



Controltac™

Changeable Graphic Film with Comply™ Adhesive

IJ3552C, RG3552C and FN3552C

For Piezo Ink Jet Printing Only

Description

Films IJ3552C, RG3552C and FN3552C are flexible, removable 2-mil films, designed for piezo ink jet printing. They are ideal for short-term graphics for fleet or commercial vehicles and indoor or outdoor graphic applications. These films combine the features found in Controltac and Comply adhesive technologies, including pressure activation, slideability and repositionability, and air release channels for the fastest and easiest bubble-free graphic installations.

Recommended Types of Graphics and End Uses

These end uses are recommended for this film and may be covered by the 3M™ MCS™ Warranty and/or the 3M Performance Guarantee. Certain restrictions may apply; please read the entire bulletin for details.

- Graphics, emblems and striping for automobiles, vans, buses and commercial fleet
- Indoor and outdoor emblems or striping
- Vending or dispensing machines and cooler graphics

Limitations of End Uses

We do not normally warrant other applications, but please contact us to discuss your needs or let us suggest other 3M products.

Important Information about Vehicle Paints

The changeable adhesive used on this film may not perform as well on the new low surface energy paints some manufacturers are introducing on vehicles such as the 2007 Ford vans and Dodge Sprinter vans. Application to such paints in high humidity conditions can be difficult. To avoid premature graphic failure, contact 3M Technical Service at 1-800-328-3908 for recommendations prior to specifying and fabricating this film.

Wall Graphics

This film can be used for wall graphics; however, the user must determine the product's suitability and whether it has the necessary adhesion for their application. The user is solely responsible for the graphic adhesion to the substrate. See Instruction Bulletin 5.37, *Guide to Understanding Walls and Applying Graphics to Walls*.

Unsuitable End Uses for This Film

- Pre-spaced letters or characters
- Graphics applied to:
 - Stainless steel
 - Non 3M-films
 - Flexible rubber and plastic
 - Graphics printed with 3M™ Four Color Screen Printing UV Ink Series 9800 or 9700UV or other colors printed half-tone (graphics already existing on a vehicle)
- Graphics printed with 3M™ Piezo Ink Jet Ink Series 2500UV are not warranted for applications where the film and inks are stretched
- Graphic removal from:
 - Applications with poor paint-to-substrate adhesion
 - Aged paint and metals; user must check and approve; surface oxidation or chalking may result in adhesive residue upon removal
 - Improperly cured paint
 - Existing graphics that must remain in tact, except graphics made from selected 3M films
 - Graphics made with 3M™ Scotchlite™ Reflective Graphic Film or 3M™ Screen Print Clear 8925 ES
- Graphics subjected to excessive gasoline spills at gas pumps
- 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 Instruction Bulletin 5.4 for details.

Compatible Products for 3M™ MCS™ Warranted Graphics

Refer to the durability tables for 3M™ MCS™ Warranty and the 3M Performance Guarantee (page 3) for the proper combination of printers, inks, films and graphic protection.

3M Inks and Printer for Film IJ3552C

This film is forward wound on a 3-inch, unnotched core.

- 3M™ Piezo Ink Jet Ink Series 2200UV
 - VUTEk PressVu® UV 200/600 printer
- 3M™ Piezo Ink Jet Ink Series 2700UV
 - Durst Rho 160R Printer
- 3M™ Piezo Ink Jet Ink Series 2500UV or
- 3M™ Piezo Ink Jet Ink Series 2600UV
 - 3M™ Printer 2500UV
- 3M™ Piezo Ink Jet Ink Series 1500
 - VUTEk UltraVu™ 150 Printer
 - VUTEk UltraVu™ 2360/3360 Printer
 - VUTEk UltraVu™ 3300/5300 Printers
- 3M™ Piezo Ink Jet Ink Series 4800
 - HP Scitex TJ8300 Series Digital Press*

IMPORTANT! Core Size Recommendations for HP Scitex Printers

Please special order these films on a 6 inch diameter core when printing on HP Scitex printers. When film is wound on a standard 4 inch core, it develops “curl memory.” This prevents the film from making close contact to the drum surface, which allows the film to touch the ink heads and results in ink smudges. These are preventable printing defects and are not covered by the 3M™ MCS™ Warranty if you do not use 6 inch cores.

