

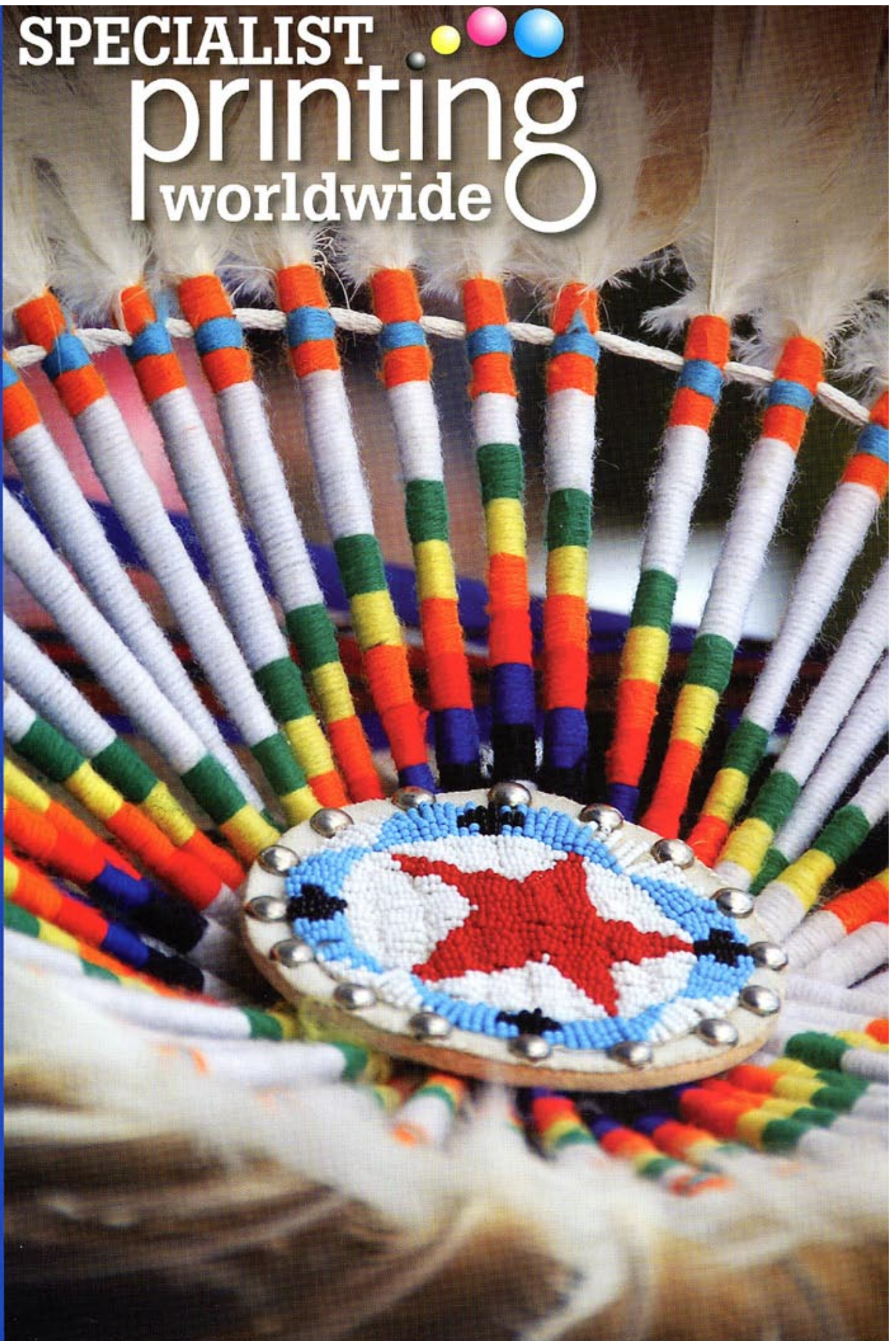
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# PERFORATED WINDOW GRAPHICS AND THEIR UNLIMITED OPPORTUNITIES

Judy Bellah shares tips on ensuring successful results with Clear Focus Imaging's One Way Vision window films

What began in the early 1990s as a highly specialised niche – pressure-sensitive calendared PVC punched with holes, printed and attached to the windows of transit buses – has evolved into a mainstream, multi-million dollar industry. Popular applications of what's commonly called 'window perf' include consumer and commercial vehicle graphics, building wraps, corporate identity, and commercial and retail store signage. One Way Vision perforated window films offer some clear advantages as well as unique challenges, the most common of which we'll examine.

