

THE FUTURE OF FILMS

Industry professionals share how vinyl film technology has advanced for wraps.

Contributing Panel:

Judy Bellah, Public Relations Manager, CLEAR FOCUS Imaging Inc.

Tim Boxeth, Marketing Manager, High Performance Media, Laminates & Tools, 3M Commercial Graphics Division

Craig Campbell, Product Manager, ORACAL USA

Kim Jones, Marketing Communications Specialist, Arlon Inc.

Jeff Stadelman, Technical Marketing Manager, MACtac Graphic Products

Molly Waters, Sales Support Manager, Avery Dennison Graphics Division North America

How has film changed over the years?

Today, digitally printed films combined with overlaminates are expected to provide exceptional end-results. Changes have sprung up over the years including films with slideable and repositionable features, air release technology, and films that combat bubbles and/or wrinkles. Things also started to change for the vehicle wrap market when the cost of printers came down to a point where smaller shops could afford to get into the wraps business.

How have manufacturers kept up with consumer demand for vinyl wrap films?

Manufacturers are always trying to improve the performance of their products for their customers whether it is increased durability, improved removability and, most importantly, easier application. The most noticeable change for customers/installers is the ease of application.

Wrap films are engineered to meet customer needs as the wrap market is

further segmented. Not all wraps are the same and each requires its own level of technology. If you're doing vehicle wraps and you want consistent performance, cast vinyl is probably the most reliable solution. Even for graphics on flat vehicle surfaces, cast films provide the best durability and dimensional stability.

What specific benefits do cast films offer for wraps?

Cast films offer excellent stability and resistance to shrinkage, as well as outstanding conformability. Developments such as air egress technologies have improved ease of application, and new advancements in adhesives have given rise to applications that never could have been thought of before. Not all cast films are the same. Some simply offer an air release feature, and some offer slideable and repositionable adhesives with an air release feature:

- 3M films with Controltac and Comply or Comply v2 Adhesive offer slideable, repositionable and air release characteristics.

- Oracal's ORAJET 3951RA Professional Wrapping Film has RapidAir Technology to save time and avoid mistakes during an install.

- Arlon's DPF6000X with X-scape technology is intended for speedy wrap installation while maintaining a high tack for a long-term bond.

- Avery Graphics' MPI 1005 EZ RS allows installers to completely remove the liner from a graphic and slide it across the hood of a vehicle to position it.

While manufacturers have their own special technology, the ultimate function is similar – the elimination of trapping air bubbles during application. The air egress/release technology allows installers to apply vehicle graphics without getting



PHOTO COURTESY OF SKINZWRAPS

SkinzWraps did the design and printing for this wrap using Avery Graphics film.



There is a range of media that can be used for all parts of a vehicle.

bubbles trapped beneath the film, as they escape through the film's channels.

► Are calendared films still being used for wraps?

Some research is finding that installers are now using more ultra-calendared film, such as ORAJET 3551 with RapidAir, as an alternative to premium cast wrapping products. Ultra-calendared films allow a user to wrap vehicles such as box trucks or delivery vans without paying the expensive price of a cast product. Before the development of these films, there wasn't much middle ground, but by having some performance characteristics of cast at a more competitive price, ultra-calendared films have gained acceptance.

► How is conformability improving in wrap films?

The pliability of the films allow them to conform to deep channels and corrugations, which is very important. Graphic installers are looking for graphics with better conformability for more challenging applications. Realizing that vehicles such as Dodge Sprinter vans and Chrysler PT Cruisers are complicated to wrap, manufacturers are improving the conformability in their films.

3M recently developed the 3M Controltac Graphic Film IJ380 that provides a solution to convex and concave wraps. It offers new technology providing highly conformable characteristics with excellent lifting resistance. Once applied, the graphic lacks memory and does not want to revert to its original state.

Arlon also offers a solution to such applications with its DPF6000X product; a soft film that allows for maximum flexibility around curves and deep channels. The adhesive has a strong bond, eliminating the need for adhesive promoters and primers.



Vinyl films offer solutions to making vehicles look more alluring, like this wrapped bus (before and after).

