



## 10 Top Tips for a Perfect Wrap



Courtesy of bluemedi@

Advances in vinyl substrates and printing technologies are revving up the vehicle wrap business for shops of all sizes. Whether you're applying graphics to cars, vans or other complex surfaces, the following tips and techniques can help you achieve great-looking applications.

### FILM SELECTION

# 1

Choose your graphic materials wisely

To wrap complex surfaces, select materials suitable for special application techniques, including heating, stretching and conforming. Remember that the difference between the material cost is only a small percentage of the total cost of the vehicle wrap.

- Use 2-mil cast vinyl films for vehicle wrap applications. (Unlike calendared films, cast films are manufactured with very little inherent stress in the materials.) While calendared films can be used on flat areas of vehicles for short-term graphics, only cast films are suitable for application to the compound curved surfaces found on most vehicles.

*Pro's Tip: Always refer to the manufacturer's Product Bulletins to verify a film's suitability for contours and compound curved surfaces.*

# 2

Protect your bottom line by selecting products that are easy to use

- To help reduce installation problems, failures and wasted time, opt for products with adhesives that are easy to slide and reposition. For fast, easy applications, 3M™ Controltac™ Graphic Films offer effortless slideability and repositionability.

- Films that also have air release channels virtually eliminate bubbles and help reduce installation costs. For easy, bubble-free application, 3M recommends 2-mil cast vinyl films with 3M™ Comply™ Adhesive.

- For vehicles with deep channels and complex surfaces, improve results by selecting a film that's designed specifically for these challenging surfaces. 3M™ Controltac™ Wrap Film IJ380Cv3 with Comply™ v3 Adhesive, which uses a new 3M film technology, is highly conformable and has virtually no memory once applied. It also features a slideable and repositionable adhesive. The film can be applied to difficult vehicle surfaces without the use of adhesive primer or relief cuts and without concerns about lifting.



# 3

Protect your wraps by using overlaminates

Your overlaminate choice has a significant impact on conformability, ease of application and aesthetics. Pairing a high-performance film with a too-stiff overlaminate can cause installation problems or graphic failure. A glossy overlaminate is often desirable to achieve a wet-paint look on the graphics.

- Look for overlaminates that provide high conformability and flexibility as well as UV, weathering and abrasion protection for the underlying graphic.

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### Tip #3. continued from page 1

products include 3M™ Scotchcal™ Gloss Overlaminates 8518 and 3M™ Scotchcal™ Luster Overlaminates 8519.

- For vehicle wraps with deep channels or complex surfaces, pair film 3M™ Controltac™ Wrap Film with Comply™ v3 Adhesive IJ380Cv3 and 3M™ Scotchcal™ Gloss Overlaminates 8580 for the highest degree of conformability, lifting resistance and protection. Like film IJ380Cv3, overlaminates 8580 uses new film technology that has virtually no memory once applied with 3M recommended application techniques.

## SURFACE PREPARATION

# 4

Clean the vehicle with recommended cleaners; make sure it's dry

- Wash the vehicle with non-lotion detergent and water. Clean all hidden areas where the graphic may be tucked or wrapped. Thoroughly rinse and dry.
- Ideally dry the vehicle indoors, overnight.
- Immediately before graphic application, wipe the vehicle with a recommended solvent cleaner and clean, dry, lint-free toweling. This step is required even for freshly painted vehicles.



# 5

Monitor vehicle and ambient air temperatures

Most film manufacturers have vehicle surface temperature recommendations. When applying 3M films to complex contours, verify that:

- The vehicle surface temperature is at least 60°F.
- The ambient air temperature is between 60°F and 100°F.

*Pro's Tip:* Even after application, keep the vehicle's temperature above 60°F for a minimum of 12 hours before exposing it to cold or moisture. This strengthens the graphic's bond to the contoured areas.

## HANDLING FILM ON COMPLEX SURFACES

Before applying the graphics, identify all areas on the vehicle where graphics may tend to lift, such as concave and convex areas.

The next steps help you reduce problems with film lifting.

# 6

Use a recommended adhesive primer, such as 3M™ Tape Primer 94, to promote better adhesion where the film will be stretched

*Note:* This step is not required when applying film IJ380Cv3 using 3M recommended application techniques.

• In concave channels, apply a thin layer of primer over most of the area. On convex surfaces, apply a thin layer of primer at the outer edges of the curve.

- Allow the primer to dry for five minutes.

## Award-Winning Wrap Innovations For Easier, Faster, High-Gloss Results

*Voting on products that did the most for their bottom lines, readers of Wide-Format Imaging Magazine named these 3M graphics products among the Reader's Choice Top Products.*

### Wide-Format Imaging Top Vinyl (2007 & 2008)

3M™ Controltac™ Graphic Film with Comply™ v2 Adhesive IJ180Cv2-10 delivers the benefits of easy installation and non-visible air release channels for a smoother appearance and higher gloss. Its patented technologies provide effortless slideability, allowing the graphic

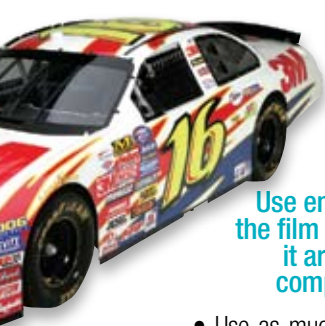


to be repositioned as needed for fast, easy, bubble-free installation even under challenging conditions.

