



Scotchcal™ Translucent Graphic Film

Serie 3630

Scotchcal™ Translucent Graphic Film

IJ3630-20

Scotchcal™ Translucent Graphic Film

IJ3630LED-20

Product Bulletin

Product Description

These cast films are perfect for durable, dimensional stable backlit applications. The low-gloss surface of film series 3630, IJ3630-20 and IJ3630LED-20 eliminates glare and provides a uniform color with both reflected and transmitted light.

Film series 3630 and IJ3630-20 are recommended for signs using fluorescent lighting components. IJ3630LED-20 is recommended for LED edge-lit applications.

The inkjet versions are perfect to print with most ink systems with single or even double pass printing.

Remark: For LED back-lit applications we recommend film series [3730](#), [IJ3730-50](#) and [IJ3730-60](#).

All films are suitable for thermoforming.

Product Line	Illuminated signage	3630-X	X = color code, translucent, semi-matte, permanent adhesive (clear). Wide selection out of large color range. Special colors available on request.
		IJ3630-20	white, translucent, semi-matte, permanent adhesive (clear).
		IJ3630LED-20	white, translucent, semi-matte, permanent adhesive (clear).

Product Characteristics

Physical & Application

These are typical values for unprocessed products.
Contact your 3M representative for a custom specification.

Material	cast vinyl	
Surface finish	semi-matte	
Thickness (film)	50 µm (0.05 mm)	
Adhesive type	pressure-sensitive	
Adhesive appearance	clear	
Liner	transparent synthetic inkjet print products:	back-sided Polyethylene coated paper
Adhesion	approx. 15 N/25 mm	FTM 1: 180° peel, substrate: glass; cond: 24 h 23°C/50%RH
Application method	wet or dry	
Applied shrinkage	< 0.3 mm	FTM 14
Application temperature	+16°C	for flat surfaces (minimum air and substrate)
Service temperature	-44°C to +77°C	
Surface type	flat to simple curved	
Substrate type	glass, PMMA, PC*, PETG*, flexible sign making substrates	

*Might require drying with heat before use

Graphic removal Fair to remove with heat and/or chemicals from supported substrates.
No liability is given for ease or speed of removal of any graphic. Pay attention to adequate air and substrate temperature.

Recommended light source 3630: Fluorescent bulb

Storage Shelf life Use within two years from the date of manufacture on the sealed original box.
Use within one year after opening the box.

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

Flammability Flammability standards are different from country to country. Ask your local 3M contact for details, please.

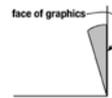
Durability Unprocessed film The following durability data are given for unprocessed film only!
3M™ Performance Guarantee and MCS™ Warranty In addition, 3M provides a guarantee/warranty on a finished applied graphic within the framework of 3M™ Performance Guarantee and/or 3M™ MCS™ warranty programs.
Visit www.3mgraphics.com for getting more details about 3M's comprehensive graphic solutions.

Climatic zones Graphic durability is largely determined by the climate and the angle of exposure. Find below a table showing the durability of a product according to the angle of exposure and the geographical location of the application.

- Zone 1 Northern Europe, Italy (north of Rome), Russia
- Zone 2 Mediterranean area without North Africa, South Africa
- Zone 3 Gulf area, Africa

Exposure types

Vertical:



The face of the graphic is ±10° from vertical.

Interior: Interior means an application inside a building without direct exposure to sunlight.

	Zone 1	Zone 2	Zone 3
Vertical outdoor exposure			
white/black	10 years	7 years	5 years
colors	10 years	7 years	5 years
metallics	5 years	4 years	3 years
Interior application	Zone 1	Zone 2	Zone 3
interior	12 years	12 years	12 years

Limitations of End Uses

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs to recommend other products.

Graphics applied to

- 2nd surface to 3M™ Panagraphics™ III Wide Width Flexible Substrate not recommended.
- application to competitive flexible sign substrates.
- low surface energy substrates or substrates with low surface energy coating.
- other than flat or moderate curved/corrugated surfaces.
- stainless steel.
- surfaces that are not clean and smooth.

Graphics subjected to

- gasoline vapors or spills.

Important Notice

- 3M Commercial Solutions products are not tested against automotive manufacturer specifications!
- Graphics with more than two layers of film except as described in this bulletin are not recommended.
- Non vertical applications will have a significant decrease in durability!
- 3M accepts no liability for glass breakage. See instruction bulletin 5.1 for details.
- To avoid color variations all pieces of applied film of one colored area should be processed out of one lot of material.

Graphics Manufacturing

Graphic protection can improve the appearance, performance and durability of printed graphics. Any printed graphic exposed to abrasive conditions (including vehicles), harsh cleaners or chemicals must include graphic protection in order to be warranted.

When to use an overprint clear or overlaminate

See instruction bulletin GPO 'graphic protection options' for further information about selection and use of protective overlaminates and printable clears.

