



Scotchcal™

Graphic Film Series 7725SE

Description

3M™ Scotchcal™ Graphic Film Series 7725SE is intended for making prespaced, cut graphics on electronically controlled, friction-fed or flatbed cutters. A transparent liner prevents moisture absorption, and lays flat for easier assembly of multicolor special-effect graphics, from dusted and frosted crystal to fluorescent. This film is perfect for creating window graphics and internally-illuminated displays applied to flat, clear surfaces.

Applications and Uses

Film series 7725SE is intended for use with the listed Compatible Products in the following applications. These types of applications are warranted by the 3M™ MCS™ Warranty.

- Dusted and frosted crystal films are intended for creating window graphics and internally-illuminated displays applied to flat, clear surfaces
- Fluorescent films are intended for screen printed, die cut, hot stamped, or electronically-cut graphics where high visibility markings and weather resistance is needed
- Fluorescent films can be used on flat surfaces with or without rivets
- For interior and exterior applications

Limitations of End Uses

We do not normally warrant other applications, but please contact us to discuss your needs or let us suggest other 3M products.

The following uses and applications are specifically NOT warranted:

- Screen printing on dusted or frosted crystal films
- Application of dusted crystal film between two sheets of glass
- Application to corrugated surfaces
- Application to non-vertical surfaces
- Exposure to petrochemical spills
- Using fluorescent films where black light fluorescence is required.
- 3M Commercial Graphics Division products are not tested against automotive manufacturers' specifications and are, therefore, not warranted for use in fabricating graphics for automotive Original Equipment Manufacturers (OEM).

Characteristics of Dusted and Frosted Crystal Films

- Durable, dimensionally stable, translucent film
- Uniform color in both reflected and transmitted light
- Low gloss eliminates glare
- Dusted crystal film 7725-314 has the uniform appearance of etched glass.
- Frosted crystal films 7725-323, -324, -326, -327 and -331 have the uniform appearance of sand-blasted glass.

Characteristics of Fluorescent Films

- Durable, dimensionally stable, glossy opaque film
- Activated by exposure to near-ultraviolet visible light
- Does not fluoresce under invisible ultraviolet light (black light)
- Fluorescent films 7725-404, -405, -406, -407, -413 and -414 are extremely conspicuous under all daylight conditions and provide the high attention value desired under conditions of poor visibility, particularly at dawn or dusk.

Compatible Products

Ink

3M™ Screen Printing Ink Series 1900 (for fluorescent film only)

Note: For the full product names of the 3M products listed on this page, please see page 1.

Characteristics

This information is subject to change.

Property	Description		
Colors and product numbers	Dusted Crystal	Frosted Crystal	Fluorescent
	314 Dusted Crystal	323 Frosted Rose 324 Frosted Crystal 326 Frosted Mint 327 Frosted Blue Mist 331 Frosted Gold	404 Yellow Orange 405 Yellow 406 Green 407 Blue 413 Fuchsia 414 Red Orange
Thickness	2 mils (0.06 mm) <i>without adhesive</i> 3-5 mils (0.08-0.12 mm) <i>with adhesive</i>		
Opacity	Translucent	Translucent	Glossy opaque
Liner	Transparent synthetic	Transparent synthetic	Kraft paper, white
Adhesive	Clear, pressure sensitive	Clear, pressure sensitive	White, pressure sensitive
Minimum application temperature	40°F (4°C)		
Removal	Permanent		
Application surfaces	Flat only	Flat only	Flat, with or without rivets
Recommended substrates	Flat clear substrates such as glass, acrylic, or polycarbonate		Painted metal, aluminum, glass, acrylic, polycarbonate

Effective Performance Life

The effective performance life is based on field experience and exposure tests conducted throughout the United States. When the graphics are processed and used according to 3M recommendations, they should have the performance life shown in the charts below. The actual performance depends on the:

- Selection and preparation of the substrate
- Application methods
- Exposure conditions
- Cleaning methods

Warranted Durability

Film Series 7725SE	 Vertical Exposure <i>face of graphic is ± 10° from vertical</i>					
	Dusted Crystal		Frosted Crystal		Fluorescent	
	7725-314		7725-323 7725-324 7725-326	7725-327 7725-331	7725-404 7725-405 7725-406	7725-407 7725-413 7725-414
	U.S. years	S.W.² years	U.S. years	S.W.² years	U.S. years	S.W.² years
Unprinted						
Exterior exposure	3	2	3	2	1	9 months
Interior (no direct UV light)	15	15	15	15	5	5
Inside of exterior window	5	4	5	4	n/a	n/a
Printed with 3M™ Screen Printing Ink Series 1900 with Overprint Clear 1920DR						
Outside exposure	0	0	0	0	1	9 months
Interior (no direct UV light)	0	0	0	0	5	5

¹ Non-vertical applications must be on a test and approval basis to determine acceptability. 3M does not warrant non-vertical exposures.

² The U.S. Desert Southwest includes Arizona, New Mexico, and the desert areas of California, Nevada, Utah, and Texas. A detailed map is available by request. The warranty for this area is reduced because there is more solar energy. This warranty applies to graphics exposed to solar energy in the U.S. Desert Southwest more than 50% of the time.

Note: For the full product names of the 3M products listed on this page, please see page 1.

Fabrication

This Bulletin does not contain detailed printing, processing, or application procedures. Refer to the 3M Related Literature section for further information.



Caution

Prevent personal injury due to slipping. Transparent liners can be slippery and difficult to see on walking surfaces. Immediately dispose of the waste liner.