3M Inks and Printer for Film RG3552C

This film is reverse wound on a 3-inch, 4-notch core.

- 3M™ Piezo Ink Jet Ink Series 6800
 - Océ Arizona 180 Printer
 - Océ Arizona 90 Printer
- *May use Océ Piezo Ink Jet Ink Series 1700 for non-warranted finished graphics.

3M Inks and Printer Platforms for Film FN3552C

This film is forward wound on a 3-inch, 4-notch core.

- 3M™ Piezo Ink Jet Ink Series 5500
 - Océ Arizona 600 Printer

Graphic Protection Options

- 3M™ Scotchcal™ Gloss Overlamine 8518
only for Performance Guarantee constructions
- 3M™ Scotchcal™ Luster Overlamine 8519
- 3M™ Scotchcal™ Matte Overlamine 8520
- 3M™ Screen Printing Clear 1920DR
- 3M™ Screen Printing Gloss Clear 9720UV

Other Products

- 3M™ Premasking Tape SCPM-3
- 3M™ Premasking Tape SCPM-44X

Characteristics

All values given are typical for unprocessed film unless noted otherwise and are not for use in specifications. Processing film may change certain values. If you have questions about your construction, contact the Technical Service help line at 1-800-328-3908.

Physical Characteristics

Characteristic	Description
Material	Vinyl
Color	White, opaque
Gloss	Luster
Thickness	Without adhesive: 2 mils (0.05 mm) With adhesive: 3-4 mils (0.08-0.10 mm)
Adhesive type	Changeable, pressure-activated with air release channels
Adhesive color	Gray
Liner	Polyethylene-coated paper
Tensile strength	5 pounds/inch at 73°F (9 kg/cm at 23°C) (minimum)
Adhesion <i>24 hours after application</i>	ABS: 3.8 pounds/inch (0.50 kg/cm) Fruehauf pre-painted panels: 1.7 pounds/inch (0.30 kg/cm) Glass: 0.6 pounds/inch (0.11 kg/cm)
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 for information

Application Characteristics

Characteristic	Description
Finished graphic application recommendation	<p>Surface type:</p> <ul style="list-style-type: none"> - Printed with ink series 2500UV: Flat only - Printed with other ink series: Flat, with and without rivets, simple curves, moderate compound curves <p>Surface type: Flat, with and without rivets, simple curves, moderate compound curves</p> <p>Substrate type: Smooth, rigid vehicle materials such as glass, aluminum, paint, ABS molding</p>

Characteristic	Description
Applied film shrinkage	0.032 inch (0.80 mm)
Finished graphic exposure temperature	-40° to +150°F (-40° to +66°C)
Graphic removal	Removes easily without heat and chemicals when ambient and substrate temperatures are greater than 28°F (-2°C)

Warranty Information

See the 3M Graphics Center Warranty Brochure for the complete warranty and remedy details. The warranty given in the Product Bulletin that is current at the time you purchased the film is the one that 3M will honor.

3M™ MCS™ Warranty

for Finished Graphics

3M MCS Warranty Finished Graphic Constructions and Durability																											
Type of Graphic	U.S. Vertical Exposure ONLY (in years)																										
	Vehicle	Outdoor	Indoor	Vehicle	Outdoor	Indoor	Vehicle	Outdoor	Indoor	Vehicle	Outdoor	Indoor	Vehicle	Outdoor	Indoor	Vehicle	Outdoor	Indoor	Vehicle	Outdoor	Indoor	Vehicle	Outdoor	Indoor	Vehicle	Outdoor	Indoor
Ink Series	2200UV			2500UV flat only			2600UV			2700UV			1500			4800			6000			5500			6800		
Graphic Protection	Applied to flat and simple curved surfaces only																										
8519	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8520	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1920DR	2	2	2	-	-	-	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9720UV	2	2	2	1	1	1	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
none	-	2	2	-	-	1	-	2	2	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Graphic Protection	Applied to compound curved surfaces using heat and stretching the film																										
8519	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8520	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1920DR	1	1	1	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9720UV	1	1	1	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
None	-	1	1	-	-	1	-	1	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

How to Determine Other 3M MCS Warranty Durabilities

Use the warranted durability for your construction if exposed in a U.S. vertical orientation and use the following formulas to determine other durabilities.

