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Choosing the Right Overlamine

There are many different overlaminates for the many different vinyl applications.

Have you ever had so many product choices that you could hardly make up your mind? The wide range of pressure-sensitive overlaminates—which includes polyesters, polycarbonates, polyvinyl fluoride, and an array of cast and calendered vinyl films—can make decision-making difficult. With so much to choose from, how do you select the right film for the job?

Considerations in selecting the appropriate overlaminate (which can make matters even more perplexing) include: the environment, durability requirements, aesthetics, customer expectations, the application substrate, compatibility with other components of the graphics system, and price. While these factors weigh heavily in the decision-making process, the most important consideration is the intended use of the graphic.

With this in mind, I'll review the most common applications that you'll likely encounter and make a few recommendations that should simplify your choice.

Fleet Graphics. Most screenprinted fleet graphics, with a few exceptions, don't need an overlaminate. They should, however, be clear-coated. On the other hand, most digitally printed fleet graphics do require an overlaminate. Overlaminates protect printed vinyl from scratching, UV degradation, abrasion, moisture, dirt, graffiti, and chemicals.

When choosing an overlaminate for either screen or digitally printed graphics, always test and evaluate your raw materials (overlaminate, print media, and mounting substrate) before a production run. When you find a winning combination, stick with it. The general rule of thumb is that you can use a calendered overlaminate



with a calendered base film and a cast vinyl overlamine with either a cast or calendered base film.

Similar films expand and contract at the same rate; dissimilar films don't. As a consequence, the overlamine can delaminate from the base film or substrate. A tunnel could also form between the two dissimilar films.

Overlamine problems can also result when a print is mounted to a substrate that expands and contracts at a high rate. The resulting tension between the print and the laminating film can cause tunneling or delamination.

For fleet graphics applications over rivets and corrugations or for long-term applications, use a cast vinyl film with a cast vinyl overlamine. For applications to smooth, flat surfaces, a good calendered vinyl film with a calendered vinyl overlamine is sufficient. Just keep in mind that not all calendered films are the same. These films come in a variety of grades, and each grade has its own unique performance characteristics. Contact your sign supply distributor or the film manufacturer for specific material recommendations.

Vehicle Wraps. Vehicle wraps are different than other types of fleet graphics. In the installation process, printed films are stretched and shrunk in every direction. Vinyl film manufacturers have developed special laminates for these applications. Many of the latest generation of overlaminates are very thin (the idea being that the thinner overlaminates are more conformable).

The wrapping process necessitates considerable repositioning of the graphics. To facilitate the application, use a cast film with a repositionable adhesive. Repositionable films, such as Avery's EZ RS cast films and 3M Controltac Comply V2, are easy to work with and will prevent the graphics from pre-adhering. With these forgiving adhesive systems, the installer needs to reposition the graphic much less frequently. This is important because excessive handling can cause delamination.

For wrap applications, an overlamine also gives the graphic more body, which can make it easier to handle. The added thickness can also make removals easier too.

Tankers and Concrete Trucks. Although cast vinyl overlaminates are usually the best choice for fleet mark-

ings, chemical tankers and cement trucks are the exception to the rule. Tankers are loaded from the top, and every time they're loaded, spillage invariably occurs. The nasty solvents, acids, and caustic chemicals that spill onto the graphics damage the graphics in no time.

Clear coating affords very little protection. And while vinyl overlaminates are a better choice, they aren't *that* much better. Chemical spillage quickly leeches the plasticizer from the vinyl, embrittling the film and eventually causing it to crack.

Cement truck graphics are also sub-

jected to corrosive chemicals. Caustic cement and harsh cleaning chemicals will quickly attack inks and clear coats.

For protecting markings subject to chemical damage, polyester overlaminating film was the best choice twenty years ago and remains so today. Polyester provides exceptionally good protection from chemical spillage, as well as good temperature resistance and abrasion protection. These characteristics are why polyester overlaminates are widely used for safety and warning labels.

Polyester overlaminates, however, do

