

## Series 180 with Comply™ Adhesive Series 180C with Comply™ v2 Adhesive 180Cv2-10

### Product Description

- 2-mil cast, vinyl film

### Product Features

- Excellent hiding power
- Pressure-activated adhesive for easy sliding, tacking, snap-up and repositioning
- Conforms to flat surfaces, with and without rivets, simple curves, compound curves and corrugations
- Film series 180C with Comply™ Adhesive also have air release channels for fast and easy, bubble-free graphic installations
- Film 180Cv2-10 (white only) features non-visible air release channels
- Expected Performance Life of 10 years (unwarranted period for unprinted film with no graphic protection, applied to a flat, vertical, outdoor surface)

### Recommended Types of Graphics and End Uses

See [3Mgraphics.com/warranties](http://3Mgraphics.com/warranties) for a complete list of compatible products that are approved by 3M for use with the base film covered in this Bulletin and used for the creation of a graphic that may be eligible for the 3M™ MCS™ Warranty.

- Indoor and outdoor graphics and signs, including point-of-purchase and displays
- Commercial vehicles, straight trucks, semi-trucks and semi-trailers, emblems or striping
- Bus graphics
- Rail car graphics
- Transparent film color 114 can be used for two-way emblems for windows, except on buses or other vehicles
- Small format original equipment manufacturer's (OEM) decorative and identification graphics, cautionary and safety labeling

### Recommended Compatible Products

See [3Mgraphics.com/warranties](http://3Mgraphics.com/warranties) for a complete list of compatible products that are approved by 3M for use with the base film covered in this Bulletin and used for the creation of a graphic that may be eligible for the 3M™ MCS™ Warranty.

### Screen Printing Inks for 3M™ MCS™ Warranty

- [3M™ Screen Printing Ink Series 1900 \(Solvent\)](#), line color and four color
- [3M™ Screen Printing UV Ink Series 9800](#), line color and four color
- Sericol™ Duracal™ UV Screen Print Ink\* (approved for OEM applications only)
- Sericol™ Duracal™ Screen Print Clear\* (approved for OEM applications only)

\* To identify a Sericol inks distributor, contact FUJIFILM North America Corporation, Graphic 1101 W. Cambridge Drive, Kansas City, KS 66103; Tel: 1-800-255-4562 or 913-342-4060.

### Graphic Protection

- [3M™ Screen Print Gloss Clear 1920DR](#)
- [3M™ Screen Print Matte Clear 1930](#)
- [3M™ Screen Print UV Gloss Clear 9800CL](#)
- [3M™ Screen Print Matte Clear 9730UV](#)
- [3M™ Screen Print UV Gloss Clear 9740i](#)
- [3M™ Wrap Overlaminates Series 8900](#)

#### Quick Links

- [3M Graphics Warranties](#)
- [Technical Information Selector](#)
- [Safety Data Sheets \(SDS\)](#)
- [Flammability \(ASTM E84 Reports\)](#)
- [Videos](#)

Some of these links lead to web-based resources that are not product-specific.

## Application Tapes

See [3M Instruction Bulletin AT-1](#) to determine what application tape is recommend for your film or finished graphic.

## Other Products

- [3M™ Edge Sealer 3950](#)
- [3M™ Edge Sealer Tape 8914](#)

## Characteristics

These are typical values for unprocessed product. Processing may change the values.

