



# Controltac™ Graphic Film

## Series IJ380

### Product Bulletin

**Product Description** These cast films offer great conformability for applications on recesses and deep channels.

Controltac™ technology is a mechanical feature out of millions of glass spheres on top of the adhesive surface. This minimizes the initial contact area of the adhesive and allows the applicator to reposition the graphic during application.

This effects easier installation of large formats in a wide temperature range.

<b>Product Line</b>	Screen and inkjet printing	CT IJ380-10	white, opaque, glossy, permanent adhesive (grey).
		CT IJ380-20	white, opaque, matte, permanent adhesive (grey).

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

<b>Physical &amp; Application</b>	Material	cast vinyl		
	Surface finish	glossy and matte (see product line)		
	Thickness (film)	50 µm (0.05 mm)		
	Adhesive type	solvent acrylic; pressure-sensitive, repositionable		
	Adhesive appearance	grey		
	Liner	double-sided Polyethylene coated paper		
	Adhesion	20 N/25 mm	FTM 1: 180° peel, substrate: glass; cond: 24 h 23°C/50%RH	
	Application method	dry only!		
	Applied shrinkage	< 0.1 mm	FTM 14	
	Application temperature	+15°C	minimum (air and substrate)	
Service temperature	-60°C to +107°C			
Surface type	flat to curved, incl. rivets and deep corrugations			
Substrate type	aluminum, paint			
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.			

**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.

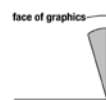
**Flammability** Flammability standards are different from country to country. Ask your local 3M contact for details, please.

## Durability

Unprocessed film	The following durability data are given for unprocessed film only!
3M Performance Guarantee and MCS™	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

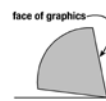
### Exposure types

Vertical:



The face of the graphic is  $\pm 10^\circ$  from vertical.

Non - vertical:



The face of the graphic is greater than  $10^\circ$  from vertical and greater than  $5^\circ$  from horizontal. This includes non-vertical surfaces of vehicle wraps or fleet truck and trailer graphics.

<b>Vertical outdoor exposure</b> white	<b>Zone 1</b> 10 years	<b>Zone 2</b> 8 years	<b>Zone 3</b> 6 years
<b>Non-vertical outdoor exposure</b> white	<b>Zone 1</b> 5 years	<b>Zone 2</b> 4 years	<b>Zone 3</b> 3 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

- low surface energy substrates or substrates with low surface energy coating.
- stainless steel.
- surfaces that are not clean and smooth.
- surfaces with poor paint to substrate adhesion.

Graphic removal from

- signs or existing graphics that must remain intact.

Graphics subjected to

- gasoline vapors or spills.

Important Notice

- 3M Commercial Graphics Division products are not tested against automotive manufacturer specifications!
- Graphics printed with UV inkjet inks and applied on recesses or deep channels will show ink cracking in the stretched areas. Ask your local 3M representative for UV ink solutions from 3M which can be used for recessed or deep contour applications.

## Graphics Manufacturing

Graphic protection can improve the appearance, performance and durability of your graphic. Any 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

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