



# Switch On

## Introducing the first

### graphic films that optimize LED light

#### 3M™ Envision™ Translucent and Diffuser Films

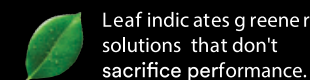
You no longer need to add more LEDs to get the level of brilliance you want. Now you can deliver rich, vibrant signs without hot spots when you use the NEW 3M™ Envision™ Translucent Films and 3M™ Envision™ Diffuser Films. Get great graphics requiring fewer LEDs, using less energy. The switch to LEDs is on, so lead the way and offer your customers a brilliant solution.



Make the **switch.** **3M**

## 3M™ Envision™ Translucent Film Series 3730

	Yellow 33730-015L PANTONE® 116 C		Regal Red 3730-83L		Process Blue 3730-337L		Green 3730-26L PANTONE® 7727 C
	Golden Yellow 3730-125L PANTONE® 116 C		Burgundy 3730-49L		Intense Blue 3730-127L		Vivid Green 3730-156L PANTONE® 348 C
	Orange 3730-44L		Raspberry 3730-133L		Bright Blue 3730-167L PANTONE® 2935 C		Brilliant Green 3730-106L
	Light Tomato Red 3730-43L PANTONE® 1795 C		Plum Purple 3730-128L		Bristol Blue 3730-97L		White 3730-20L
	Red 3730-33L PANTONE® 186 C		Blue 3730-36L		European Blue 3730-137L		
	Dark Red 3730-73L PANTONE® 7621 C		Sultan Blue 3730-157L		Teal Green 3730-246L		
	Cardinal Red 3730-53L PANTONE® 200 C		Olympic Blue 3730-57L		Holly Green 3730-76L		



**Can't find your color?**  
No problem — we can custom match colors for you. Contact your local 3M distributor or sales representative to find out how easy it is to get the perfect film for your needs in the perfect color for your brand.  
To learn more visit [3M.com/graphics](http://3M.com/graphics).



Colors shown on a monitor and when printed are approximate representations of actual color available. Some of these products are a simulation of the closest PANTONE®-identified color standard. Consult current PANTONE Color Publications for accurate color.

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3M™ Scotchcal™ Translucent Graphic Film  
Series 3630

	Yellow 3630-15 PANTONE® 116 C		Burnt Orange 3630-124		Berry Burgundy 3630-328		Electric Blue 3630-27
	Marigold 3630-75 PANTONE® 7549 C		Light Tomato Red 3630-43		Intense Magenta 3630-118 PANTONE 241 C		Blue 3630-36 PANTONE® 281 C
	Sunflower 3630-25 PANTONE® 130 C		Poppy Red 3630-143 PANTONE® 485 C		Fuchsia 3630-38		Patriot Blue 3630-47
	Golden Yellow 3630-125		Scarlet 3630-163		Raspberry 3630-133 PANTONE 220 C		Sultan Blue 3630-157 PANTONE® 287 C
	Autumn Yellow 3630-235		Fire Engine Red 3630-93		Electric Pink 3630-98		Deep Sea Blue 3630-217
	Yellow Rose 3630-135		Red 3630-33 PANTONE® 1797 C		Vivid Rose 3630-78 PANTONE® 205 C		Azure 3630-227
	Poppy Orange 3630-144		Dark Red 3630-73 PANTONE® 7621 C		Plum Purple 3630-128 PANTONE® 525 C		Lt European Blue 3630-147 PANTONE® 7690 C
	Kumquat Orange 3730-74 PANTONE® 151		Cardinal Red 3630-53 PANTONE® 187 C		Bright Violet 3630-158		Olympic Blue 3630-57
	Tangerine 3630-84 PANTONE® 1575 C		Regal Red 3630-83		Indigo 3630-77		Process Blue 3630-337
	Orange 3630-44		Burundy 3630-49		Royal Blue 3630-87 PANTONE® 2745 C		Intense Blue 3630-127 PANTONE® 300 C