### Physical Characteristics

Characteristic	Value												
Material	Cast vinyl												
Film Color	See "Colors" on page 3												
Thickness	<b>Without adhesive:</b> 2 mil (0.05 mm) <b>With adhesive:</b> 3 – 4 mils (0.08 – 0.10 mm)												
Adhesive	<b>Film series 180:</b> Pressure-activated (slide, tack, snap-up, reposition) <b>Film series 180C, 180Cv2-10:</b> Pressure-activated (slide, tack, snap-up, reposition) with air release channels												
Adhesive Color	Gray or clear, see "Colors" on page 3												
Liner	Polyethylene-coated paper												
Adhesion, Typical <i>24 hours after application</i>	<table> <tbody> <tr> <td>ABS</td> <td>4-5 pounds/inch (0.72-0.89 kg/cm)</td> </tr> <tr> <td>Acrylic enamel</td> <td>3-4 pounds/inch (0.54-0.72 kg/cm)</td> </tr> <tr> <td>Aluminum, anodized</td> <td>7-8 pounds/inch (1.26-1.43 kg/cm)</td> </tr> <tr> <td>Aluminum, etched</td> <td>5-6 pounds/inch (0.89-1.08 kg/cm)</td> </tr> <tr> <td>Chrome</td> <td>4-5 pounds/inch (0.72-0.89 kg/cm)</td> </tr> <tr> <td>Fruehauf pre-painted panels</td> <td>3-5 pounds/inch (0.54-0.89 kg/cm)</td> </tr> </tbody> </table>	ABS	4-5 pounds/inch (0.72-0.89 kg/cm)	Acrylic enamel	3-4 pounds/inch (0.54-0.72 kg/cm)	Aluminum, anodized	7-8 pounds/inch (1.26-1.43 kg/cm)	Aluminum, etched	5-6 pounds/inch (0.89-1.08 kg/cm)	Chrome	4-5 pounds/inch (0.72-0.89 kg/cm)	Fruehauf pre-painted panels	3-5 pounds/inch (0.54-0.89 kg/cm)
ABS	4-5 pounds/inch (0.72-0.89 kg/cm)												
Acrylic enamel	3-4 pounds/inch (0.54-0.72 kg/cm)												
Aluminum, anodized	7-8 pounds/inch (1.26-1.43 kg/cm)												
Aluminum, etched	5-6 pounds/inch (0.89-1.08 kg/cm)												
Chrome	4-5 pounds/inch (0.72-0.89 kg/cm)												
Fruehauf pre-painted panels	3-5 pounds/inch (0.54-0.89 kg/cm)												
Tensile Strength	5 pounds/inch at 73 °F (0.9 kg/cm at 23 °C)												
Chemical Resistance	<ul style="list-style-type: none"> <li>• Resists mild alkalis, mild acids, and salt</li> <li>• Excellent resistance to water (does not include immersion)</li> <li>• Resists occasional fuel spills</li> </ul>												
Flammability	ASTM E84 reports: <a href="#">180</a> , <a href="#">180C</a>												

### Application Characteristics

Characteristic	Value
Finished Graphic Application Recommendation	<p><b>Surface type:</b> Flat, with and without rivets, simple curves, compound curves, and corrugations</p> <p><b>Substrate type:</b> ABS resins, aluminum, chrome, glass, fiberglass reinforced plastics, paint (check adhesion to powder-coated or water-based paints)</p> <p><b>Application method:</b> Dry</p> <p><b>Application temperature:</b> (air and substrate)</p> <ul style="list-style-type: none"> <li>• Flat without rivets: 50–100 °F (10–38 °C)</li> <li>• Curves or corrugations with rivets: 50–100 °F (10–38 °C)</li> <li>• Compound curves: 60–90 °F (16–32 °C)</li> </ul>
Applied Shrinkage	0.015 inches (0.4 mm)
Temperature Range After Application	-65 to +225 °F (-60 to +107 °C) (not for extended periods of time at the extremes)
Graphic Removal	Removable with heat and/or chemicals from most substrates within the Warranty Period at 50 °F (10 °C) minimum (air and substrate)

## Colors

Solid Colors			Metallic and Transparent
10 White	31 Medium Gray <sup>1</sup>	58 Burgundy <sup>1</sup>	201 Slate <sup>1, 3</sup>
12 Black	37 Sapphire Blue	59 Putty	211 Charcoal <sup>1, 3</sup>
13 Tomato Red	38 Royal Purple <sup>1</sup>	63 Geranium <sup>1</sup>	217 Dark Blue <sup>1, 3</sup>
14 Bright Orange	39 Tan	77 Peacock Blue	227 Bright Blue <sup>1, 3</sup>
15 Bright Yellow <sup>1, 2</sup>	41 Dark Gray <sup>1</sup>	96 Teal <sup>1</sup>	229 Copper <sup>1, 3</sup>
17 Vivid Blue	46 Kelly Green	98 Dark Violet <sup>1</sup>	239 Chocolate Brown <sup>1, 3</sup>
19 Deep Mahogany Brown	47 Intense Blue	103 Magenta <sup>1</sup>	241 Gold <sup>1, 3</sup>
22 Matte Black <sup>1</sup>	49 Beige	120 Satin Aluminum	114 Transparent <sup>1, 2</sup>
23 Deep Red	53 Cardinal Red	131 Satin Gold <sup>1</sup>	
25 Sunflower <sup>1, 2</sup>	54 Light Orange	186 Bright Green <sup>1</sup>	
27 Indigo (Navy)	56 Dark Green	196 Apple Green <sup>1</sup>	
29 Russet Brown	57 Olympic Blue	307 Dark Aqua <sup>1</sup>	