It is rated for an outdoor durability of up to seven years (unprinted).

It's important to note that the education of users and what they can accomplish with the conformability of these films is also on the rise. This education pertains to the importance of selecting the matching laminate when completing wraps to achieve the maximum performance of the films for every application.

► Do overlaminates make a difference in wrap film performance?

They certainly do. Thinness seems to be the latest trend in providing overlaminate upgrades. MACTac has created the 1.5-mil Permacolor RAYZor overlaminating film as an improvement over the standard 2.0-mil offerings. The 25 percent decrease in overlaminate thickness significantly improves the conformability of the completed graphic, allowing for faster application time. To-

gether, Permacolor RAYZor and IMAGin B-free JT5529BFD bubble-free air-egress high-performance digital media reduce the thickness of the complete vinyl solution by 12.5 percent.

Avery also introduced a new product — DOL 1030, which is a 1.3-mil glossy cast overlaminate. This laminate is intended for vehicles with complicated curves that require a more conformable product.

3M's 1.2-mil overlaminate, 3M Scotchcal Gloss Overlaminate 8580, is a companion product to its new Controltac IJ380 film which utilizes technology for high conformability.

► Are there films for non-vehicle applications?

Yes. Pressure sensitive adhesive vinyl films were created for flat applications first and have evolved over time to what we see on the market today. Films such as Oracal's

Advances in Film



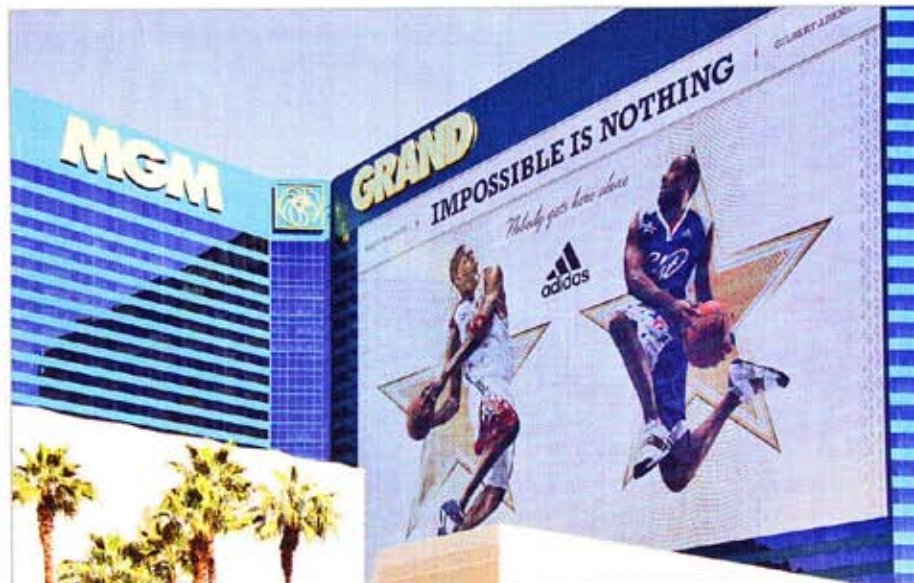
3M's Controllac IJ380 film can be used on extreme curves for concave and convex areas like this Dodge Sprinter door.



3M Scotchcal Graphic Film for Textured Surfaces IJ8624 with 3M Scotchcal Luster Overlaminate 8524 can be molded to rough surfaces – flat or curved.



Arlon's DPF2400 reflective film is easily viewable at night and can be applied to the curved surface of a vehicle.



CLEAR FOCUS' line of window perf film can be used for extraordinary projects like the side of the MGM Grand in Las Vegas.

ORAJET 3628 developed for interior walls and windows are popular products for applications other than vehicle wraps.

Many stadiums, arenas, restaurants and retail spaces have hundreds of square feet of potential display space that was previously unusable because it consists of rough textured surfaces such as concrete block, brick, tile, poured concrete or stucco. 3M Scotchcal Graphic Film for Textured Surfaces IJ8624 with 3M Scotchcal Luster Overlaminate 8524 can be molded to such rough surfaces (flat or curved) to create crisp images that promote and inform. The film may also be removed with heat.