	Bright Blue 3630-167 PANTONE® 2945 C		Turquoise 3630-236 PANTONE® 3282C		Lime Green 3630-136 PANTONE® 360 C		Gold Nugget 3630-141
	Bristol Blue 3630-97		Blue Lagoon 3630-86		Brilliant Green 3630-106 PANTONE® 368 C		Gold Metallic 3630-131 PANTONE® 872 C
	Sapphire 3630-37		Jade Green 3630-316		Lt Lemon Yellow 3630-115		Dover White 3630-111
	Marine Blue 3630-287		Dk Emerald Green 3630-126 PANTONE® 3425 C		Ivory 3630-5 PANTONE® 7500 C		White 3630-20
	Twilight Blue 3630-297		Green 3630-26 PANTONE® 7727 C		Light Beige 3630-149		Shadow Grey 3630-71 PANTONE® Gray 7 C
	Infinity Blue 3630-187		Holly Green 3630-76 PANTONE® 7734C		Warm Beige 3630-39		Silver Gray 3630-51
	European Blue 3630-137 PANTONE® 2757 C		KY Blue Grass 3630-276		Rust Brown 3630-63 PANTONE® 7610 C		Slate Gray 3630-61
	Glacial Green 3630-56		Forest 3630-196		Dark Brown 3630-59		Black 3630-22 PANTONE® Black C
	Blue Coral 3630-216		Light Kelly Green 3630-146 PANTONE® 340 C		Duranodic 3630-69 PANTONE® Black 7 C		
	Teal Green 3630-246 PANTONE® 321 C		Vivid Green 3630-156		Silver 3630-15 PANTONE® 877 C		



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Product Description

- Vinyl translucent film for Screen Printing, Cut Graphics and Thermoforming
- Designed for fluorescent or LED lighting applications
- Expected Performance Life (unwarranted period for unprinted film with no graphic protection, applied to a flat, vertical outdoor surface under Northern European climate conditions):
  - White/Black10 years
  - All Colors10 years
  - Metallic5 years

Note: This document uses hyperlinks. Please follow the links for additional information.

Recommended types of graphic and use

- Indoor and outdoor use on internally-illuminated sign faces
- First and second surface application on rigid substrates
- First surface application only on 3M™ flexible substrates
- Thermoforming on rigid plastic substrates
- For LED back-lit applications 3M recommends 3M™ Envision™ Translucent Film Series 3730, IJ3730-50 and IJ3730-60

Surface types

Flat

Product Line

Product name	Description
3M™ Scotchcal™ Graphic Film 3630-X	X = color code, translucent film with a semi-matte finish. Wide selection of colors. Special colors available on request.
3M™ Scotchcal™ Graphic Film IJ3630-20	white, translucent film with a semi-matte finish
3M™ Scotchcal™ Graphic Film IJ3630LED-20	white, translucent film with a semi-matte finish

Recommended Compatible Products

[Follow the link for further information about selection and use of compatible protective overlaminates and printable clears.](#)

[See instruction bulletin ‘AT-1’ for information about selection and use of suitable application tapes for this product, please.](#)

Physical Properties

The values displayed are the results of illustrative lab test measurements made according to the indicated external norm and shall not be considered as a commitment from 3M.

Characteristic	Value	
Material	Cast vinyl	
Thickness	Film without adhesive:	0.05 ± 0.005 mm
ISO 534	Film with adhesive:	0.08 – 0.1 ± 0.005 mm
Adhesive	Acrylic, pressure-sensitive	
Adhesive appearance	Clear	
Indicative values FTM 1, 24 h 23°C/50%RH	Acrylic and uncoated, clear polycarbonate	15 ± 2 N/25 mm
Applied shrinkage FTM 14	0.3 mm	
Liner	Transparent synthetic Inkjet print products: back-sided polyethylene coated paper	
Application method	Wet or dry	
Substrate types	glass, PMMA, PC*, PETG*, flexible sign making substrates The application of film onto glass can cause glass break by uneven heat absorption through sun exposure. 3M does not accept liability for glass breakage. * Polycarbonate substrates may require oven drying before use due to outgassing of moisture from the polycarbonate causing the film to bubble. Refer to the manufacturers' instructions.	
Application temperature	+16°C	Flat
Temperature range after application	-44 to +77°C  (not for extended periods of time at the extremes)	
Chemical Resistance	• Resists mild alkalis, mild acids, and • Excellent resistance to water (does not include immersion)	
Flammability	Flammability standards are different from country to country. Ask your local 3M contact for details, please.  <a href="#">Follow the link to check for available fire certificates.</a>	

Warranty Information

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.