1. Indicates clear adhesive; all other adhesive is gray-pigmented

2. Indicates minimal or no hiding power

3. Available in film series 180C only.

## Warranty Information

### IMPORTANT NOTE

Warranty information including limitations and exceptions and warranty periods for this product can be found at [3Mgraphics.com/warranties](https://www.3Mgraphics.com/warranties).

## Warranty Coverage Overview

The warranty coverage for eligible graphics is based on the user both reading and following all applicable and current 3M Graphics Product and Instruction Bulletins. The warranty period for eligible graphics is as stated in the 3M Graphics Warranties Matrices at the time that the film was purchased. Information found at [3Mgraphics.com/warranties](https://www.3Mgraphics.com/warranties) includes:

- [3M Graphics Warranties Bulletin](#)
  - This bulletin contains information on limitations and exceptions, and warranty period reductions for 3M Graphics Warranties. The warranty period may be reduced and stipulations may apply for certain constructions and applications, and graphic exposures as covered in this Bulletin.
- [3M Graphics Warranties Selector](#)
  - Use this selector to search for your vertical warranty period by product number, ink type, and ink/printer platform.
- [U.S. Desert Southwest Region Map](#)
  - Use this map of hot, arid desert areas to determine if you are subject to reduced warranted durabilities.

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

## 3M Basic Product Warranty

3M Graphics Products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in its applicable 3M Graphics Product Bulletin and as further set forth in the [3M Graphics Warranties Bulletin](#).

## Limited Remedy

The limited remedy applicable to each warranty is addressed in the 3M Graphics Warranties Bulletin found at [3MGraphics.com/warranties](https://www.3MGraphics.com/warranties).

## Limitation of Liability

Except to the extent prohibited by law, 3M SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO PURCHASER OR USER FOR ANY DIRECT (EXCEPT FOR THE LIMITED REMEDY PROVIDED HEREIN), 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 3M'S GRAPHICS PRODUCTS, SERVICES, OR THIS BULLETIN. This limitation of liability applies regardless of the legal or equitable theory under which such losses or damages are sought.

## Warranty Period Matrices

See the 3M Graphics Warranties Matrices at [3MGraphics.com/warranties](https://www.3MGraphics.com/warranties), for vertical warranty period information specific to your film.

## Lifetime Warranty

See the 3M Graphics Warranties Matrices at [3MGraphics.com/warranties](https://www.3MGraphics.com/warranties) for lifetime warranty information specific to your film.

## Legibility Warranty

See the 3M Graphics Warranties Matrices at [3MGraphics.com/warranties](https://www.3MGraphics.com/warranties) for legibility warranty information specific to your film. This warranty is only for horizontal exposures and selected constructions.

## Additional Limitations

See the 3M Graphics Warranties Bulletin at [3MGraphics.com/warranties](https://www.3MGraphics.com/warranties), for terms, additional limitations of your warranty, if any, information on reduced warranties for different exposures, and limitations of liability.

## Factors that Affect Graphic Performance Life

The actual performance life of a graphic is affected by:

- the combinations of graphics materials used.
- complete ink drying or curing.
- selection, condition and preparation of the substrate.
- surface texture.
- application methods.
- angle and direction of sun exposure.
- environmental conditions.
- cleaning or maintenance methods.

## Graphics Manufacturing



Before using any equipment, always read the manufacturer's instructions for safe operation.

## 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.

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 3M Instruction Bulletin.

## Cutting

See [3M Instruction Bulletin 4.1](#) for Sheeting, Scoring and Film Cutting details.

## Graphic Protection

Graphic protection may improve the appearance, performance and durability of the graphic. Click on the graphic protection options listed in the "Recommended Compatible Products" on page 1 or see the [3M Graphics Market Product Catalog](#), for more information.

## Application Tapes

There are two types of application tapes. See [3M Instruction Bulletin AT-1](#) to determine what application tape is recommended for your film or finished graphic.

