

Digital Printing and Engraving: The Dynamite Duo

Combining Fabrication Methods and Materials to Create
Colourful Signs, Designs, Awards and more! **By Kristin Kachur**



Rowmark's DigiMark OSi™ print receptive acrylic sheet material is flexible for use in curved face frames, such as Rowmark's popular Nouveau™ product line pictured here.

Oscar Wilde once said: "Mere colour, unspoiled by meaning and unallied with definite form, can speak to the soul in a thousand different ways." To the human perception, colour is intriguing, inviting and inspiring. It has the power to stir up different emotions and can create a certain mood within us.

The new era of digital printing technology portrays colour at its best - in millions of different shades. With today's technological advances, high-quality, full colour images can be placed *directly* onto flat and three-dimensional substrates via a direct-to-substrate ink jet printer... without the use of transfer paper, heat presses or secondary processes. This can be done via a large format digital printer for more large-scale applications or a small format digital printer for signage substrates, panels and custom gift items, including pens, pencils, awards etc. In this article, we will explore more about small format digital printers and how they are well-suited for sign-making and engraving projects. These diverse printers are real work-horses, with the ability to print on substrates up to about two feet wide and nearly four inches thick, depending upon the make and model.

Digital printing technology provides an opportunity for engravers and sign makers to explore a new look for projects and diversify their businesses by investing in a popular, quickly growing market. What's different about today's digital printing technology and equipment is that it allows the fabricator to go beyond the use of flat, thin substrates like paper and incorporate materials with varying thicknesses and shapes. Imagine just about any small object you would like to customise with your logo and company information... and you can probably print on it with today's small format digital printers. Achieve exceptional colour reproduction and create striking textures and special effects by experimenting with gloss or matte finishes. White ink printing - which was once unachievable based on the weight of white ink pigments - has also recently been developed to allow the printing of full-colour images onto clear substrates.

Despite all the benefits of this new wave of technology, digital printing and digital printing equipment do not need to be viewed as a replacement for engraving, but rather another option to consider. These fabrication methods can be used in tandem with one another to increase efficiency, save time and money and add a new look to your personal identification, interior/exterior signage, POP displays and advertising projects. Even those who don't have digital printing equipment in their shop can reap the benefits.

Digital printing is especially suited for mass production projects. Imagine you are producing name badges for a large team of employees. A company logo can be pre-printed on many sheets of badges, either in-house or contracted out to someone with the right equipment. Rather than engraving the logo on individual



Pictured above: Name badge made with Rowmark's DigiMark OSi™ and Identifiers®.

Rather than engraving the logo on individual sheets in a laser bed, a digital printer can turn out large quantities of printed logos much quicker... and still deliver stunning colour and vibrancy.

Digital Printing Technology

sheets in a laser bed, a digital printer can turn out large quantities of printed logos much quicker... and still deliver stunning colour and vibrancy. Sheets with the printed logo can then be placed in the engraver in your shop to be customised with employee names. Extra printed name badges can also be vector cut in advance so they are ready to be engraved as needed. Not only is this process efficient, but it saves resources and labour needed to produce orders and products one-by-one.

Customisation is still one of the most competitive benefits that professional sign makers and engravers can offer their clients. In the case of producing small individual jobs or even just one sign, combining engraving and digital printing effects adds a unique design dimension. Used in combination, laser and/or rotary engraving paired with a digitally printed piece creates a layered, raised and even dimensional look. For example, in the 'suite 278' sign (pictured right), the words are engraved, exposing the black core underneath and creating a nice clean look. The bright bird graphic to the left is digitally printed right on the surface of the metallic cap layer of the plastic substrate. Using this method, all of the colours could be incorporated in this graphic without the back painting that would be required with engraving.



This sign was made with Rowmark's NEW DigiMark OSi™ print receptive acrylic sheet material (Brushed Stainless/Black) and Black Metro™ stand-offs.

However, a common issue with combining engraving and digital printing effects on one sign is finding a substrate that is conducive to both. It can be difficult to find engravable materials with a surface that is receptive to an ink's natural **wetting characteristics**, meaning its ability to absorb into a material. Many plastic sheet materials are nonporous surfaces with a low surface tension, so they require pre-printing surface modification to improve bonding. Corona treating is one example of a pre-printing surface modification technique, which involves the discharge of corona plasma through the application of high voltages to impart changes in a material's properties and surface energy. Rowmark has developed an easier solution, with less work for the fabricator.

DigiMark OSi™, Rowmark's new print receptive and engravable acrylic sheet material, offers the best of both worlds. It is optimised for ink-jet digital printing with **UV/UV-LED inks*** and offers fabricators OSi (optical surface imaging) technology, meaning that bonding agents don't have to be applied to the sheet to make the ink adhere. Not ready to invest in new equipment to digitally print? No problem. DigiMark OSi™ also accepts thermal prints and screen prints. It's also great for point-of-purchase and advertising projects that require wording, shapes and designs to be engraved and/or vector cut.

DigiMark OSi™ is available as single-ply or two-ply. The two-ply product is ideal for rotary or laser engraving, and is available in a variety of popular colours, including four lustrous metallic options. The single-ply product is available in white and clear. The single-ply and two-ply products are conveniently sold in cases of twelve sheets (12" x 18" size) to accommodate desktop digital printers, and the matte finish products are also well-suited for ADA compliant projects.

The design possibilities are virtually limitless! Let the colours speak to you... and let your originality shine! Visit rowmark.com for tips and tricks on how to engrave and digitally print with Rowmark's engravable sheet materials.

** 'UV' is a reference to the curing process, not outdoor weatherability (ECO-UV/eco solvent inks are more outdoor weatherable). UV/UV-LED inks do not require a solvent that must evaporate during curing, so they dry instantly. This speeds up the fabrication process. This also means limited/no VOCs (volatile organic compounds) and minimal inhalation hazards.*

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