



# Scotchlite™ Reflective Graphic Film

## Series 5100R and Films IJ5100R-10, RG5100R-10, FN5100R-10

For Piezo Inkjet, Screen and Electrostatic Printing

### Product Description

These are 6-mil retroreflective, removable films. The superior angularity makes the film well suited for medium-term emblems, commercial vehicle markings, bus graphics, stickers and sign graphics. White films meet ASTM D-4956 07 for Type 1 sheeting. Films are available for screen printing, piezo inkjet and electrostatic printing.

### Recommended Types of Graphics and End Uses

When constructed and used as described in this Bulletin, these types of graphics and end uses may be warranted by the 3M™ MCS™ Warranty and/or the 3M Performance Guarantee. Please read the entire Bulletin for details.

- Commercial vehicle or fleet graphics
- Bus graphics
- Sign graphics
- Emblems and stickers

### Limitations of End Uses

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

#### Unsuitable End Uses for This Film

- Graphics applied to:
  - Corrugated or highly irregular surfaces or to sharply raised areas like huck bolts
  - Substrates with compound curves
  - Substrates that do not have a clean, smooth surface or have poor paint-to-substrate adhesion
  - Stainless steel
  - Flexible substrates
- Graphics regularly subjected to gasoline vapors or spills such as gas pumps, automobile fuel-tank ports or top-feeding petroleum tankers.
- Graphics made for automotive Original Equipment Manufacturers (OEM); contact 3M Automotive Division at 1-800-328-1684 for alternatives.

### 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.

### Compatible Products

#### 3M Graphic Materials

This Bulletin provides details about the base film and construction options and warranty. Additional specific information about compatible products can be found in the Product and Instruction Bulletins listed in **3M Related Literature** at the end of this bulletin.

#### Screen Printing

For all colors of film 5100R

- 3M™ Screen Printing Ink Series 1900
- 3M™ Screen Printing UV Ink Series 9800
- 3M™ Scotchlite™ Translucent Screen Printing Ink Series 2900

#### Electrostatic Imaging

For film 5100R-10 only

- Scotchprint® Toner Series 8700/8800
- 3M™ Trident Transfer Paper
- 3M™ Printer 2000

## Piezo Inkjet Printers and Inks

For film IJ5100R-10 only

See the Warranty Matrix to determine if you need an IJ, FN or RG prefix film.

### Ink Series

### Printer

- 3M™ Piezo Inkjet Ink Series 2200UV EFI™ VUTEk® PV 200 Printer
- 3M™ Piezo Inkjet Ink Series 2600UVv2 3M™ Printer 2500UV
- 3M™ Piezo Inkjet Ink Series 2700UV Durst Rho 160R Printer
- 3M™ Piezo Inkjet Ink Series 2800UV EFI™ VUTEk® QS2000/QS3200 Printers
- 3M™ Piezo Inkjet Ink Series 5400UV HP Designjet 788 Printer
- 3M™ Piezo Inkjet Ink Series 1500v2 EFI™ VUTEk® 150, 2360/3360, 3300/5300 and 3000/5000 Printers
- 3M™ Piezo Inkjet Ink Series 4600 HP Scitex Pressjet-W™ Printer
- 3M™ Piezo Inkjet Ink Series 4800 HP Scitex TJ8300 Series Digital Press
- 3M™ Piezo Inkjet Ink Series 5500 Océ Arizona 600 Printer
- 3M™ Piezo Inkjet Ink Series 6000 Océ Arizona 30s Printer
- 3M™ Piezo Inkjet Ink Series 6800 Océ Arizona 180 and 90 Printers