## LIGHTER SIDE OF ART

Graphics printed on window perf tend to look washed out when compared to those printed on solid vinyl because as much as 50 percent of the film's surface has been punched away. Several solutions are available to obtain more vibrant graphics. The first is to increase the image contrast by 10 to 20 percent during the

design stage to compensate for the reduced image reflectivity caused by the 'missing' film. Another option is to select a product featuring more print surface, such as a 65/35 perf pattern (65 percent print surface, 35 percent holes), and smaller holes. Thirdly, if necessary, run a second pass to lay down more ink.

Bright colours provide the best print results with perforated vinyl films. Dark colours are not recommended for backgrounds or other large areas for several important reasons: 1) Depending on the lighting conditions they can allow the viewer to see through the graphics, which is the opposite effect than that desired; 2) they require more ink coverage, which can magnify any banding or other printing imperfections; and 3) they absorb more light and may increase heat buildup on the glass.

## MATCH POINT

For artwork with text or intricate designs, keep in mind that fine detail and small type are not suitable for films with a 50/50 perforation pattern

because half of the film has been perforated. Films with a 65/35 or 70/30 perf pattern are better suited for graphics-intensive designs. When including text, use a point size of 30 or larger for 65/35 or 70/30 films, and 50 or larger for those with a 60/40 or 50/50 perf pattern,

## SEEING THE LIGHT

Lighting plays an integral role in the visual impact of perforated window graphics. For optimum image vibrancy, lighting should always be brighter on the graphics than on the black (see-through) side, including at night. In some cases, such as interior store windows in a shopping mall, auxiliary flood lighting may be needed to illuminate the graphics. Some manufacturers now offer a perforated retro-reflective window film that allows visibility of the graphic during the day and also under retro-reflected light at night.

Retro-reflective window graphics are also visible at night when light strikes them Photo courtesy of Graphic Impressions, Vancouver, BC.

## WIDE ARRAY OF WINDOW FILMS

In 1995, the first window perf to enter the market was an eight mil, premium-grade, white/black composite PVC with a clear pressure-sensitive adhesive and a release liner consisting of clear PET film laminated to perforated paper. The product featured a 50/50 perf pattern and 1.5mm holes.

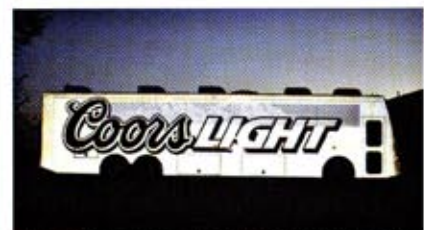
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[ Outside View ]

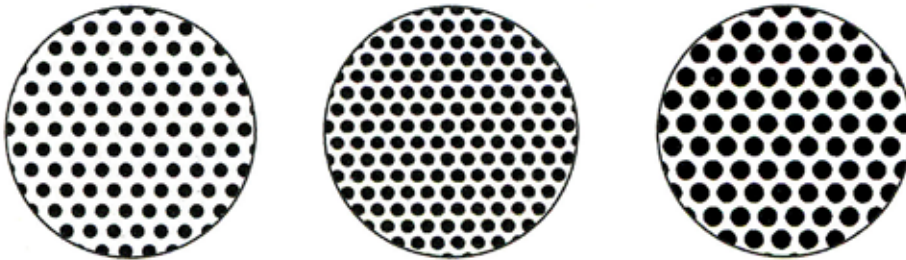


[ Inside View ]

