2080-GC451 Gloss Silver Chrome

Product Features

- 5.9-mil film with a glossy, chrome appearance
- Pressure-activated adhesive for easy sliding, tacking, snap-up, and repositioning
- Non-visible air-release channels for fast, easy, bubble-free installations
- A Protective Film Layer is included on 3M™ Wrap Film Series 2080-GC541 (2080-GC451) to protect the film's mirror-like appearance

NOTE: Unlike the protective sheet used on 1080-GC451, the Protective Film Layer can remain on the film throughout the entire installation, but must be removed prior to post-heating.

- Ability to stretch and conform using heat
- Use without graphic protection
- Available in standard 60 inch roll width
- Removable with heat
- Expected Performance Life (unwarranted period for unprinted film with no graphic protection, applied to a flat, vertical, vehicle surface) is 1 year.

> (i) **IMPORTANT NOTE**
>
> This product may not remove similarly to other 3M™ Wrap Film Series 2080 films.

> (i) **IMPORTANT NOTE**
>
> Over-heating or over-stretching the film can permanently alter its appearance (making its mirror-like finish appear cloudy)

Recommended Types of Graphics and End 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.

- Solid color detailing and special effects
- Standard vehicle graphics, detailing, and decoration
- Commercial vehicle and fleet graphics, emblems or striping
- Watercraft graphics applied above the static water line only

NOTE: Not recommended for salt water applications.

- Compliment other 3M wrap films, including 3M™ Wrap Film Series 2080

> ⚠ **CAUTION**
>
> Before using chrome wrap, please ensure compliance with all applicable laws and regulations. Restrictions on chrome wraps may vary by jurisdiction. The user accepts responsibility for legal and regulatory compliance and for any liability arising from use of chrome wrap.

> (i) **IMPORTANT NOTE**
>
> Before using these films, please review "Pressure-activated Adhesive" on page 6.

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Characteristics

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

Physical Characteristics

Characteristic	Value	
Material	Multi-layer non-PVC	
Colors	Silver Chrome	
Finish	Gloss	
Thickness	5.9 mils with adhesive (not including protective film layer)	
Adhesive	Pressure-activated (slideable, repositionable), with air release channels	
Adhesive Color	Clear	
Release Liner	Polyethylene-coated paper	
Adhesion, Typical *24 hours after application*	**Substrate**	**Adhesion:**
	ABS	2 – 4 pounds/inch (0.36 – 0.72 kg/cm)
	Acrylic enamel	2 – 4 pounds/inch (0.36 – 0.72 kg/cm)
	Aluminum, anodized	5 – 7 pounds/inch (0.89 – 1.26 kg/cm)
	Aluminum, etched	4 – 6 pounds/inch (0.72 – 1.08 kg/cm)
	Freuhauf pre-painted panels	2 – 4 pounds/inch (0.36 – 0.72 kg/cm)
	Automotive clear coats (OEM)	3 – 5 pounds/inch (0.54 – 0.89 kg/cm)
Tensile Strength	13 pounds/inch at 73 °F (2.5 kg/cm at 23 °C)	
Flammability	ASTM E84 test report: go to the online catalog at 3M.com/graphics All available test reports: call 1-800-328-3908	

Application Characteristics

Characteristic	Value
Finished Graphic Application Recommendation	**Surface type:** Flat, simple curves, moderate compound curves **Substrate type:** ABS resins, aluminum, chrome, glass, fiberglass reinforced plastics, paint (check adhesion to power-coated or water-based paints) fiberglass with gel coat **Application Temperature:** 60 – 90 °F (16 – 32 °C) **Application Method:** Dry
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 from most substrates within the Expected Performance Life. **Note:** This product may not remove similarly to other 3M™ Wrap Film Series 2080 films

Warranty Information

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.

(i) **IMPORTANT NOTE**

   Due to the mirror finish of this film, small particles and imperfections are more easily seen than in standard films. These particles are not considered defects.

(i) **IMPORTANT NOTE**

   Expected Performance Life (unwarranted period for unprinted film with no graphic protection, applied to a flat, vertical, vehicle surface) is 1 year.

