



# Transit Wrap Graphic Film

## IJ46-20

For Inkjet Printing with Solvent, UV and Latex Inks and Screen Printing

### 1. Product Description

#### A. Product Features

- 4-mil matte white vinyl film
- Pressure-sensitive adhesive
- Changeable

#### B. Suggested Uses

The user is responsible for determining the product's suitability for the intended application. This product should be used on a test-and-approve basis.

- Short-term promotional bus back and wrap graphics on transit vehicles

#### C. Expected Performance Life

Expected Performance Life as a good faith estimate of how long the product may perform satisfactorily based on 3M testing. Note, there is no warranty associated with this estimate.

1 year in a vertical orientation with typical usage

Note: 3M Product and Instruction Bulletins provide practical recommendations for using this product in a way that maximizes performance, but using other 3M products or procedures with this film does not change the terms of the warranty.

#### D. Important Information About Bus Applications

Film used on buses must not be applied so as to restrict the safe use of emergency window exits. See the most current version of [Instruction Bulletin 5.4](#) for details.

### 2. Characteristics

#### A. Physical Characteristics

All values are typical for unprocessed film.

Characteristic	Value
Material	Vinyl
Color	White opaque
Finish	Matte
Film thickness	<b>Without adhesive:</b> 4 mil (0.10 mm) <b>With adhesive:</b> 4.5 mil (0.11 mm)
Adhesive type	Pressure sensitive
Adhesive color	Gray
Liner	Polycoated paper
Flammability	Call 1-800-328-3908 for information

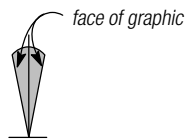
#### B. Application Characteristics

Characteristic	Value
Finished graphic application recommendations	<b>Surface type:</b> Smooth, flat and simple curved surfaces, with and without rivets <b>Substrate type:</b> Metal, rigid plastic and painted substrates <b>Application temperature:</b> <i>air and substrate</i> 28° to 100°F (-2° to 38°C)
Application method	Dry
Finished graphic exposure temperature	-30° to +200°F (-34° to +93°C)
Graphic removal	Removable without heat (changeable)

### 3. Definitions

#### A. Exposure Types

##### U.S. Vertical Exposure



The face of the graphic is +/- 10° from vertical.

### 4. Warranty Information

#### A. Warranty Coverage Overview

This film is covered by the 3M Basic Product Warranty. It has been tested and is believed to be a good product when used as recommended in this Product Bulletin. However, there is no assurance or guarantee for the following:

- printability.
- visual appearance.
- fitness for use.
- removability or changeability.
- damage to the substrate.
- durability.

#### B. 3M Basic Product Warranty

The following is made in lieu of all other express or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade.

This 3M Product is warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin and as further set forth in the [3M Commercial Graphics Warranty Brochure](#).

#### C. Limited Remedy

3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive.

#### D. Additional Limitations

See the [3M Commercial Graphics Warranty Brochure](#) at 3Mgraphics.com, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

### 5. Limitation of Liability

Except where prohibited by law, 3M SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO PURCHASER OR USER FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LABOR, NON-3M MATERIAL CHARGES, LOSS OF PROFITS, REVENUE, BUSINESS, OPPORTUNITY, OR GOODWILL) RESULTING FROM OR IN ANY WAY RELATED TO SELLER'S PRODUCTS OR SERVICES. This limitation of liability applies regardless of the legal or equitable theory under which such losses or damages are sought including breach of contract, breach of warranty, negligence, strict liability, or any other legal or equitable theory.

### 6. Fabrication

#### A. All Printing Methods

This film has been optimized to perform well with a variety of piezo inkjet printers and inks as well as screen printing inks and processes. It is the graphic manufacturer's responsibility to determine the film's suitability for use with their printers and inks.

To maximize the film performance:

- Use graphic protection. 3M™ Scotchcal™ Gloss Overlaminate 8508 or Luster Overlaminate 8509 are cost-effective options for use with 3M's intermediate graphic films.
- Thoroughly dry the ink and film or properly cure the ink before applying graphic protection, and before storing or installing a graphic.
- Always use the dry application method.

#### B. Inkjet Printing Only

- Be aware that using sheeting film on a flat-bed inkjet printer may produce printing defects.
- The typical maximum ink limit is 250%.
- If you are storing sheeted and stacked finished graphics for an extended period of time, leave an unprinted margin (about 1/4 inch) to allow for possible shrinkage before trimming the graphic.

## 7. Shelf Life, Storage and Shipping

### A. Shelf Life

**Total shelf life: 2 years** from the date of manufacture on the original box.

If you do process the film, do so within 1 year and apply within 1 year of processing.

(Example: If you process at month 6, apply by month 18.)

If you do not process the film, apply it within 2 years.

### B. Storage Conditions

- 90°F (32°C) maximum
- Out of direct sunlight
- Clean, dry area
- Original container
- Bring the film to print room temperature before using

### C. Shipping Finished Graphics

Flat (may be separated by paper), or rolled printed side out on 5 inch (13 cm) or larger core. This helps prevent the liner and, if used, the application tape from popping off.

## 8. Health and Safety



**CAUTION**

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to [3M.com/MSDS](http://3M.com/MSDS), or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

## 9. 3M Related Literature

Before starting any job, be sure you have the most current Product and Instruction Bulletins.

The information in 3M Product and Instruction Bulletins is subject to change. [Current Bulletins](#) are available at [3Mgraphics.com](http://3Mgraphics.com). The techniques described in these Bulletins are required when applying a 3M warranted graphic, but are also practical recommendations when using promotional materials for non-warranted graphics. Additional Bulletins may be needed as indicated in the 3M Related Literature section of other 3M components you use.

Bulletin types: PB = Product Bulletin; PB-IB = Product & Instruction Bulletin; IB = Instruction Bulletin

Subject	Type	Bulletin No.
3M Graphic Protection Products <i>overview of all graphic protection products and specific information on most overlaminates</i>	PB	GP-1
Scoring and cutting	IB	4.1
Hot and cold roll lamination	IB	4.22
Using 3M application tapes; premasking and prespacing for films	IB	4.3
Application, substrate selection, preparation and substrate-specific application techniques	IB	5.1
Application, general procedures for indoor and outdoor dry applications	IB	5.5
Storage, handling, maintenance, removal	IB	6.5
3M Commercial Graphics Warranty Brochure	<a href="http://www.3Mgraphics.com/Warranties">go to www.3Mgraphics.com/Warranties</a>	

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## 10. Bulletin Change Summary

New and modified content is marked with a black bar in the margin. Added inkjet printing with latex inks and screen printing as possible printing platforms. Updated warranty and fabrication information.



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