



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.

| | | | |
|---------------------|-----------------|-----------|--|
| Product Line | 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

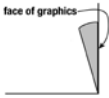
Shelf life 2 years from the date on the original box
Up to 2 years unprocessed, or processed within 1 year and apply within 1 year of processing

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

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 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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