> [Product Bulletin Graphic Protection Options](#) <

Shipping finished graphics

Flat, or rolled film side out on 130 mm (5 inch) or larger core. These methods help to prevent the liner from wrinkling or application tape, if used, from popping off.

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.

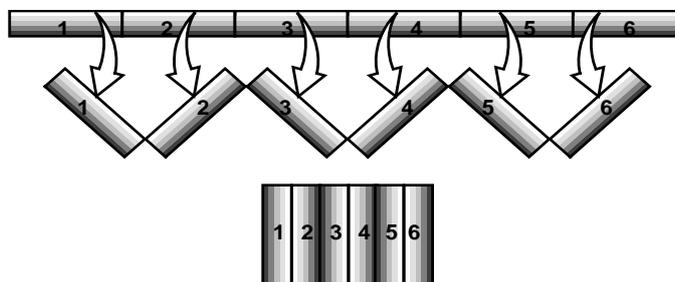
Material from a single roll or lot must be used on a single graphic or sign for identical matching.

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.

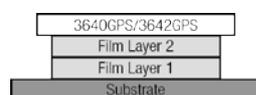
Exact match between different run numbers should not be assumed.

FIGURE 1

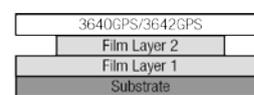


Three layer film constructions

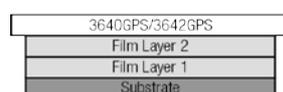
A third layer of film is warranted only if the top layer is 3M™ Scotchcal™ Gloss Overlaminate 3640/3642. In addition, just two of the three layers should be aligned to the edge of the substrate.



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



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



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



Converting Information

Electronic Cutting

Based upon cutting evaluations the minimum height for text is 25 mm using upper and lowercase Helvetica Medium. The stroke width should not be lower than 1 mm.

The variable characteristics of electronically controlled cutting equipment require users to verify their specific requirements.

Sharpness of knife blade Dull blades impart a serrated look to the edge of the cut film.

Weight of knife blade The ideal weight slightly scores the liner. Too little weight does not cut completely through the film and the adhesive. Excessive weight cuts the liner and causes the blade to drag, accelerating wear and creating a serrated cut edge on the film.

Weeding The excess film should be weed (removed) as soon after cutting as practical. This is to minimize the effect of possible adhesive flow.

Temperature and relative humidity Temperature and relative humidity are minor considerations, but avoid extreme or rapid fluctuating conditions.

Roll storage Store the film in the same environment as the cutting equipment.

Further information For more details refer to our instruction bulletin 4.1 'Sheeting, Scoring, Film Cutting', please.

[>Instruction Bulletin 4.1'Sheeting, Scoring, Film cutting'<](#)

Converting Information

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%.

Adequately Dry Graphics Inadequate drying can result in graphic failure including curling, increased shrinkage and adhesion failure, which are not covered under warranty. Build enough time into your process to ensure adequate drying of the graphic.

Poorly dried film becomes soft and stretchy, and the adhesive becomes too aggressive. 3M recommends at least a minimum drying time of 24 hrs before further processing. Dry the graphic unrolled or at least as a loose wound roll standing upright.

Converting Information

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.

Screen Printing

A clear coat also prevents chalking on unprinted films. Use equipment designed to handle high viscosity materials and make sure the coating is evenly applied to the specifications given in the clear's Instruction Bulletin.

Abrasion and Loss of Gloss Abrasion damage and loss of gloss are not covered by any 3M warranty. This is considered normal wear and tear.

Converting Information

Thermoforming

There are unique health and safety considerations that must be understood prior to vacuum forming faces using translucent films.

Refer to Instruction Bulletin 5.16 'Thermoforming' for special recommendations, limitations and processing requirements when forming with applied films.

[>Instruction Bulletin 5.16 'Thermoforming'<](#)

Elongation limit Forming of applied film on sheets should not exceed 50% elongation.

Application See product bulletin ATR 'application tape recommendations' for information about selection and use of suitable application tapes for this product, please.

[> Product Bulletin Application Tape Recommendations <](#)

Refer to Instruction Bulletin 5.1 'select and prepare substrates for graphic application', for general application information.

[>Instruction Bulletin 5.1 'select and prepare substrates for graphic application'<](#)

Maintenance and Cleaning

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline).

Refer to Instruction Bulletin 6.5 'storage, handling, maintenance and removal of films and sheetings', for general maintenance and cleaning information.

[>Instruction Bulletin 6.5 'Storage, Handling, Maintenance and Removal of Films and Sheetings'<](#)

Remarks

This bulletin provides technical information only.

Important notice

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.

Before using, the user must determine the suitability of the product for its required or intended use, and the user assumes all risk and liability whatsoever in connection therewith.

Additional Information

Visit the web site of your local subsidiary at www.3Mgraphics.com for getting:

- more details about 3M™ MCS™ Warranty and 3M™ Performance Guarantee
- additional instruction bulletins
- a complete product overview about materials 3M is offering



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