## Graphic Protection Options

- 3M™ Screen Print Gloss Clear 1920DR
- 3M™ Scotchlite™ Screen Printing Gloss Clear 4430R
- 3M™ Screen Print UV Gloss Clear 9720i
- 3M™ Scotchlite™ Screen Print Gloss Clear 2920DR
- 3M™ Screen Printing Gloss Clear 9800CL
- 3M™ Screen Print Clear 8920 ES
- 3M™ Scotchcal™ Gloss Overlamine 8518  
*Warranted only for use in the 3M Performance Guarantee Program*
- 3M™ Scotchcal™ Luster Overlamine 8519
- 3M™ Scotchcal™ Matte Overlamine 8520
- 3M™ High Gloss Graffiti Resistant Overlamine 8912 ES *not for use on rivets*
- 3M™ Scotchcal™ Optically Clear Overlamine 8914

## Graphic Protection Options

- 3M™ Prespacing Tape SCPS-2
- 3M™ Prespacing Tape SCPS-53X
- 3M™ Premasking Tape SCPM-3
- 3M™ Premasking Tape SCPM-44X
- 3M™ Scotchlite™ Edge Sealer 4433

## Characteristics

These are typical values for unprocessed product; processing may change the values. Contact your 3M representative for a custom specification.

### Physical Characteristics

Characteristic	Value																																	
Material	Vinyl																																	
Film Color <i>and</i> Typical Retroreflectivity	At -4° entrance angle and 0.2° observation angle. See <i>Retroreflective Description</i> below table.																																	
	<table border="1"> <thead> <tr> <th>Film Number</th> <th>Color</th> <th>Retroreflectivity</th> </tr> </thead> <tbody> <tr> <td>5100R-10</td> <td>White</td> <td>85</td> </tr> <tr> <td>IJ, FN or RG5100R-10</td> <td>White</td> <td>85</td> </tr> <tr> <td>5100R-64</td> <td>Gold</td> <td>55</td> </tr> <tr> <td>5100R-71</td> <td>Yellow</td> <td>50</td> </tr> <tr> <td>5100R-72</td> <td>Red</td> <td>20</td> </tr> <tr> <td>5100R-75</td> <td>Blue</td> <td>10</td> </tr> <tr> <td>5100R-76</td> <td>Light Blue</td> <td>10</td> </tr> <tr> <td>5100R-77</td> <td>Green</td> <td>15</td> </tr> <tr> <td>5100R-82</td> <td>Ruby Red</td> <td>20</td> </tr> <tr> <td>5100R-85</td> <td>Black</td> <td>25</td> </tr> </tbody> </table>	Film Number	Color	Retroreflectivity	5100R-10	White	85	IJ, FN or RG5100R-10	White	85	5100R-64	Gold	55	5100R-71	Yellow	50	5100R-72	Red	20	5100R-75	Blue	10	5100R-76	Light Blue	10	5100R-77	Green	15	5100R-82	Ruby Red	20	5100R-85	Black	25
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5100R-77	Green	15																																
5100R-82	Ruby Red	20																																
5100R-85	Black	25																																
Thickness	With adhesive: 6 mils (0.9 mm)																																	

Characteristic	Value
Adhesive type	Pressure-sensitive
Adhesive color	White
Liner	Polyethylene-coated layflat liner
Chemical resistance	Resists mild alkalis, mild acids, and salt Excellent resistance to water <i>(this does not include immersion)</i>
Flammability	Call 1-800-328-3908, Option 2, for information
Retroreflectivity	White, meets ASTM D 4956-07

## Application Characteristics

Characteristic	Value
Finished graphic application recommendation	<b>Surface type:</b> Flat, with and without rivets; simple curves <b>Substrate type:</b> Etched aluminum, FRP, painted metal <b>Graphic orientation:</b> Vertical only <b>Application temperature:</b> 32° to 85°F (0° to 30°C) <i>air and substrate</i> <b>Application method:</b> Dry
Service temperature range	-30° to +200°F (-34° to +93°C)
Graphic removal	Removable with heat from painted flat surfaces

### Retroreflection Description

The typical coefficient of retroreflection defined in Physical Characteristics is measured at a -4° entrance angle and a 0.2° observation angle. It is expressed in candlepower per foot-candle per square foot (candela/lux/square meter) per ASTM 810.