   In wet or humid environments, applying a hydrophobic coating to the film after application, such as Meguiar's® Ultimate Liquid Wax or Meguiar's® NXT Generation® Tech Wax® 2.0, may extend the Expected Performance Life of this product. The installer assumes all risk for testing, approving, suitability and warranty if provided.

(i) **IMPORTANT NOTE**

   When converting and sampling 2080-GC451 Chrome, always ship and store the product on a core, with the paper liner facing inwards towards the core.

Limited Remedy

The limited remedy applicable to each warranty is addressed in the 3M Graphics Warranties Bulletin found at 3M.com/graphicswarranties.

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.

Additional Limitations

See the 3M Graphics Warranties Bulletin at 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:

● 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

This film is intended for solid color vehicle detailing and decoration without graphic protection. Cutting may be required.

⚠️ **CAUTION**

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

Printing

This film may be printed with some inkjet printers. 2080-GC451 is intended to be used without further processing. If the film is printed, with or without graphic protection, the manufacturer or wrap shop assumes all risk for testing, approving, suitability, and warranty. To maximize the durability of the printed film, use graphic protection such as 3M™ Scotchcal™ Gloss Overlaminate 8518.

ⓘ **IMPORTANT NOTE**

2080-GC451 has a Protective Film Layer on the non-adhesive side of the film. This must be removed before printing.

ⓘ **IMPORTANT NOTE**

If printing is applied to the film, with or without wrap protection, the wrap shop assumes all risk for testing, approving, suitability and warranty.

ⓘ **IMPORTANT NOTE**

2080-GC451 is not directional, however, it is always best practice to avoid alternating between length-wise and width-wise graphic panels. Follow the directional arrows on the back of the liner wherever possible.

Cutting

See 3M Instruction Bulletin 4.1 for Sheeting, Scoring and Film Cutting details.

Methods
- Hand cut
- Flat-bed electronic cutting

ⓘ **IMPORTANT NOTE**

Always remove the film's protective film layer prior to cutting the film.

Make sure the cutting blades are sharp, clean and properly set.

The construction of this film makes it more difficult to achieve a smooth edge with an electronic cutter; always test and approve before using this cutting method.

Figure 1. Friction-fed plotter damage

Cut Shapes

This film can be cut into a variety of straight and simpled curved designs.

Application Tapes

There are two types of application tapes. See <u>3M Instruction Bulletin AT-1</u> to determine what application tape is recommended for the film or finished graphic.

Premasking Tape

Increases stiffness during application while preventing stretching and damage. Use when little or no liner is exposed. See <u>3M Instruction Bulletin 4.3</u> 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 <u>3M Instruction Bulletin 4.3</u> for complete details.

Application and Installation

Install the film using the dry application method after ensuring that the vehicle is freshly washed and dried to remove all contaminants.

Special Considerations

3M 2080-GC451 Chrome requires special installation considerations relative to typical cast vinyl wraps. Proper heating and stretching techniques are needed to achieve the desired mirror like appearance. IR-lamps and electric Heat Guns are the only recommended heat sources to be used during installation. Using a torch can damage the film. Like vinyl, avoid overheating and overstretching, as the film's appearance will be negatively affected. Do not use IPA as a slip agent when heating 2080-GC451. Using IPA and heat has shown to haze the film.

Wetting a felt squeegee or wrap glove will aid in better slide when conforming 2080-GC451. Inlays and overlaps are recommended in deep recesses or contours. This can be achieved using 3M™ Knifeless Tape Design Line.

Once the installation is complete, remove the Protective Film Layer, and use a solution mix of Isopropyl alcohol(70%)/water(30%) or rubbing alcohol to wipe the material down to give it the desired final appearance. 3M recommends using only clean microfiber cloths.

Instructional videos on tips and tricks will be available to assist on installations. In the videos we will be showing traditional and some untraditional install methods that can help you in your installations for success.