### Premasking Tape

Increases stiffness during application while preventing stretching and damage. Use when little or no liner is exposed. See [3M Instruction Bulletin 4.3](#) for complete details.

### Prespacing Tape

Holds cut and weeded letters or graphics in place during application and after removing the film liner, while preventing stretching and damage. Use when large amounts of liner are exposed. See [3M Instruction Bulletin 4.3](#) for complete details.

## Application and Installation

In addition to other 3M Bulletins specified in this document, the following Bulletins provide details that you may need to successfully apply a graphic.

- [3M Instruction Bulletin 5.37](#). A Guide to Understanding and Applying Graphics to Common Smooth and Textured Wall Surfaces.
- [3M Instruction Bulletin 5.4](#). Application, Fleet Trucks.
- [3M Instruction Bulletin 5.5](#). Application, General Procedures for Interior and Exterior Dry Application.
- [3M Product and Instruction Bulletin V-Tools](#). 3M™ Vehicle Channel Applicator Tools.

## Pressure-activated Adhesive

The pressure activated adhesive on this film offers:

- smooth sliding into position on a substrate;
- fast finger tacking to check position; and
- easy snap-up and repositioning when you need it.

The **snap-up and reposition feature is lost:**

- when firm pressure with a squeegee or other application tool is applied.
- at application temperatures above 100° F (38° C) even if only light finger pressure was used for tacking.
- if any part of the film is removed from the original liner and reapplied to the same or another liner.
- solvent from inkjet ink has not completely dried or cured, which affects both slideability and snap-up.

## Working with Air Release Channels

Air release channels are a characteristic of films with Comply™ adhesive that allow trapped air to exit through the edges of the graphic.

- The channels will be damaged and effective air removal affected if you remove and attempt to change liners or reapply the same liner.
- For the best results, always work from the center out to the edges of the graphic to allow trapped air to exit through the air release channels. If the channels are closed off by firm pressure and air is trapped, use an air release tool to aid in removing air bubbles. See [3M Instruction Bulletin 5.4](#) for details.

### Video

Click [here](#) to see how 3M's Comply™ adhesive technology works.

## 3M™ Tape Primer 94

3M recommends that where the film will be stretched, particularly on the edges of the film, use primer to maximize a graphic's bond to its substrate.

## 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). See [3M Instruction Bulletin 6.5](#) for details.

## Removal

Removal requires heat and/or chemicals. The ease and rate of removal depends on a number of factors. See [3M Instruction Bulletin 6.5](#) for details.

## Shelf Life, Storage and Shipping

### Shelf Life

The shelf life is **never more than 3 years** from the date of manufacture on the original box.

If you process the film, the shelf life is changed to **1 year** from the processing date, but not later than the 3 year maximum from the manufacturing date.

### Storage Conditions

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

### Shipping Finished Graphics

Flat, or rolled printed side out on 6 inch (15 cm) or larger core. This helps prevent the application tape, if used, from popping off.

## Health and Safety



### CAUTION

When handling any chemical products, read the manufacturers' container labels and the Safety Data Sheets (SDS) for important health, safety and environmental information. To obtain SDS sheets for 3M products go to [3M.com/SDS](http://3M.com/SDS), 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.

## Bulletin Change Summary

For the most current 3M Technical Information available to successfully use this product, please view this Bulletin electronically and click on the blue underlined links to view the relevant documents. This Bulletin has been substantially changed. Please read the entire Bulletin thoroughly.

### Release Q OCT-2015:

- Updated Product Bulletin to new format.
- Added 3M™ Wrap Overlamine Series 8900 to "Graphic Protection" on page 1.

#### 3M Commercial Solutions

3M Center  
Building 220-12E-04  
St. Paul, MN 55144-1000  
1-800-328-3908  
Fax 651-736-4233  
www.3Mgraphics.com

#### 3M Canada

PO Box 5757  
London, ON 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  
General 5255-5270-0400  
Fax 5255-5270-2277

#### 3M Puerto Rico, Inc.

350 Chardon Avenue  
Suite 1100  
San Juan, PR 00918  
General 787-620-3000  
Fax 787-620-3018

3M, Controltac, Comply, and MCS are trademarks of 3M Company. Sericol and Duracal are trademarks of FUJIFILM Corporation. All other trademarks are the property of their respective owners.