3M™ Performance Guarantee and MCS™ Warranty

3M provides a guarantee/warranty on a finished applied graphic within the framework of 3M™ Performance Guarantee and/or 3M™ MCS™ warranty programs.

[Follow the link 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 or 3M Performance Guarantee.](#)

## Limited Remedy

### Unsuitable End Uses

3M recommended product end uses are listed in each 3M graphics product bulletin. End uses not listed in the applicable 3M Graphics Product Bulletins are typically not eligible for 3M Graphics Warranties. For non-recommended and/or non-warranted end uses or applications, users must test and approve the end uses or applications, assume any associated risks, and acknowledge that 3M has no liability for such end uses or applications. Please contact your 3M representative with any questions about graphic applications, end uses, and warranties.

### Limitations of liability

All questions of warranty and liability relating to this product are governed by the terms and conditions of the sale, subject, where applicable, to the prevailing law.

3M Commercial Solutions products are not tested against automotive manufacturer specifications!

## Graphic Manufacturing

### Matching

Whenever two or more pieces of the same translucent graphic film are seamed together as a continuous band of colored graphic film, they should be matched to assure uniform daytime and night appearance.

Material from a single roll or lot must be used on a single graphic or sign for identical matching.

In general, translucent graphic film from a roll must be matched as shown in FIGURE 1. The dark line represents one edge of the film.

The matching edges are always swung to meet each other. Panels 1 and 2 are a matched set. Pieces 1, 2 and 3 are matched, etc. By following this method you can match as many sheets from a roll as are required for any size sign.

Exact match between different run numbers should not be assumed.

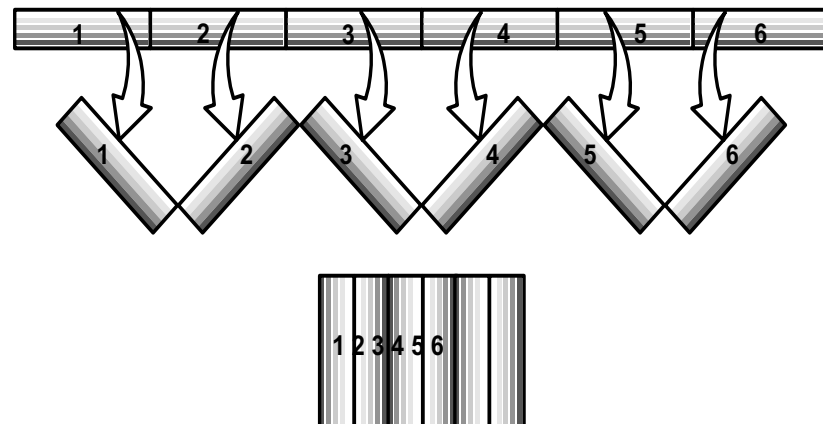
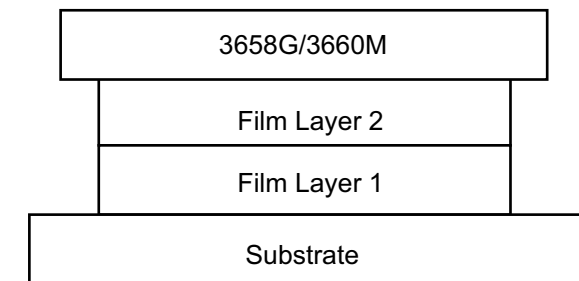
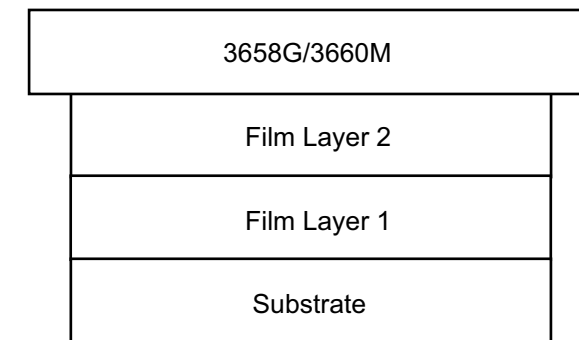


