

► Digital Printing Preprint Considerations

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- Preprint Considerations

Creating a successful digital graphic, applying it, and having it remain in place is the result of a sequence of properly planned and executed steps, each as important as last, each capable of making every subsequent task easier, harder or altogether impossible. Often the level of consideration given to application obstacles by the print designer makes all the difference between a profitable and professional looking graphic project or one that looks like a training exercise.

Image Design, Planning

Printed Panel Size:

Convenience

Remember, installers, no matter what sort of a magicians they appear to be, have only so wide a wingspan with arms fully extended. When installing graphics wider than you are capable of reaching across, center hinging and much cutting and managing of overhanging film will be inevitable.

Flat sided trucks

When installing flat surfaces the sky is the limit in terms of length. Long pieces printed horizontally across the web and draped down the side of a trailer are easy to register and since the squeegee strokes are lateral using either a top or center hinge works fine. If installing on corrugated surfaces continuous repositioning of vinyl is called for and it is once again wise to limit panel width to around 48 inches.

Vehicles

Printing across the web is more effective than along it when the graphic is going to extend more than half the length of the vehicle. Working with panels not wider than about 48 inches is specifically advised when the vehicle to be wrapped has many curves and flared panel sections. It is far more likely that a hinge point (line) can be found with narrower panels than wide. All current vehicle profile libraries give good enough imaging of door sections so that panel overlaps can coincide with door or body section edges. It makes sense to give a few inches on all print overlaps to make up for distortion caused by three dimensional curves and flares that two dimensional vehicle profile images will not show.

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Vehicles (Continued)

In addition it is important to measure the true dimensions of the actual vehicle. Many vehicles require as much as 6 inches more vinyl than the vertical height dimensions represented on stock vehicle profile packages. As with the vertical sections it is also important to allow a few inches at sides of a graphic panel in order to be able to trim after installation. While there are times that partial graphics will not allow trimming, except against body paint, in all complete wraps the edges will allow trim against either a wheel well, door edge or panel to panel edge.

Background and Message Location and Strategy

Locating the primary and secondary messages early in the process of design is important and can be done in a variety of ways. There is rarely a logo or name that can stand to be repeated more than once per side or end of any vehicle and this should be as near to the center of the overall message as possible. In fact many companies restrict their names to the sides only. Subordinate messages and tag lines are used sparingly and contact information limited to email and telephone numbers. Of course the entire message may be printed but it is often more sensible to cut elements such as email and telephone numbers or print and trim these for later installation. There are two distinct benefits to be gained by separating the larger background and primary graphics from the smaller secondary information. First it is easier to register all elements around wheel wells, body and fender flares and door handles. One regular headache encountered by installers is slight miscalculations of distance of printed elements or the amount of stretch the film will experience during installation.

These errors can throw off precisely calculated text locations with the result that an important part of a letter or logo will cross a door handle or wrap around a complex body molding thus making something as important as a phone number all but unreadable. Issues of finely placed text are solved when contact information is a separate element and can be placed perfectly after the larger printed graphic has been installed.

The second value is in the removability of these smaller elements without affecting the larger graphic. It is far more likely that a phone number or address will change before the company itself changes logos' or name.

Background designs can also be made easier to handle when it comes to applications. Large maps with no break, newspaper headlines and continuous facial images that proceed from front to back are much harder for an installer to match perfectly than backgrounds which are smoothed, impressionistic or continuous color. Of particular note is the difficulty of wrapping an entire car, which has for background a smooth fade pattern. When wrapping front and back bumpers the gradient of such "fades" will appear truncated when compared to the flat panels of the door and midsection of the vehicles. The dimensional effect makes the installation appear poorly matched no matter how skillful the installer.

Registration

The most important point of registration is the main message along the vehicle side. This is where most installers begin to register the installation when taping up the project. For partial wraps the location of the graphics will dictate where to start installing but for full wraps install panels on the back first and work forward. This allows any overlays to be properly "shingled", thus avoiding wind, ice and mud and water from continuously contaminating the cut edge of the vinyl.

Mirrors, bumpers and windows are done last. A good strategy for best labor efficiency is to first get all the areas requiring two people done first then split up and finish those slower, detailed obstacles such as antennae, windshield washer nozzles, door handles and gas cap closures. When first starting out with highly distorted shapes such as the continuous convex domes of Volkswagon Beetles it is sometimes wise to print in sequence, rather than all at once. For instance, install the rear and quarter panels and side then take a digital picture of the front quarter panels and hood, accurately define the edges of the remaining prints and print those sections. It can save a lot of stretching and self dialog during installation time.

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Durability

As with any exterior coating or outdoor material the angle and condition of exposure is as important for durability as the grade of paint, ink, vinyl or overlaminating product.

While it is impossible to completely eliminate the difference in rate of fading of ink it is possible to design the image so that horizontal sections do not carry the lion's share of the message or color.

Printed backgrounds in subtler colors will show the effects of aging far less noticeably than bright colors, flashy images or detailed messages. Use these strategies to take advantage of the unused space on the vehicle without creating undue risk of complaints due to poor weathering. One must always make allowances for the dramatic difference between vertical and horizontal exposure angles. As the exposure angle approaches horizontal several factors involved with premature aging (of any materials) are brought more and more to bear.

Heat, sunlight energy in the damaging ultraviolet wave range, condensation of evening moisture, accumulation of dust, acid rain and mineral deposits in water, permeation of all pooled moisture and the glaciation effect of melting ice on the edges of the film accelerate common modes of film failure. Proper shingling of panels becomes more and more critical as application angles approach horizontal.

Overlaps

As there will be vinyl to vinyl overlaps in all applications it is important to consider them when setting up print margins.

All prints, regardless of application, overlamine or intended service life will be overlapped at the edges. Overlaps can be as small as one-quarter inch and as much as an inch without looking unsightly or unprofessional. When planning the installation sequence it is important to bear in mind that overlaps should always be arranged to shed water in the way that roof tiles or house siding sheds water, dirt and snow. This means that a fully wrapped vehicle will be worked from back to front and bottom to top. It is easiest to attain clean overlaps when the product is trimmed rather than attempting to shape the film into an even line.

Preprint Considerations

Color Management

For effective color reproduction from the screen image to that which prints on the selected substrate it is important to move beyond the default settings on your color management menu options. Always select and set or load "ICC profiles", "color limits" and "linearization" to correctly create calibration for the substrate to be printed.

Effects of Over Saturated Printing

All print designers are anxious to create as much contrast as possible and sometimes over reach the ink limits of their film substrate along the way and this results in an image which over saturates the ability of the film to take in the ink and solvent.

When prints are over saturated a number of problems develop which hurt both the print quality and the adhesive bond of the tacky coating which all installers depend upon for long term durability.





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Effects of Over Saturated Printing (Continued)




The appearance of the finished product becomes blotchy in the highest density print areas as the ink is no longer penetrating the film but lying atop it. Often this can be disguised with an overlamine but it is a short term expedient - when the film is saturated with ink and solvent the adhesive will be affected by the softening affect of the solvent passing through the film.

Quickly applying an overlaminating coating or film will only seal the solvents into the vinyl and make the resulting installation more liable to solvent bubbles and eventual lifting at edges and channels.

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