	—	—	—	—	—	—
9740i	—	—	—	6	6	6	6	6	6	5	5	5
9730UV	—	—	—	3	3	3	3	3	3	—	—	—
9800CL	—	—	—	—	—	—	5	5	5	5	5	5
None	8	7	7	—	—	—	—	—	—	—	—	—

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Warranty Period Matrices (Film Colors 114, 120, 131, 201, 211, 217, 227, 229, 239, 241, 243, 247, 249)

Table B. Warranty Period for Finished Graphics in a Standard U.S. Vertical Exposure.

Graphic Protection	No Printing			SOLVENT Ink Series 1900			UV Ink Series 9800			UV Ink Series 9800 Metallic		
	VEH	OUT	IN	VEH	OUT	IN	VEH	OUT	IN	VEH	OUT	IN
1920DR air dry	—	—	—	5	5	5	—	—	—	—	—	—
1920DR oven dry	—	—	—	5 ¹	5 ¹	5 ¹	—	—	—	—	—	—
1930	—	—	—	2	2	2	—	—	—	—	—	—
9740i	—	—	—	5	5	5	5	5	5	5	5	5
9730UV	—	—	—	3	3	3	3	3	3	—	—	—
9800CL	—	—	—	—	—	—	5	5	5	5	5	5
None	5	5	5	—	—	—	—	—	—	—	—	—

Warranty Period Matrices (All other film colors)

Table C. Warranty Period for Finished Graphics in a Standard U.S. Vertical Exposure.

Graphic Protection	No Printing			SOLVENT Ink Series 1900			UV Ink Series 9800			UV Ink Series 9800 Metallic		
	VEH	OUT	IN	VEH	OUT	IN	VEH	OUT	IN	VEH	OUT	IN
1920DR air dry	—	—	—	5	5	5	—	—	—	—	—	—
1920DR oven dry	—	—	—	6 ¹	6 ¹	6 ¹	—	—	—	—	—	—
1930	—	—	—	2	2	2	—	—	—	—	—	—
9740i	—	—	—	6	6	6	6	6	6	5	5	5
9730UV	—	—	—	3	3	3	3	3	3	—	—	—
9800CL	—	—	—	—	—	—	5	5	5	5	5	5
None	6	6	6	—	—	—	—	—	—	—	—	—

1. Warranty requires oven drying the last color of ink series 1900 and screen print 1920DR for 2 hours at 150 °F (65 °C).

Reduced Warranty Period for Other Graphic Exposures

For other graphic exposures, determine the applicable reduced warranty period by multiplying the standard warranty period (in years) for your graphic construction as shown in the applicable warranty period tables by the percentage shown for the intended graphic exposure. See "Exposure Types" on page 3 of the 3M Graphics Warranties Bulletin for graphic exposure definitions.

Table D. Reduced Warranty Period for Other Graphic Exposures

If the Graphic Exposure is:	Use this Percentage of Vertical Exposure, Warranty Period	Calculation Examples
Desert Southwest Vertical	70%	0.7 x 7 years = 4.9 years
U.S. Horizontal	0%	0 x 4 years = 0 years

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Legibility Warranty - Only for Fleet Graphics with Horizontal Exposure and Selected Constructions

Applications subjected to maximum sunlight and environmental conditions used on rooftops of commercially-owned fleet vehicles where identification from the air is needed are warranted for legibility only for the following constructions. The finished graphic will change color, lose gloss and chalk, which is not covered by warranty.

Film Colors: 10, 11, 12, 13, 14, 15, 20, 22, 53		Horizontal Exposure	
Ink Series	Clear	U.S.	U.S. Desert Southwest
No printing	None	5	3

Additional Limitations

See the 3M Graphics Warranties Bulletin at 3MGraphics.com/warranties, for terms, additional limitations of your warranty, if any, information on reduced warranties for different exposures, and limitations of liability.

Factors that Affect Graphic Performance Life

The actual performance life of a graphic is affected by:

- the combinations of graphics materials used.
- complete ink drying or curing.
- selection, condition and preparation of the substrate.
- surface texture.
- application methods.
- angle and direction of sun exposure.
- environmental conditions.
- cleaning or maintenance methods.