FIGURE 1

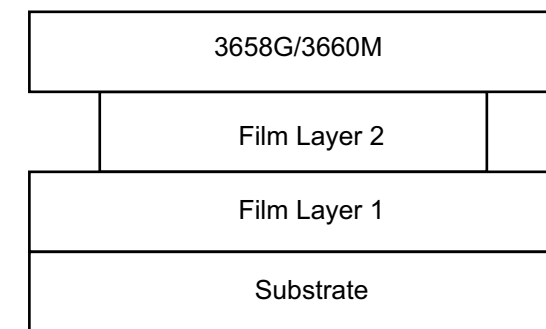
**Note:** A third layer of film is warranted only if the top layer is 3M™ Scotchcal™ Gloss Overlaminate 3658G/3660M. In addition, just two of the three layers should be aligned to the edge of the substrate (FIGURE 2).



Extend protective laminate minimum 25 mm beyond edges of film layers.



Extend protective laminate minimum 25mm beyond edges of film layers and wrap it around the back of substrate.



Align protective layer to the edge of the substrate and cut one of the two film layers minimum 25 mm smaller.

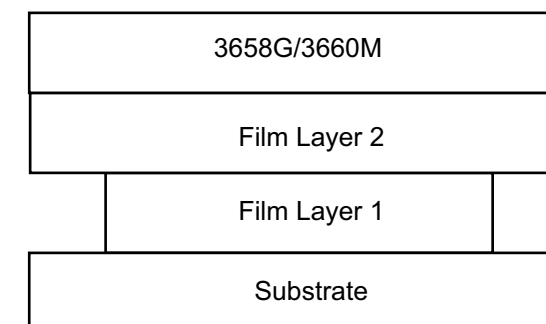


FIGURE 2



### Inkjet printing

A too high total physical ink amount on the film results in media characteristic changes, inadequate drying, overlamine lifting, and/or poor graphic performance. The maximum recommended total ink coverage for this film is 270%.

See the individual ink bulletins for details, please.

IMPORTANT NOTE: Incomplete drying or curing can result in graphic failure including curling, increased shrinkage and adhesion failure, which are not covered under any 3M Graphic Warranty.

Special Instructions for HP Latex 831/891.

### Screen printing

Formulations and processing conditions can affect ink durability. Refer to the 3M Product and Instruction Bulletins for your ink for limitations and proper usage. Graphic protection can improve the appearance, performance and durability of your graphic.

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.

See the individual ink bulletins for details, please.

### Thermoforming

Refer to Instruction Bulletin 5.16 'Thermoforming' for special recommendations, limitations and processing requirements when forming with applied films. Forming of applied film on sheets should not exceed 50% elongation.

See 3M Instruction Bulletin 5.16 for general information about Thermoforming.

### Sheeting, Scoring and Film Cutting

See 3M Instruction Bulletin 4.1 for Sheeting, Scoring and Film Cutting 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.

See 3M Instruction Bulletin 4.22 to obtain general information about ink drying and lamination of printed graphics.

See 3M Instruction Bulletin 5.5 for general procedures for interior and exterior dry application.

## Maintenance, Cleaning and Removal

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).

These films can be removed with the aid of heat and/or chemicals.

See 3M Instruction Bulletin 6.5 for information about storage, handling, maintenance and removal of films and sheetings.

### Graphic Repair

Once the graphic has been exposed to outdoor weathering, it is not possible to repair the graphic to the original state. Repair is possible if color and/or gloss is not relevant. Sometimes graphic damage can be repaired, but visible differences will most likely occur. However, repaired graphics are not warranted. These procedures are for information only.

## Shelf Life, Storage and Shipping

The shelf life as defined below remains an indicative and maximum data, subject to many external and non-controllable factors. It may never be interpreted as warranty.

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: +4°C to +40°C, out of sunlight, original container in clean and dry area.

Shipping finished graphics: Flat or rolled printed side out on 6 inch (15 cm) or larger core.

## Health and Safety

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

Follow the link to obtain SDS sheets for 3M products on 3M.com/SDS.

Follow the link to obtain information about substances of very high concern (SVHC).

IMPORTANT! When using any equipment, always follow the manufacturer's instructions for safe operation.

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