Minimum Cutting Heights

The minimum height recommended for text when using film series 7725SE is 0.375 inch (9.5 mm) for dusted and frosted crystal film and 0.5 inch (12.7 mm) inches for fluorescent film. This is based on cutting and weeding evaluation using upper case Helvetica medium copy. Users are encouraged to do their own evaluation for the specific heights and design detail required for a particular job. The variable characteristics of electronically controlled cutting equipment warrants that users verify their specific requirements.

Factors that affect cutting quality and capability that the user needs to consider are:

1. Sharpness of knife blade: dull blades create a serrated look on the edge of the cut film.
2. Weight on knife blade:
 - Ideal weight will result in a slight scoring of the liner.
 - Too light a weight will cause incomplete cutting through film and adhesive.
 - Excessive weight results in cut liner, blade dragging which will accelerate blade wear.
3. Temperature and relative humidity are minor considerations, but extremes, as well as rapid fluctuations, are to be avoided.
4. Stock film should be stored in the same environment as the cutting equipment.
5. Stroke width of characters, style of serifs or extensions and small details of scanned or digitized artwork.
6. Minimum recommended stroke width is 0.04 inches (1.0 mm) when applied film is exposed to cleaning or other physical stress.

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.

Application Tapes

Conditions	3M Application Tapes	
Type of film	Dusted and Fluorescent	Frosted
General premasking	SCPM-3	SCPS-2 and SCPS-53X
General prespacing	SCPS-2	SCPS-53X

Shelf Life, Shipping, and Storage

- The shelf life of the film cannot exceed two years from the date of receipt from 3M.
- Store the film in a clean, dry area, out of direct sunlight, and at less than 100°F (38°C).
- Ship the finished graphic lying flat or in a roll. To roll the graphic, wrap it film-side out onto a core that is 6 inches (15 cm) or larger in diameter. These methods help prevent the film and premask from wrinkling or popping off the liner.

Health and Safety



Caution

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information.

To obtain MSDS sheets for 3M products:

- By fax, call 1-800-364-0768 in the US and Canada or 1-650-556-8417 for all other locations.
- Electronically, visit us at <http://www.3M.com/MSDS>.
- 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.

Product Data

The values given are typical for 3M™ Scotchcal™ Graphic Film Series 7725SE. For a custom specification, submit a request to your 3M sales representative.

Physical Properties

Property	Value
Tensile strength (minimum)	at 73°F (23°C)
Dusted & Fluorescent	5 pounds/inch (0.9 kg/cm)
Frosted	3.5 pounds/inch (0.6 kg/cm)
Applied shrinkage	0.015 inch 0.3 mm
Service temperature range	-20° to +175°F -29° to +80°C

Adhesion

Adhesion value is 24 hours after application.

Substrate	Value
Acrylic	4.0 pounds/inch (0.7 kg/cm)
Polycarbonate	4.0 pounds/inch (0.7 kg/cm)
Glass	4.0 pounds/inch (0.7 kg/cm)

Chemical Resistance

- Resists mild acids, mild alkalis, and salts
- Excellent water resistance

Flammability

Film series 7725SE has been tested for flame spread per ASTM E84-95, "Surface Burning Characteristics of Building Materials," and the results show that the material meets the requirements of National Fire Protection Association Class A as defined in NFPA 101, "Life Safety Code."

Film	Flame Spread Index	Smoke Developed Index
7725-314 Dusted Crystal	0	0
7725-324 Frosted Crystal	0	0
7725-331 Frosted Gold Crystal	0	0

Warranty and Limited Remedy

The following is made in lieu of all other express or implied warranties, including any implied warranty of **merchantability** or fitness for a particular purpose: Film series 7725SE 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. 3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. See the worldwide 3M™ MCS™ Warranty bulletin, which gives the terms and limitations of the warranty.

These remedies are exclusive. In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.

Attention:

Scotchprint® Graphics Authorized Manufacturers

There's a whole other world behind the Scotchprint® Graphics Internet site (www.scotchprint.com) and you can travel there with the Scotchprint® Graphics Network. This password-protected Web site opens the door to exclusive Scotchprint® Graphics product information, services and product promotions for 3M's Scotchprint® Graphics Authorized Manufacturers.

There's no charge and you can sign up today. Just ask your Commercial Graphics Division sales representative, or contact Lisa Burns (ljburns3@mmm.com).

Related 3M Literature

Before starting any job, be sure you have the most recent product and instruction bulletins.

Listed below is related 3M technical literature that may be of interest. You may view and print these Bulletins from our Web site at www.scotchprint.com, or order them via our Fax-on-Demand (FOD) system. Call one of these phone numbers to order the desired bulletins, and specify the FOD document number provided in the chart.

United States or Canada: 1-800-364-0768

International: 1-651-732-6506

Subject	Bulletin No.	FOD No.
Product Bulletins		
3M™ Screen Printing Ink Series 1900	1900	2501
Instruction Bulletins		
Screen printing with ink series 1900	3.11	6011
Design of graphics	2.1	5501
Using 3M application tapes; premasking and prespacing for films	4.3	6503
Application, substrate selection, preparation and substrate-specific application techniques	5.1	7001
Application, flat rigid plastic signs, translucent pressure sensitive and changeable films	5.7	7007
Application, flat glass, translucent pressure sensitive and changeable films	5.8	7008
Storage, handling, maintenance, removal	6.5	8505

Bulletin Change Summary

Release E: Corrected color names of 7725SE-326 and 7725SE-327. Moved thickness information from Physical Properties to Characteristics.

Release F: name for film series 7725; added 7725-407 Blue to in the product description under Characteristics, page 2.



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