Formulas for Other 3M MCS Warranty Durabilities

	Exposure		
	U.S. Non-Vertical	U.S. Vertical Desert Southwest	U.S. N.-Vertical Desert Southwest
Percentage of U.S. Vertical Exposure	50% (0.5)	70% (0.7)	35% (0.35)
Example	0.5 x 2 years = 1 years	0.7 x 2 years = 1.4 years	0.35 x 2 years = 0.7 years

3M Performance Guarantee

for Product Performance Only

3M Performance Guarantee Graphic Constructions and Durability

Graphics constructed as described in the table below are eligible for the 3M Performance Guarantee warranty. This is a finished graphics warranty that covers product performance **only** for the 3M specified products 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 this film.

U.S. Vertical Exposure (in years)

Film	Graphic Protection	Vehicle		Inks and Printers
		Outdoor	Indoor	
IJ3552C	8518 8519 8520 1920DR 9720UV	Applied to flat and simple curved surfaces only		See Product Bulletin PG Matrix
		2		
		Applied to compound curved surfaces using heat and stretching the film		
		1		

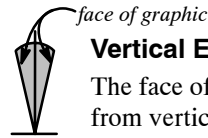
Removal Warranty

For 3M MCS Warranty and 3M Performance Guarantee

The removal warranty for this film for standard fleet graphics and signs is the same as the warranted durability for the constructions listed in the warranty that applies to your graphics. Refer to page 1, *Limitations of End Uses, Graphic removal from*, for restrictions.

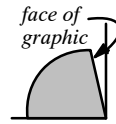
Warranty Notes

Definitions



Vertical Exposure

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



Non-Vertical Exposure

The face of the graphic is greater than 10° 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 upon request.

Vehicles. Refers to commercial fleet, buses, vans and automobiles unless otherwise noted.

Outdoor and Indoor. Indicates warranties for signs.

Graphic Performance Life

The actual performance depends on the:

- Correct combination of 3M–recommended graphics products
- Ink formulation
- Proper drying or UV curing
- 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.

Special Warranty Stipulations for Vehicle Graphics

When applied to a vehicle, a Pre-installation and Inspection Record (see Instruction Bulletin 5.36) must be completed for each vehicle and readily available if a warranty claim is made.

Application to Compound Curved Surfaces

Heat is required during the application. Some shrinkage and film lifting may occur if graphics are stretched during application.

Clears

Apply clears by screen printing and, as needed, UV curing. For details, refer to the ink's Product and Instruction Bulletins for the clear you are using

Overlaminates

Overlaminates must be cold roll applied.

Application to Glass

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

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 Performance Guarantee covers selected 3M graphic products when used with qualified printers and OEM inks.

Warranty and Limited Liability

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.

Fabrication

This Product Bulletin does not contain detailed printing, processing, or application procedures. Refer to the 3M Related Literature section to identify the Bulletins you need to process your graphics.

Printer Support Information

Ink

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

Total Ink Coverage for 3M MCS Warranty Constructions

Do not exceed the recommended total ink coverage for this film. Too high a total physical ink amount on the film results in media characteristic changes, inadequate drying, overlaminate lifting, and/or poor graphic performance. Refer to the Instruction Bulletin for the 3M ink system being used for the recommended total ink coverages.

Total Ink Coverage for Performance Guarantee Constructions

We recommend a maximum total ink coverage of 270%. Make sure that the ink lay down is within the limits of what the drier can handle to prevent ink smearing.

Color Profiles

Many color profiles are available on our website at www.Scotchprint.com.

Drying

 **Caution**

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 overlaminate, rolling the graphic, and applying the film. See the ink's Instruction Bulletin for more details.