The entrance angle is formed by a light beam striking the surface at a point and at a line that is perpendicular to the surface at the same point.

An observation angle is formed by the light beam striking the reflective surface and returning to the observer. From 800 feet (249 meters), a motorist normally views a graphic at a 0.2° angle.

## Warranty Information

The warranty given in the Product Bulletin that is current at the time you purchased the film is the one that 3M will honor. **The warranties in the following table(s), given in years, are for finished graphics exposed in a vertical exposure in the United States except the Desert Southwest.** See the warranty sections following this table for additional information.

### 3M™ MCS™ Warranty for Finished Graphics

Veh = Fleet & Commercial Vehicle Graphics  
Out = Outdoor Signage  
In = Indoor Signage

## Piezo Inkjet Graphics

For film IJ5100R-10 only

Vertical Exposure, Warranty in Years												
Ink Series	1500v2			2200UV			2800UV			2600UVv2		
Printer	VUTEk 150, 2360/3360, 3300/5300, 3000/5000			VUTEk PV200			VUTEk QS2000, QS3200			Printer 2500UV		
Film Prefix	Use IJ Films			Use IJ Films			Use IJ Films			Use IJ Films		
Graphic Protection	Veh	Out	In	Veh	Out	In	Veh	Out	In	Veh	Out	In
8519	4	3	4	4	3	4	4	3	4	4	3	4
1920DR	—	—	—	—	—	—	—	—	—	4	3	4
9720UV	—	—	—	4	3	4	4	3	4	4	3	4
9720i	4	3	4	4	3	4	4	3	4	4	3	4

continued on the next page

<i>Vertical Orientation, Warranty in Years</i>												
Ink Series	2700UV			4600			4800			5400UV		
Printer	Rho 160R			Pressjet -W			TJ8300			Designjet 788		
Film Prefix	Use IJ Films			Use IJ Films			Use IJ Films			Use IJ Films		
Graphic Protection	Veh	Out	In	Veh	Out	In	Veh	Out	In	Veh	Out	In
8519	4	3	4	4	3	4	4	3	4	4	3	4
1920DR	—	—	—	4	3	4	3	3	4	—	—	—
9720UV	4	3	4	4	3	4	4	3	4	4	3	4
9720i	4	3	4	4	3	4	4	3	4	4	3	4

Ink Series	6000			5500			6800		
Printer	Arizona 30s			Arizona 600			Arizona 180 & 90		
Film Prefix	Use IJ Films			Use FN films			Use RG films		
Graphic Protection	Veh	Out	In	Veh	Out	In	Veh	Out	In
8519	4	3	4	4	3	4	4	3	4
1920DR	4	3	4	4	3	4	4	3	4
9720UV	4	3	4	4	3	4	4	3	4
9720i	4	3	4	4	3	4	4	3	4

## Screen Print Graphics

For all colors of film 5100R

<i>Vertical Exposure, Durability in Years</i>										
Ink Series	2900			1900			UV 9800			
Graphic Protection	Veh	Out	In	Veh	Out	In	Veh	Out	In	
2920DR	4	3	4	—	—	—	—	—	—	
4430R	4	3	4	—	—	—	—	—	—	
1920DR	—	—	—	4	3	4	—	—	—	
9720UV	4	3	4	4	3	4	4	3	4	
9720i	4	3	4	4	3	4	4	3	4	
9800CL	—	—	—	—	—	—	4	3*	4	

\* Ink series 9800 with 9800CL is removable for up to 3 years for outdoor signs

## Electrostatic Printed Graphics

For film 5100R-10 only

<i>Vertical Exposure, Durability in Years</i>			
Toner Series	8700		
Graphic Protection	Veh	Out	In
8519	4	3	4
8914	4	3	4
8912	4	3	4
8920	4	3	4

## Unprinted Film

<i>Vertical Exposure, Durability in Years</i>			
Graphic Protection	Veh	Out	In
None	4	3	4

**3M™ MCS™ Warranty for Graphics in a Vertical Desert Southwest Orientation**

Use the years of warranted durability indicated in the previous warranty tables for your graphic construction and the following formulas to determine other durabilities.