Finishing

- Use the Classic Series of 3M™ Knifeless Tape (Finish Line, Perf Line, and Bridge Line) for all finishing cuts around edges of body panels
- Use the Design Line series 3M™ Knifeless Tape for all accenting & striping with 2080-GC451
- Never use a knife or razor blade for finishing cuts
- Use 70/30 IPA, and then 3M Meguiar's liquid wax to clean surface post-installation
- Post-heat wrap thoroughly after installation to relax stretched areas of film

> ⓘ **IMPORTANT NOTE**
>
> Always make sure to remove the Protective Film Layer from the top of the film before post-heating

- Use only microfiber rags to clean film after installation
- Paper towels or other rougher cleaning products will scratch surface
- Wrapping and post-heating 1/8"-1/4" of film around edges of working body panel will help prevent edge-lifting after installation

> ⓘ **IMPORTANT NOTE**
>
> Never use a wet application method to apply this film.

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 5.36. Application Techniques for Automobiles, Vans and Buses. Complete the 3M Pre-Installation Inspection Record found in this Instruction Bulletin prior to manufacturing or applying a graphic to an automobile, van, or bus.
- 3M Instruction Bulletin 5.4. Application, Fleet Trucks.
- 3M Instruction Bulletin 5.42. Application, Special Considerations for Watercraft. Complete the 3M Pre-Installation Inspection Record found in this Instruction Bulletin prior to manufacturing or applying a graphic to a watercraft.
- 3M Product and Instruction Bulletin V-Tools. 3M™ Vehicle Channel Applicator Tools.
- 3M FAQ 2080 for Consumers. 3M™ Vehicle Care Frequently Asked Questions.

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.

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.

Removing the Protective Film Layer

Click here to see how to remove the protective film layer from the product.

3M™ Tape Primer 94

3M recommends using primer to maximize a graphic's bond to its substrate in areas will the film be stretched, particularly in deep channels and along the edges of the film where it has been stretched and cut.

- In concave channels, apply a thin layer of primer over most of the concave area. Allow the primer to dry for five minutes.
- When going around convex areas, apply a thin layer of primer at the outer edges of the curve to prevent film edge lifting. Allow the primer to dry for five minutes.
- For the most effective bond and to avoid contamination, install the graphic within one hour after applying the primer.

Heating and Stretching the Film

This film can be stretched using heat. See 3M Instruction Bulletin 5.36 for more details (see Important Note below).

Follow these recommendations to ensure a successful application:

- Before stretching, heat the film to between 150 °F-180 °F (66 °C - 82 °C). Use an IR thermometer to monitor the temperature. See FIGURE 1.
- Working around complex curves, such as bumpers, heat a large section of the film to minimize any stress or squeegee lines and minimize film shrinkage.
- Over-heating or over-stretching the film may result in areas of slight hazing and loss of reflectivity (see note).

ⓘ **IMPORTANT NOTE**

Over-heating or over-stretching can permanently alter the film's appearance (making its mirror-like finish appear cloudy).

Post-Heating

Always remove the Protective Film Layer prior to post-heating. Post-heat the film so the film temperature is 200 °F - 225 °F. Measure the temperature using an IR thermometer. This is the most critical element in the process.   If this is not done correctly, there is potential for the film to lift in the channels and failure to occur.

Maintenance and Cleaning

Use care to avoid scratching the film. Never scrub the film. Scratching and abrasion marks may be visible and you may not be able to work them out of the unique finish of the film. Avoid using harsh chemicals and brushes when cleaning your vehicle, and avoid parking near shrubs and trees or any other items that could scratch the vehicle. See 3M FAQ Vehicle Care for details.

Figure 2. Use dampened, soft-sided squeegee for application. Always ensure soft side is saturated with a slip solution.

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without 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. 3M makes no claims as to the ease or speed of removal. This product may not remove similarly to other products in the same category. See 3M Instruction Bulletin 6.5 for details.

Using the 3M™ Wrap Film Series 2080 Emblem

3M
Wrap Film
Series 2080

This Emblem may be placed on the wrapped surface of your 3M™ Wrap Film Series 2080 installation or used in your marketing collateral. Please review and follow these guidelines to help ensure that each and every exposure to the Emblem is positive, and that you maintain a clear and consistent identity in the minds of your customers and potential customers.

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 2 year maximum from the manufacturing date.

Storage Conditions

- 40 to 100 °F (4 to 38 °C) maximum
- Out of sunlight
- Clean, dry area
- Original container
- Bring the film to print room temperature before using
- Keep the film tightly wound on the core during storage.

Shipping Finished Graphics

Flat, or rolled chrome-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, 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 manufacturer's instructions for safe operation.

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