Cutting

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

- Hand cut
- Guillotine
- Cold and hot steel-rule die cutting
- Computer-aided cutting (not for prespaced characters)

Application Tapes

The type of premasking tape to use depends on the ink or clear coat that was applied last. See Instruction Bulletin 4.3 for details.

Do not use this film for cut characters; such use is not warranted.

Ink	Graphic Protection	Premasking Tape
2200UV 2500UV 2600UV 2600UV	None	SCPM-44X
	8519 8520	SCPM-3
2200UV 2600UV 2700UV	1920DR	SCPM-3
All inks	9720UV	SCPM-44X
1500 4800 5500 6800	None 8519 8520 1920DR	SCPM-3
1500 5500 6800	8530	SCPM-3
Inks in Performance Guarantee program	8518	SCPM-3
	All others	Same as above

Application and Installation

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

Apply this film using the dry application method.

Adhesive

This film combines the features found in Controltac and Comply adhesive technologies for the fastest and easiest graphic application. The pressure-activated adhesive allows you to slide, position and reposition the film on the application substrate when tacked with light hand pressure. Applying firm pressure bonds the adhesive to the substrate, and by design, destroys the positionability feature. A network of microstructured air channels in the adhesive allows air to escape laterally beneath the film. An air bubble trapped under the film can be rubbed out easily and usually does not require making an air release hole.

The adhesive characteristics may be reduced under these conditions:

- The film has been removed, even partially, from the original liner and reapplied to the same liner or another liner.
- When applied at higher than 100°F (38°C), the film loses its positionability feature even if only light hand pressure is applied.

About Changeable Films

Changeable films have lower adhesion, usually in the range of 2 to 5 pounds per inch peel-back adhesion, which allows graphics to be removed easily without the aid of heat or chemicals.

Film Has a Memory

Film, including film with changeable adhesive as used in vehicle graphics, has a memory for its original shape. Consequently, stretching the film does result in some shrinkage as it attempts to return to its original dimensions. As it shrinks, you can expect minor tenting and lifting. Applying heat during stretching and again after application helps void the film's memory, which reduces tenting and lifting. This is discussed in the most current version of Instruction Bulletin 5.36.

Special Installation Techniques

Read and follow *Application: Special Considerations for Complex Contour Surfaces* in Instruction Bulletin 5.36.

Maintenance and Cleaning

Use a cleaning system designed for high-quality painted surfaces. They 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

When properly removed, 3M-recommended films for temporary vehicle graphics will leave little or no adhesive residue. These films will not damage a soundly painted surface or a previously applied 3M vinyl graphic unless the surface was corroded, rusted, blistered, scratched or previously damaged, or if it was damaged since the graphic application.

Shelf Life, Storage and Shipping

Activity	Recommendation
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	<ul style="list-style-type: none">• 100°F (38°C) maximum• 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; processed film may block if wound too tightly

Attention: Authorized Graphics Manufacturers

Visit our password-protected website for exclusive product information. Certain restrictions apply.

1. Go to www.3mgraphics.com.
 2. Select a country.
 3. Click *Login* on upper left side of screen.
 4. Click Register.
 5. Enter authorization code: **CGD_SGN**.
 6. Complete the information and submit. An e-mail will be sent when your authorization is completed.
-

Health and Safety



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:

- By fax, call 1-800-364-0768 in the US and Canada or 1-650-556-8417 for all other locations.
- Electronically, visit us at www.3M.com/MSDS.
- 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, as well as a list of all Bulletins updated within the last three months, are available at www.3mgraphics.com or through our Fax-on-Demand system. Any warranty, if offered, is based on information in the appropriate Bulletin(s) that was current at the time you purchased the 3M products. The following Product and/or Instruction Bulletins provide the information and processes you need to properly make the graphics described in this Bulletin.

