



# Controltac™ Plus

## Graphic Film Series 8660 ES

### Description

#### Advantages

- Positionable
- Outstanding resistance to dirt and other environmental factors and wear from high foot traffic.
- Removable without accessories or chemical strippers
- For electrostatic imaging
- Excellent hiding power (8660–10 white)
- Wide application temperature range

#### Applications and End Uses

3M™ Controltac™ Plus Graphic Film Series 8660 ES is designed only for making durable, removable graphics for floors when this film is overlaminated with 3M™ Scotchcal™ Luster Overlamine Film 8945 ES. These types of graphics are warranted:

- Graphics for floors, screen printed or digitally imaged using 3M screen printing inks. These graphics are warranted by the 3M™ MCS™ Warranty and can carry the Scotchprint® Graphics name.


#### 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.

Specifically, we do not warrant this film for the following:

- Graphics that are not overlaminated
- Graphics used for purposes other than for floors
- Graphics applied to substrates other than those recommended
- Graphics made from individually cut numbers, letters and characters

### Warranted Application Surfaces

 <b>Warning</b>
The safety and performance of these films are warranted or assured only on the surfaces listed below. Any other surface must be approved in writing by 3M Commercial Graphics Technical Service prior to application.
<b>FOR INDOOR USE ONLY.</b>

- Waxed vinyl
- Sealed concrete
- Marble
- Terrazzo
- Ceramic
- Finished wood

#### Compatible Products

- 3M™ Trident Transfer Paper
- Scotchprint® Toner Series 8700/8800
- 3M™ Scotchcal™ Luster Overlamine Film 8945 ES

### Product Line

Characteristic	Description
Film	<b>8660–10</b> white, opaque 4 to 5 mil (0.10 to 0.13 mm) <b>8660–114</b> clear 4 to 5 mil (0.10 to 0.13 mm)
Thickness (film plus adhesive)	4.5 to 5 mil (0.11 to 0.13 mm)
Adhesive	Positionable, pressure activated
Adhesive color	<b>8660–10</b> gray pigmented adhesive <b>8660–114</b> clear adhesive
Liner	94 pound, premium performance
Application temperature	50° to 100°F (10° to 38°C)
Removability	1 year
Removal temperature	50° to 100°F (10° to 38°C)
Roll sizes	36" x 50 yards (91 mm x 45 m) 48" x 50 yards (122 mm x 45 m) 54" x 50 yards (137 mm x 45 m)

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

## Effective Performance Life

When film series 8660 is laminated with overlamine film 8945 in accordance with 3M recommended procedures, the following performance may be expected. The performance statements are based upon foot traffic experience in the field. Graphics may be damaged by pallets or heavy equipment such as fork-lifts; minor edge chipping is unavoidable. This type of damage is not covered by 3M's warranty. Performance depends upon preparation of the floor before application, the exposure conditions, the maintenance of the graphics, and the condition of the floor.

**Durability:** Interior floors for 1 year

## Fabrication

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

### Overlamine

To be a warranted graphic, film series 8660 must have overlamine film 8945 applied.

### Premasking and Prespacing

Film series 8660 does not require a premasking or prespacing tape for application.

## Shelf Life and Storage

The shelf life of the unprocessed film is 2 years from receipt from 3M. Processed film should be applied within 1 year.

The film and graphics must be stored in a clean area, away from excessive moisture and direct sunlight, with ambient temperatures of 100° F (38°C) or less.

## Physical Properties

The values given are typical for unprinted film series 8660 and are not for use in specifications. If a specification is desired, contact your local 3M sales representative to request one.

Property	English Units	Metric Units
Tensile strength (minimum)	13 pound/inch at 73°F	2.3 kg/cm at 23°C
Dimensional Stability	0.032 inch	0.8 mm

## 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.

## Warranty and Limited Remedy

*This warranty is made in lieu of any and all other express or implied warranties, including any implied warranty of merchantability:* 3M warrants that 3M™ MCS™ Graphics for Floors and Scotchprint® Graphics for Floors that are constructed using only the recommended 3M overlamine films, graphic films, toners, and screen printing inks or 3M-approved offset inks, and produced and installed in accordance with 3M's written instructions, will for a period of 1 year after application have the following expected performance: maintain original brightness, color, and image quality, excepting ordinary and expected wear and tear, and adhere to 3M-recommended floor surfaces and be removable without damage to the surface. 3M will replace or refund the price of such quantity of graphics for floors found not to meet this warranty.

**This warranty is exclusive. In no case shall 3M be liable for any other direct or indirect damages or loss, including without limitation any incidental, special, or consequential damages, or any labor charges incident to the removal or replacement of graphics for floors.**

## 3M Related Literature

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](http://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.
<b>Product Bulletins</b>		
3M™ Scotchcal™ Luster Overlamine Film 8945 ES	8945	3515
3M™ Trident Transfer Paper	Trident	3567
Scotchprint® Exterior Toner Series 8700/8800	8700/ 8800	3514
<b>Instruction Bulletins</b>		
Design of graphics	2.1	5501
Toners, Scotchprint® Toner Series 8700/8800	4.12	6512
Transferring and laminating electrostatically printed images	4.7	6507
Laminating graphics for floors	5.19	7019
Applying/maintaining graphics for floors	5.26	7026
<b>Warranties</b>		
<b>Worldwide 3M™ MCS™ Warranty Packet</b> <i>(includes all Commercial Graphics MCS Warranties)</i>		9503
Worldwide 3M™ MCS™ Warranty Overview-Folder		9504
Scotchprint® Graphics Warranty <i>(includes overview)</i>		9505

*Scotchprint is a registered trademark of 3M in the US and other countries.  
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