Graphics Manufacturing



Before using any equipment, always read the manufacturer's instructions for safe operation.

Thermal Transfer Printing

Formulations and processing conditions can affect ink durability. Refer to the 3M Product and Instruction Bulletins for your ink limitations and proper usage.

This film can be imaged with narrow width thermal transfer printing systems. Refer to the equipment manufacturer's literature for details.

Screen Printing

Formulations and processing conditions can affect ink durability. Refer to the Product and Instruction Bulletins for your ink for limitations and proper usage.

Whether you apply screen print clears with traditional screening methods or roller coating, use equipment designed to handle high viscosity materials and make sure the coating is evenly applied to the specifications in the clear's 3M Instruction Bulletin.

Cutting

See [3M Instruction Bulletin 4.1](#) for Sheeting, Scoring and Film Cutting details.

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Weeding

The excess film should be weeded (removed) as soon after cutting as practical. This is to minimize the effect of possible adhesive flow 24 or more hours after cutting.

Graphic Protection

Graphic protection may improve the appearance, performance and durability of the graphic. Click on the graphic protection options listed in the "Recommended Compatible Products" on page 1 or see the [3M Graphics Market Product Catalog](#), for more information.

Application Tapes

There are two types of application tapes. See [3M Instruction Bulletin AT-1](#) to determine what application tape is recommended for your film or finished graphic.

Premasking Tape

Increases stiffness during application while preventing stretching and damage. Use when little or no liner is exposed. See [3M Instruction Bulletin 4.3](#) for complete details.

Prespacing Tape

Holds cut and weeded letters or graphics in place during application and after removing the film liner, while preventing stretching and damage. Use when large amounts of liner are exposed. See [3M Instruction Bulletin 4.3](#) for complete details.

Application and Installation

In addition to other 3M Bulletins specified in this document, the following Bulletins provide details that you may need to successfully apply a graphic.

- [3M Instruction Bulletin 3.11](#). Screen Printing, 3M™ Screen Printing Ink Series 1900 four color and Screen Print Clear VI0402.
- [3M Instruction Bulletin 3.12](#). Screen Printing, 3M™ Screen Printing Ink Series 1900 Line Color and Screen Print Clear VI0402.
- [3M Instruction Bulletin 3.20](#). Screen Printing, 3M™ Screen Printing UV Ink Series 9800 for Line Color Only.
- [3M Instruction Bulletin 3.21](#). Screen Printing, 3M™ Screen Printing UV Ink Series 9800 for Four Color Only.
- [3M Instruction Bulletin 5.5](#) Application, General Procedures for Interior and Exterior Dry Application
- [3M Instruction Bulletin 5.7](#). Application, Wet Method for Translucent, Inkjet, Screen Printed and Cut Graphics.

Maintenance and Cleaning

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline). See [3M Instruction Bulletin 6.5](#) for details.

Removal

This film uses a permanent adhesive. This film is not easily or cleanly removable. See [3M Instruction Bulletin 6.5](#) for details.

3M™ Scotchcal™ ElectroCut™ Graphic Film

Shelf Life, Storage and Shipping

Shelf Life

The shelf life is **never more than 3 years** from the date of manufacture on the original box.

If you process the film, the shelf life is changed to **1 year** from the processing date, but not later than the 3 year maximum from the manufacturing date.

Storage Conditions

- 40° to 100°F (4° to 38°C)
- Out of sunlight
- Clean, dry area
- Original container
- Bring the film to print room temperature before using

Shipping Finished Graphics

Flat, or rolled printed side out on 5 inch (13 cm) or larger core. This helps prevent the liner, and, if used, the application tape from popping off.

Health and Safety



CAUTION

When handling any chemical products, read the manufacturers' container labels and the Safety Data Sheets (SDS) for important health, safety and environmental information. To obtain SDS sheets for 3M products go to 3M.com/SDS, or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

Bulletin Change Summary

For the most current 3M Technical Information available to successfully use this product, please view this Bulletin electronically and click on the blue underlined links to view the relevant documents. This Bulletin has been substantially changed. Please read the entire Bulletin thoroughly.

Release R APR-2016:

- Updated Product Bulletin to new format.
- Updated color options, see "Colors" on page 3.

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