Fax-on-Demand phone numbers:
 United States or Canada: 1-800-364-0768
 International: 1-651-732-6506

Subject	Bulletin No.	FOD No.
Product Bulletins		
3M™ Piezo Ink Jet Ink Series 2200UV	2200UV	4597
3M™ Piezo Ink Jet Ink Series 2500UV	2500UV	4575
3M™ Piezo Ink Jet Ink Series 2600UV	2600UV	4594
3M™ Piezo Ink Jet Ink Series 2700UV	2700UV	4598
3M™ Piezo Ink Jet Ink Series 1500	1500	4578
3M™ Piezo Ink Jet Ink Series 4800	4800	4602
3M™ Piezo Ink Jet Ink Series 5500	5500	4592
3M™ Piezo Ink Jet Ink Series 6800	6800	4574
3M™ Screen Printing Ink Series 1900	1900	2501
3M™ Screen Printing Ink Series 9700UV	9700	2507
3M™ Piezo Ink Jet Protective Clear 8530	8530	4565
3M™ Scotchcal™ Overlaminates 8518	8518	4600
3M™ Scotchcal™ Overlaminates 8519 and 8520	8519/ 8520	4524
3M™ Scotchcal™ Luster Overlaminates 8908	8908	3554
3M™ Scotchcal™ Matte Overlaminates 8909	8909	3565
Instruction Bulletins		
Design of graphics	2.1	5501
Printing with piezo ink series 2200UV	4.52	6552

Subject	Bulletin No.	FOD No.
Printing with piezo ink series 2500UV	4.41	6541
Printing with piezo ink series 2600UV	4.50	6550
Printing with piezo ink series 2700UV	4.53	6553
Printing with piezo ink series 1500	4.45	6545
Printing with piezo ink series 4800	4.51	6551
Printing with piezo ink series 5500	4.47	6547
Printing with piezo ink series 6800	4.40	6540
Screen printing with ink series 1900	3.12	6012
Screen printing with ink series 9700UV	3.4	6004
Scoring and cutting	4.1	6501
Using 3M application tapes; premasking and prespacing for films	4.3	6503
Applying 3M graphic films with Comply™ Adhesive	5.31	7031
Application, substrate selection, preparation and substrate-specific application techniques	5.1	7001
Application: Special considerations for complex contours of automobiles, vans and buses and inspection forms	5.36	7036
Application, special applications and vehicles	5.4	7004
Application, general procedures for interior and exterior dry applications	5.5	7005
A guide to understanding and applying graphics to common interior wall surfaces	5.37	7037
Storage, handling, maintenance, removal	6.5	8505
Warranties		
3M Graphics Market Center Warranty Brochure		9503

3M, Comply, Controltac, and MCS are trademarks of 3M Company. VUTEK, PressVu and UltraVu are trademarks of VUTEK Inc. Pressjet-W is a trademark of HP Scitex Corporation Ltd. ColorPainter is a trademark of Seiko I Infotech Inc. Mutoh is a registered trademark of Mutoh America, Inc. Roland and SOLJET are trademarks of Roland DGA Company. All other trademarks are the property of their respective owners.

Bulletin Change Summary

FUNCTIONAL CHANGES: Important information about low surface energy paints has been added to page 1. Note that prespacing cut graphics is not recommended or warranted for this product.

Warranty information has been reorganized for more clarity. Note that the warranty for application to compound curves with heat and stretching has a lower warranted durability.

3M has dropped the Plus after the brand name Controltac.



Commercial Graphics Division

3M Center, Building 220-12E-04
PO Box 33220
St. Paul, MN 55144-3220 USA
General Info. 1-800-374-6772
Technical Info. 1-800-328-3908
Fax 1-651-736-4233

3M Canada

P.O. Box 5757
London, Ontario
Canada N6A 4T1
1-800-265-1840
Fax 519-452-6245

3M México, S.A. de C.V

Av. Santa Fe No. 55
Col. Santa Fe, Del. Alvaro Obregón
México, D.F. 01210
52-55-52-70-04-00
Fax 52-55-52-70-22-77

3M Puerto Rico, Inc.

Puerto Rico Industrial Park
P.O. Box 100
Carolina, PR 00986-0100
787-620-3000
Fax 787-750-3035

Fax-on-Demand document number: 4576 Fax-on-Demand ordering: 1-800-364-0768 US/Canada; 1-651-732-6506 International
www.3mgraphics.com

©3M 2007. All rights reserved.