Window perfs featuring a 65/35 or 70/30 pattern are best suited for decals and other small-format or graphics-intensive posters



Retro-reflective window graphics are also visible at night when light strikes them Photo courtesy of Graphic Impressions, Vancouver, BC



*Window graphics films are available in a variety of perf patterns and hole sizes*

Today, there is a host of perforated vinyl films offered for every conceivable application, from retro-reflective window film on emergency vehicles to 50/50 films with larger holes for building wraps promoting major sports and entertainment events, clear, pressure-sensitive or non-adhesive window perf for interior-mounted POP posters and non-printable

window perf for security, privacy and heat and light control. Printer and ink compatibility runs the gamut as well, from wide-format digital imaging using solvent, eco-solvent, mild solvent, UV-curable and latex inks, to aqueous ink-jet, screen-printing, thermal transfer, airbrushing and, now largely obsolete, electrostatic transfer.

Economy products made with thinner, lower-quality base PVC and having a clear, grey or black adhesive have recently entered the market from Asia. Suitable for point-of-purchase, retail posters and other short-term jobs, especially when price trumps quality, these products should be avoided for long-term, mission-critical or large-scale applications.

**A LOOK AT LINERS**

The lay-flat release liner on perforated vinyl film is designed to catch overspray and help facilitate smooth, even transport of the film through the printer. Most release liners perform well with the wide array of printers on the market. An exception is unperforated solid siliconised paper liners, which are not recommended for use with UV-curable printers because the UV-cured inks tend to bridge (clog) the film's holes. For these printers there are several options: a Clear Focus-patented clear PET/perforated paper composite liner, Clear Focus's patent-pending white PET liner available in the USA or its patent-pending DuoLiner, available on certain Clear Focus products in Europe.

**LOWDOWN ON LAMINATION**

The use of an optically clear overlamine provides UV protection, moisture resistance, increased image life and an attractive finish. An overlamine also prevents the holes in perforated window film from filling with water when it rains or when the graphics are washed.

Many of the same steps apply when laminating window perf as with solid vinyl. Allow the inks sufficient time to dry and outgas before applying an overlamine; use proper, even tension on the laminator to prevent wrinkles and tunnelling and, after lamination, wait at least 12 hours for the overlamine's adhesive to bond to the window perf before installing the graphics.

If an overlamine is called for, confirm that it's compatible with window perf film



*Digitally printable, non-adhesive film can be mounted to the interior or exterior surface of a window*



Balancing image resolution with one-way visibility, 50/50 window perf is the ideal choice for vehicle window graphics

and won't obscure visibility. If in doubt, conduct a test prior to use in production. Also ensure that the product is rated to last the desired life of the job. Be sure to match the overlaminates to the installation surface. For curved surfaces, this means a conformable, cast PVC overlaminate. For flat glass, a less-expensive polyester product may do the job. In some cases a liquid laminate may be a better alternative, especially in the case of surfaces with extreme compound curves. To keep

moisture and dirt out and to help prevent the window film edges from lifting, especially in the case of vehicle window graphics, seal the edges with a liquid edge sealer or encapsulate them using a half-inch strip of clear, pressure-sensitive overlaminating film.

#### STICKING POINT

An all-too-common error made by inexperienced installers is prepping the glass with a solvent-based window cleaner such as

Windex. The solvent in the glass cleaner breaks down the adhesive on the window film, causing it to lift. For best results, use mild soap and water to clean the glass and dry it with lint-free towels. Use 85 percent isopropyl alcohol, if desired, to remove any residue but allow it to evaporate completely before installing the film. Always follow the film manufacturer's instructions on the recommended installation temperature range and other important guidelines.

#### TURNING GLASS INTO CASH

Adding perforated window graphics to your print portfolio could open the door to entirely new markets and added revenue. The learning curve with this product isn't steep, and the potential rewards are high. One Way Vision window film just might help see your company through to new business opportunities and growth. ■

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