Exposure	Percentage of U.S. Vertical Exposure	Example
Desert Southwest - Vertical	70% (0.7)	0.7 x 4 years= 2.8 years

**Paint Refurbishing Reimbursement Policy for 3M™ MCS™ Warranty**

Warranty Stipulations for Van, Bus, Recreational Vehicles or Automobile ("Vehicle")

Claims for paint damage for certain vehicle graphics will be considered only if a Pre-Installation and Inspection Report (see Instruction Bulletin 5.36) was completed prior to graphic installation and is submitted with any claim for paint damage sustained during the removal of 3M removable or changeable graphic film from vehicles. A separate report for each vehicle involved in the claim is required.

**3M Performance Guarantee Graphic Constructions and Durability**

For 3M Product Performance Only

Graphics constructed as described in the table below are eligible for the 3M Performance Guarantee when exposed in a vertical exposure in the United States. This warranty covers the performance of only the recommended 3M products used in the graphic construction when imaged with the printers and OEM inks listed in the most current version of Product Bulletin PG Matrix. That Bulletin may also list certain restrictions for using the film covered in this Bulletin. 3M will honor the warranty given in the version of this Bulletin that was current at the time you purchased the film.

Film	Graphic Protection	Vehicle, Outdoor, Indoor <i>Vertical Exposure, Warranty in Years</i>	Inks and Printers
IJ5100R-10	8518 8519 8520 1920DR 9720UV	2	See Product Bulletin PG Matrix

**Removal Warranty for 3M™ MCS™ Warranty and Performance Guarantee for Films IJ680CR, FN680CR, RG680CR ONLY**

Removal requires heat. The ease and rate of removal depends on a number of factors. See Instruction Bulletin 6.5 for details. No labor for removal is included in the warranty.

Orientation	Remedy
Vertical	Same as Warranted Durability

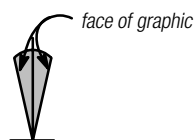
**Removal Warranty Exceptions**

- Removal from a pre-existing graphic will damage that graphic.
- Aged paint and metals must be tested to ensure removability. Surface oxidation or chalking may result in adhesive residue upon removal.
- Paint that is not firmly bonded to the substrate may be damaged when removing the film.
- Paint that is not properly cured may prevent the film from being removed.
- This film is not designed for short term graphics on painted wallboard and may cause damage upon removal from painted surfaces.

**Warranty Details and General Exceptions**

**Definitions**

**Vertical Exposure**



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

**Desert Southwest**

Graphics exposed to solar energy more than half of the time in Arizona, New Mexico and the desert areas of California, Nevada, Utah and Texas. A detailed map is available at 3Mgraphics.com under Warranties.

**Signs**

Graphics applied outdoors and exposed to the elements.

**Fleet vehicle**

Straight trucks and trailers used in commercial fleets.

**Standard vehicle**

Buses, vans, automobiles, recreational vehicles unless otherwise noted.

**Graphic Performance Life**

The actual performance depends on the:

- Correct combination of 3M-recommended graphics products
- Ink formulation (screen printing)
- Adequate ink drying (solvent inks) and UV curing (ultra-violet cured inks)
- Selection and preparation of the substrate
- Surface texture
- Application methods
- Angle and direction of sun exposure
- Environmental conditions
- Cleaning or maintenance methods

**Application Outside the U.S.**

Contact the 3M organization for that country.

**Graphics Made with Components Not Sold or Recommended by 3M**

The 3M™ MCS™ Warranty does not cover finished graphics made with other manufacturers' inks, film, graphic protection and/or application tapes. The user is solely responsible for the graphic appearance, performance and durability of graphic constructions that include non-3M graphic products.

The 3M Performance Guarantee covers selected 3M graphic products when used with qualified printers and OEM inks. See Product Bulletin: PG Matrix.