### Wide-Format Imaging Top Film (2007)

Designed for vehicle wraps and other applications requiring high gloss and

superior conformability, 3M™ Scotchcal™ Gloss Overlaminates 8518 helps give vinyl graphics a glossy wet-paint look. Use this overlaminates with 3M's approved portfolio of graphic films with Comply adhesive for fast, easy installation and excellent conformability to complex curves and deep channels.



# 7

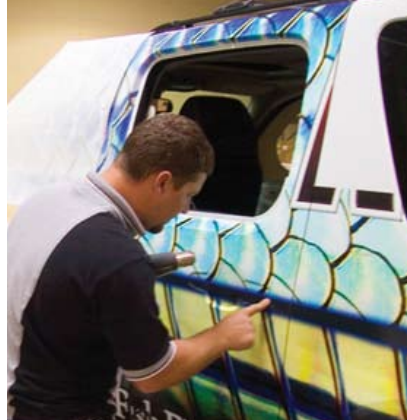
Use enough heat to soften the film when stretching it around and into complex curves

- Use as much heat as possible to soften the film—typically, 180°F for convex and concave areas – but be careful not to scorch or blister the film.

*Note:* 3M™ Controltac™ Wrap Film IJ380Cv3 and 3M™ Scotchcal™ Gloss Overlaminate 8580 are a much softer film and require less heat when stretching. Heat to only 120-130°F.

- Film cools quickly, so gently stretch the film right away.
- For concave channels, use your fingers, protected with cotton gloves, or a squeegee with a low-friction sleeve to conform the heated material into the middle of the channel first.
- A good option to work the heated film into deep channels and ensure adhesion without friction is to use application rollers, including 3M™ Vehicle Channel Applicator Tool VCAT-2 or 3M™ Roller L (for initial rolling) and 3M™ Roller S (for finishing).

*Pro's Tip:* If force is needed to stretch the film, the vinyl has likely cooled to below recommended temperatures. Reheat the film.



# 8

After the film has been applied, heat the stretched portions of it again to reduce the film construction's internal stress

- Adjust the heat source so the film reaches a temperature of about 200°F. Move the heat source slowly across the stretched film surface.
- For best performance, press the stretched areas of film with 3M Roller S while the vinyl is still hot.

*Pro's Tip:* With a 200°F setting, move the heat source about one inch every 2 to 3 seconds. This technique relaxes the stress caused by stretching the vinyl film.



# 9

Films may be cut in deep channels to relieve stress

*Note:* This step is not required when applying film IJ380.

- In general, cutting is not necessary if the previous application techniques have been followed unless the film is expected to lift in high stress areas or a non-recommended film was used.

*Pro's Tip:* Experience is everything when it comes to wrapping. Contact your 3M distributor about installation seminars for 3M graphics products. You can also view the 3M video, Application Instructions for Complex Contours for Vehicles, at 3Mgraphics.com (look for Resources, Videos under the Graphic Solution navigation bar on the left of the page).

## REMOVAL TECHNIQUES

# 10

Follow manufacturer's recommendation for removal

If you don't know which film has been applied, try to remove a small piece.

- Films with low-tack (changeable) adhesive can generally be removed without heat at 70°F within a specified period of time. For films that require heat for removal, heat the surface adequately and remove the film at a low angle to prevent adhesive splitting. Reheat the surface as needed.
- Any residual adhesive and primer can be cleaned off with 3M™ Citrus Base Cleaner.



## Wrap to Win a Stage 3 ROUSH® Mustang

Show off your company's vehicle wrapping talents using 3M graphics products for a chance to drive away in a Roush Stage 3 Mustang!

For contest rules and details on how to enter the "Wrap for a Roush Contest," visit 3Mgraphics.com. The contest ends December 31, 2008.



# Vehicle Wrap Product Index

3M offers a choice of graphics materials and a choice of warranties that give you everything you want, including peace of mind.

Product	Benefits
3M™ Controltac™ Graphic Film with Comply™ Adhesive IJ180C	Industry standard for vehicle wraps, providing slideability, repositionability and air release.
3M™ Controltac™ Graphic Film with Comply™ v3 Adhesive IJ180Cv3-10	Same great benefits as IJ180C along with a smoother and glossier appearance.
3M™ Controltac™ Graphic Film IJ180	Excellent for watercraft applications, providing easy installation and reliable adhesion.
3M™ Controltac™ Changeable Graphic Film with Comply™ Adhesive IJ3552	The ultimate in removability. Use this for short-term vehicle wraps when you still need slideability, repositionability and air release.
3M™ Controltac™ Wrap Film with Comply™ v3 Adhesive IJ380Cv3	The ultimate in conformability and lifting resistance for wraps with deep channels and complex curves. Fast installation by bridging, stretching and adhering—no primer or relief cuts needed.
3M™ Scotchcal™ Perforated Window Graphic Film IJ8171	Great conformability and durability on vehicle wrap windows. The only cast window film on the market.
3M™ Scotchcal™ Gloss Overlaminates 8518	Offers high gloss in a highly conformable overlaminates.
3M™ Scotchcal™ Luster Overlaminates 8519	Industry standard for flexible, conformable, cast overlaminates.
3M™ Scotchcal™ Matte Overlaminates 8520	Matte finish is perfect for indoor use or when glare is a concern.
3M™ Scotchcal™ Overlaminates 8580	Offers gloss with the ultimate in conformability and lifting resistance for wraps with deep channels and complex curves.
3M™ Scotchcal™ Optically Clear Overlaminates 8914	Use on window graphics where optical clarity is required.

Additional information may be needed for successful vehicle wraps. Always refer to 3M Product and Instruction Bulletins for complete details before using any 3M product. 3M, Comply, Controltac and Scotchcal are registered trademarks of 3M.

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