Thicker films can also provide a solution for temporary, repositionable wall graphics. MACtac introduced the IMAGin wall-NOODLE, which provides designers with options for wide format wall murals, posters, decals and ads. It is a 6.0-mil versatile pressure sensitive vinyl with a white matte finish that works well with all printing types, including digital, screen and offset.

What are some new developments in specialty wrap products?

Some specialty materials for vehicle graphic applications include silver and white ultra-metallics, white pearlescent, and retro-reflective films. Since the digital inks are translucent the specialty finish of the film (the metal flake or reflective properties) are visible through the inks. These materials are an excellent option for overlay graphics to add accents to full vehicle wraps or partial wraps.

Arlon's DPF 2400 is a new 5-mil printable reflective vinyl with repositionable pressure-sensitive adhesive. It is the perfect choice when designing graphic or promotional advertisements for daytime enhancement, or requiring increased visibility at night. It can also be applied to motor and railway coaches, and as fleet and vehicle markings, including emergency and safety vehicles.

CLEAR FOCUS offers its ReflectVue product, a silver-gray/black perforated retro-reflective vinyl film suitable for a variety of window-signage applications in which image visibility in low-light conditions is desired

without losing the film's see-through properties. The 10-mil film features 1.7-mm holes, a 60/40 perforation pattern (40 percent open area) and a reflectivity rate of 50, and has a clear removable acrylic adhesive and a solid paper release liner. ReflectVue is compatible with solvent-based inkjet printing.

► *What are some new features for perforated window film?*

Perforated window films like Oracal's ORAJET 3675 and ORAJET 3676, offer the customer two different punch patterns; 50 percent (leaving 50 percent material) of the material is punched out for 3675 and 40 percent (leaving 60 percent material) of the material is punched out for 3676, which gives a more vibrant print. ORAJET perforated films also feature a more permanent adhesive, which guarantees these applications will last for three years.


One newly released product to note is CLEAR FOCUS' PerfcCoat, an optically clear protective coating designed for use with CLEAR FOCUS perforated window graphics produced with solvent-based inks. The clear coating protects graphics from the harmful effects of chemicals, abrasion and fading caused by UV rays; it also adds an attractive gloss finish to the print. As vehicle wrappers know all too well, adding an over-laminate to a graphic can create installation challenges, especially on curved surfaces. At 0.2-mil thick, PerfcCoat does not bridge the film's holes nor does it add materially to the weight or thickness of the graphics, thus maintaining the window film's flexibility and ease of installation.

CLEAR FOCUS also offers ClassicVue – a 50/50 perf pattern and 1.5-mm holes – and SuperVue – a 50/50 perf pattern and 2-mm holes (with a new 60-inch-wide version recently introduced) – for the wraps market.

► *What are some warranty considerations with films today?*

As with all digital printing, the warranty of the graphic is always the least durable component due to the wide variety of inks. Customers should always keep this in mind when offering a warranty for finished graphics.

Wrap shops need to consider the quality of the warranty and who is offering it. Is the warranty backed by a reliable testing company? Is the warranty clearly presented and defined? What is the application and what is the corresponding warranty? This information will assist in choosing a brand and the type of product used. Look for media and overlaminates that are designed for wraps and can perform consistently well on many types of surfaces, and offer a reliable warranty.

Manufacturers will usually have a clearly identifiable warranty associated with their products when they sell them. For example, MACtac's Open-Image Warranty covers many combinations of printers and inks used with MACtac digital media. For its products, 3M offers the 3M MCS Warranty and the 3M Performance Guarantee. 



MACtac's 6.0-mil IMAGin wallNOODLE product is a wide format option for wall murals, posters, decals and advertisements.

MACtac offers its 1.5-mil Permacolor RAYZor overlaminates as a thin option for protecting graphics, thus increasing conformability.



PHOTO CREDIT: JOHN LINDSAY

More often, window graphics are being completed using window perf.