



# Scotchcal™ Graphic Film

## Series IJ20

### Product Bulletin

#### Product Description

These monomeric calendered films offer great versatility making them perfect for indoor and outdoor signs and fleet graphics.

Transparent films are intended for use as printable base film.

<b>Product Line</b>	Inkjet printing	IJ20-10R	white, opaque, glossy, removable adhesive (grey).
		IJ20-10TR	white, opaque, glossy, removable adhesive (clear).
		IJ20-20R	white, opaque, matte, removable adhesive (grey).
		IJ20-114R	transparent, glossy, removable adhesive.
		IJ20-124R	transparent, matte, removable adhesive.

#### Product Characteristics

These are typical values for unprocessed products.

Contact your 3M representative for a custom specification.

#### Physical & Application

Material	calendered vinyl (monomeric)	
Surface finish	white and transparent films: glossy and matte (see product line)	
Thickness (film)	80 µm (0.08 mm)	
Adhesive type	waterbased acrylic: pressure-sensitive	
Adhesive appearance	grey, except for transparent versions; some white films with clear adhesive available (indicated with letter 'T')	
Liner	Kraft paper	
Adhesion	approx. 5 N/25 mm	FTM 1: 180° peel, substrate: glass; cond: 24 h 23°C/50%RH
Application method	dry only!	
Applied shrinkage	< 0.5 mm	FTM 14
Application temperature	+10°C	minimum (air and substrate)
Service temperature	-50°C to +90°C	
Surface type	flat	
Substrate type	aluminum, glass, PMMA, PC*, ABS, paint	
	PC*, PETG*: Might require drying with heat before use	
Graphic removal	Removable without 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.

#### Storage

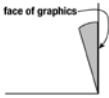
**Shelf life** 2 years from the date on the original box  
Up to 2 years unprocessed, or processed within 1 year and apply within 1 year of processing

**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 3M™ 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 <a href="http://www.3Mgraphics.com">www.3Mgraphics.com</a> 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 elements.	

Vertical outdoor exposure	Zone 1	Zone 2	Zone 3
white	2 years	18 months	12 months
transparent	2 years	18 months	12 months
Interior application	Zone 1	Zone 2	Zone 3
interior	2 years	2 years	2 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	<ul style="list-style-type: none"> <li>- flexible substrates incl. 3M™ Panaflex™ Awning and Sign Facing 945GPS and 3M™ Panagraphics™ III Wide With Flexible Substrate.</li> <li>- low surface energy substrates or substrates with low surface energy coating.</li> <li>- other than flat surfaces.</li> <li>- painted or unpainted wallboards, gypsum boards and wallpapers.</li> <li>- stainless steel.</li> <li>- surfaces that are not clean and smooth.</li> <li>- surfaces with poor paint to substrate adhesion.</li> </ul>
Graphic removal from	<ul style="list-style-type: none"> <li>- signs or existing graphics that must remain intact.</li> </ul>
Graphics subjected to	<ul style="list-style-type: none"> <li>- gasoline vapors or spills.</li> </ul>
Important Notice	<ul style="list-style-type: none"> <li>- 3M Commercial Graphics Division products are not tested against automotive manufacturer specifications!</li> <li>- Wet application method is not recommended for this film.</li> <li>- Due to increasing winding-tension towards the roll core, surface impressions might occur with rolls of a length of more than 200 m.</li> </ul>

## 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.

## Converting Information Inkjet Printing

A too high total physical ink amount on the film results in media characteristic changes, inadequate drying, overlaminate 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.

## 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](http://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

### 3M Europe S.A./N.V

Hermeslaan 7  
1831 Diegem, Belgium

Responsible for this technical bulletin

3M Deutschland GmbH | Display & Graphics Laboratory  
Carl-Schurz-Str. 1 | 41453 Neuss, Germany

3M, Controllac, Envision, Panagraphics, Panaflex, Scotchcal, Comply and MCS are trademarks of 3M Company. All other trademarks are the property of their respective owners.

The use of trademark signs and brand names in this bulletin is based upon US standards. These standards may vary from country to country outside the USA.