**Rivets**

This film will tent around rivets, which is not covered by the MCS warranty.

**Application to Glass**

3M accepts no liability for glass breakage when using this film for window graphics. See Instruction Bulletin 5.1 for details.

**Graphic Protection**

All fleet graphics, all graphics printed with four-color screen print ink, all electrostatically-imaged graphics and any other graphics subjected to abrasion or mild chemicals must be protected with a clear coat or an overlaminate.

- **Screen printed vehicle graphics printed with UV ink series 9800** must have a UV clear coat in order to be warranted. Abrasion damage and gloss loss are not covered.
- **Overlaminates** must be cold roll applied. See Instruction Bulletin 4.22.

**Warranty and Limited Remedy**

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: all 3M products are 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. 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. **In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.**

See the Graphics Market Center Warranty Brochure, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

## Piezo Inkjet Printing

### Ink

#### Total Ink Coverage for 3M™ MCS™ Warranty Constructions

Always read and follow the ink manufacturer's written instructions on usage.

Do not exceed the recommended total ink coverage for the ink series used on this film. Too high a total physical ink amount on the film results in media characteristic changes, inadequate drying, overlamine lifting, and/or poor graphic performance. Refer to the Product & Instruction Bulletin for the ink system being used for additional details about total ink coverage.

Note: Particularly with ink series 4600, be sure to check the consistency of color on reflective film as it may appear different in daytime and nighttime lighting.

Ink Series	Maximum Total Ink Coverage	Ink Series	Maximum Total Ink Coverage
1500v2	270%	2200UV	280%
4600	250%	2600UVv2	280%
4800	270%	2700UV	280%
5500	300%	2800UV	280%
6000	300%	5400UV	280%
6800	300%		

#### Total Ink Coverage for 3M Performance Guarantee Constructions

We recommend 270% maximum total ink coverage, except the Mimaki JV5 Series printers using the HS ink series, which has a 250% maximum total ink coverage. Make sure that the ink lay down is within the limits of what the drier can handle to prevent ink smearing.

#### Important Note! *Adequately Dry Graphics*

Inadequate drying can result in graphic failure including curling, increased shrinkage and adhesion failure, which are not covered under warranty.

Always build enough time into your process to ensure adequate drying of the graphic. Poorly dried film may become soft and stretchy, and the adhesive may become too aggressive. This can cause difficulty when applying an overlamine, rolling the graphic, and applying the film. See the ink's Instruction Bulletin for more details.

## Screen Printing

Formulations and processing conditions can affect ink durability. Refer to the Product and Instruction Bulletins for your ink for limitations and proper usage.

Graphic protection can improve the appearance, performance and durability of your graphic. A clear coat also prevents chalking on unprinted films.

Whether you apply screen print clears with traditional screening methods or roller coating, use equipment designed to handle high viscosity materials and make sure the coating is evenly applied to the specifications in the clear's Instruction Bulletin.

Ink series 1900 and some colors in ink series 9800 are opaque. Be aware that opaque ink can prevent the film from retroreflecting in the screen printed areas. Ink series 2900 and the transparent colors from ink series 9800 are good choices when retroreflection is important in the screen printed areas.

## Electrostatic Imaging

For electrostatic imaging, refer to Product Bulletin Trident and Instruction Bulletin 4.7.

Apply graphic protection.

## Cutting

The following are common cutting methods for this film. See Instruction Bulletin 4.1 for details.

- Hot kiss cutting
- Drum-type electronic cutting
- Flat-bed electronic cutting
- Guillotine
- Hand cut
- Cold and hot steel-rule die cutting

## Minimum Cutting Heights

Based on cutting and weeding evaluations that used Helvetica medium upper case, the recommended minimum cutting height for text is 3 inches (0.95 cm) and 3/8 inch stroke width. Because of the differences in electronically-controlled cutting equipment and font characteristics, users should determine their own cutting and weeding capability.

## Application Tapes

### When to Use Premasking Tape

- As an application aid to increase stiffness, and prevent stretching and damage during application.
- When little or no liner is exposed.

### When to Use Prespacing Tape

- Hold cut and weeded letters or graphics in registration after removing the film liner.
- Protect cut graphic parts from scratching or damage during application.
- Use when large amounts of liner are exposed.

### How to Select a Tape

Determine whether you want to premask the graphic or prespace cut pieces of film such as letters. Then locate the graphic protection on your graphic in the table below, and use the corresponding tape. See Instruction Bulletin 4.3 for complete details.

**EXAMPLE:** If you are using piezo inkjet series 1500v2 and the film is protected by overlamine 8519, use SCPM-3 for premasking or SCPS-2 for prespacing.

Refer to the Warranty tables on pages 3-5 to determine the Graphic Protection options approved for your ink/toner series.

### Piezo Inkjet Printing

		Graphic Protection			
Application Tape	Piezo Inkjet	1920DR	9720i 9720UV	8519	8518
Premasking SCPM-3	All 3M Piezo Inkjet Series, PG Program	■		■	
Prespacing SCPS 2		■		■	
Premasking SCPM-44X			■		
Prespacing SCPS-53X			■		
Prespacing SCPS-55	PG Program				■

### Screen Printing

Application Tape	Ink or Toner	1920DR	2920DR	9720i 9720UV 9800CL	4430
Premasking SCPM-3	1900	■	■		■
Prespacing SCPS 2	2900	■	■		■
Premasking SCPM-44X	9800	■		■	
Prespacing SCPS-53X		■		■	

### Electrostatic Printing

Application Tape	Toner	1920DR	8920	8519 8912 8914
Premasking SCPM-3	8700	■		■
Prespacing SCPS 2		■		■
Premasking SCPM-44X		■	■	
Prespacing SCPS-53X		■	■	

### No Printing or Graphic Protection

Premasking Tape SCPM-3  
Prespacing Tape SCPS-2



## Application and Installation

Install the film using the dry application method and make sure the substrate is dry. Moisture/condensation on the substrate prevents good adhesion.

Avoid over-handling or creasing the film, which can result in a bruised appearance.

Refer to the 3M Related Literature section, located at the end of this bulletin, for a list of the Instruction Bulletins that may be needed to apply or install this film.

### Adhesive

This film has a pressure-sensitive adhesive. It bonds to the surface even with light pressure and cannot be repositioned.

### Graphics Printed with UV Piezo Inkjet Inks are Heat Sensitive!

UV piezo inkjet inks may crack if too much heat is used during graphic application to complex curves and deep contours as well as around rivets. When using a heat gun or other heat source during application, make sure the film surface temperature does not exceed 212°F (100°C).

Using additional heat in the post-application process may also cause UV piezo inkjet ink to crack.

For the best results, *always do a test application* of a UV piezo printed graphic to determine how much heat can be used without damaging the image.

### Rivets

This film will tent when applied over rivets. If the rivets are closely spaced, the film will bridge between rivets. Tented or bridged film may fail prematurely, which is not covered by any 3M warranty. For the best appearance and durability, 3M recommends cutting around the rivet and then re-squeegeeing around the rivet.

## Cleaning Graphics

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 for general maintenance and cleaning information.

## Removal

This film can be removed with heat only from flat, painted surfaces. No other accessories or chemicals are needed. Most graphics can be removed and leave little or no adhesive residue on the substrate. The ease and rate of removal depends on several factors. See Instruction Bulletin 6.5 for details.

## Shelf Life, Storage and Shipping

### Shelf Life

#### Total shelf life: 2 years

Up to 2 years unprocessed, **OR** process within 1 year **and** apply within 1 year of processing

### Storage Conditions

- 40° to 100°F (4° to 38°C)
- Out of sunlight
- Clean dry area
- Original container
- Bring the film to print room temperature before using

### Shipping Finished Graphics

Flat, or rolled printed side out on 5 inch (13 cm) or larger core. This helps prevent the application tape, if used, from popping off. Processed film may block if wound too tightly.

## 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.

## 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. The following applicable Bulletins provide information and processes you need to properly make the graphics described in this Bulletin. 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.
<b>Piezo Inkjet Inks</b>	3M™ Piezo Inkjet Ink Series 1500v2	PB-IB	1500
	3M™ Piezo Inkjet Ink Series 2200UV	PB-IB	2200UV
	3M™ Piezo Inkjet Ink Series 2600UVv2	PB-IB	2600UVv2
	3M™ Piezo Inkjet Ink Series 2700UV	PB-IB	2700UV
	3M™ Piezo Inkjet Ink Series 2800UV	PB-IB	2800UV
	3M™ Piezo Inkjet Ink Series 4600	PB-IB	4600
	3M™ Piezo Inkjet Ink Series 4800	PB-IB	4800
	3M™ Piezo Inkjet Ink Series 5400UV	PB-IB	5400UV
	3M™ Piezo Inkjet Ink Series 5500	PB-IB	5500
	3M™ Piezo Inkjet Ink Series 6000	PB-IB	6000
	3M™ Piezo Inkjet Ink Series 6800	PB-IB	6800
<b>Electrostatic Imaging</b>	Performance Guarantee Printer Matrix	PB	PG Matrix
	3M™ Trident Transfer Paper	PB	Trident
	Scotchprint® Toner Series 8700/8800	PB	8700
	Transferring and laminating electrostatically printed images	IB	4.7
	Using toner series 8700/8800	IB	4.12
<b>Screen Printing</b>	3M™ Screen Printing Ink Series 1900 and Overprint Clear VI0402	PB	1900
	• Screen printing with ink series 1900	IB	3.12
	- line color	IB	3.11
	- 4-color		
	3M™ Scotchlite™ Translucent Screen Printing Ink Series 2900	PB	1900
	• Screen printing with ink series 2900	IB	3.18
- line color	IB	3.19	
- 4-color			
<b>Graphic Protection</b>	3M™ Screen Printing UV Ink Series 9800	PB	9800
	• Screen printing with UV ink series 9800	IB	3.20
	- line color	IB	3.21
	- 4-color		
	3M™ Scotchcal™ Luster Overlamine 8519 and 8520	PB	8519/8520
	3M™ Screen Print UV Gloss Clear 9720i	PB-IB	9720i
	3M™ Screen Print Gloss Clear 9720UV and Matte Clear 9730UV	PB	9700
	• Applying screen printing clears 9720UV and 9730UV	IB	3.14
	Cold roll lamination	IB	4.22
	3M™ Scotchcal™ High Gloss Graffiti Resistant Overlamine 8912 ES	PB	8912
3M™ Scotchcal™ Gloss Overlamine 8518	PB	8518	
3M™ Scotchcal™ Optically Clear Overlamine 8914	PB	8914	
3M™ Screen Print Clear 8920 ES	PB	8920	
<b>Additional Instructions</b>	Design of graphics	IB	2.1
	Scoring and cutting	IB	4.1
	Using 3M application tapes; premasking and prespacing for films	IB	4.3
	Cold roll lamination	IB	4.22
	Application, substrate selection, preparation and substrate-specific application techniques	IB	5.1

*continued on the next page*

Subject	Type	Bulletin No.
Application, special applications and vehicles	IB	5.4
Application, general procedures for indoor and outdoor dry applications	IB	5.5
Applicator's quick reference guide for vehicle film	IB	5.35
Application: Special considerations for complex contours of automobiles, vans and buses and inspection forms	IB	5.36
A guide to understanding and applying graphics to common indoor and outdoor wall surfaces	IB	5.37
Storage, handling, maintenance, removal	IB	6.5
3M Graphics Center Warranty Brochure	Go to <a href="http://www.3Mgraphics.com">www.3Mgraphics.com</a> , Warranties	

## Warranties

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## Bulletin Change Summary

Information that was previously omitted for unprinted film has been added to the Warranty section and Application Tape section.



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