



Digitally-printed wall covering - from niche markets to mainstream application

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Digital wall covering can be used to change a room, business, tradeshow stand, or retail environment quickly and completely. It can add detail, and give the illusion of size or visual openness to something that is small and closed. It can combine photo-realistic interest with information and company branding. With the advent of new materials, printers, and inks, only imagination limits where digital wall covering can go from here.

Since 1997, with the introduction of Intelicoat's latex saturated papers for use on digital printers, interest has been steadily growing in digitally printed wall coverings for commercial and residential murals. The advantages are many, with customization and short-run availability being two of the leaders. The years since have seen the introduction of a variety of new substrates that greatly expand the possibilities in material and creative applications. While there are many application needs where a paper-type, smooth covering is suitable, the added interest possible with textures and patterns has driven the introduction of vinyl embossed substrates that resemble commercially available materials already familiar to the architectural and interior decoration industry. The main difference to the digital print manufacturer is that they are available in white, ready-to-print bolts.

The companies bringing this material to market have done their homework. They have worked closely with the digital printers as well as the equipment and ink manufacturers to be able to offer materials that meet the limited-by-imagination-only needs of today's designers and specifiers. In some cases, adding imagery to a wall-mountable substrate fulfills the need for residential murals, exhibit and tradeshow graphics and environmental graphics. This has been done on a variety of previously available materials such as paper and pressure sensitive, adhesive vinyl but these often lack the added visual impact of texture, are too smooth to hide wallboard deficiencies and are too glossy. The alternatives come from companies such as Ultraflex, Korographics, Cooley and Dreamscapes. These companies are well versed in the requirements of today's digital printers and ink sets. The digital printer packages the material in dimensions suitable for handling. This includes 3" cores, manageable weights and consistent coatings. Further, they retain the attributes expected by the wall covering installers and specifiers, 54" widths with nominal variation

from roll to roll, compatibility with existing tools and processes such as paste and applicators and of course, added visual interest.

At the upper end of the application exist the commercial, health and hospitality segments. This segment of the industry includes retail stores and branches, hotels, hospitals, and restaurants. The needs in this area surpass those of residential and graphic display with requirements such as service life details, UL certification, fire code compliance and mildew resistance. Add to this the fact that some applications will demand abrasion resistance and the need to be cleaned with harsh detergents. Some of these needs are met by using commercial grade, Type II products which include additional processes in manufacturing and some are solved by the addition of coatings. Ultraflex wall coverings can be coated using liquid lamination while many papers like Intelicoat can be laminated with a thin Flourex film using hot roller lamination. Other manufacturers utilize their years of experience in the contract wall covering business to employ built in Mildew protection as well as fire retardency. Korographics also has a feature known as Early Warning Effect[®] that when used in conjunction with ionization fire alarm systems, detects heat within the wall and sets off the alarm earlier than would have been otherwise possible. This alarm system is reported to be used in 90% of commercial spaces.

There are other considerations that go beyond just the printing and hanging of wall covering. Some suppliers bring with them years of experience in wall preparation know-how. This can be helpful in the appropriate selection of textures to hide poorly maintained surfaces. These companies can often be looked to for guidance and referral in this area. Laminates and over-coatings are also a crucial aspect to bear in mind. If a mural will be subjected to a low level of traffic, infrequent cleaning or is for temporary usage, a coating may not be necessary. However, in applications involving long-term installation such as retail, hospitality and commercial, protection will be necessary to create the product the end-user requires. Liquid laminates bring several things to the table; UV protection from harmful sunlight to help extend the life by limiting fading, scratch resistant coating to create a scrubbable, cleanable surface even when using harsh industrial cleaners, and general graffiti and vandalization protection.

On the horizon are some interesting matched component system warranties. The match up of printer/ink, substrate, and overlamine, once tested and approved, will allow print suppliers to offer warranties to the end-user that could range from 5 to 10 years. This will be critical when seeking commercial customers as digital wall covering matures.

That's only the beginning of the possibilities. The availability of textures, colours, and the interplay between the two will make it possible for creative designers to offer products never before possible in short runs. There is an abundance of textured patterns resembling plaster, adobe, grotto, sandstone, silk, linen, leather, snakeskin and more. Combined with the colours and

patterns possible from their imaginations, today's designers will be able to surpass even products available in traditional, commercially printed wall covering. Add to that the customization opportunities that exist when traditional gravure printed coverings are overprinted using the creative possibilities of white ink available on the EFI VUTEK® QS Series of UV curable printers.

Other possibilities that will help make digital wall covering more than a niche application are also on the way. The advent of bio-friendly inks such as EFI BioVu Ink, combined with Green friendly substrates like non-vinyl wallpapers like Revolve from Korographics will allow the digital print manufacturer to offer a completely bio-friendly solution to the discriminating end-user.

This is an exciting time for the digital print supplier. Many variations of equipment, specialty inks, laminations and coatings allow us to push into areas once considered outside the realm of the graphic print supplier. From interior décor to surface decoration for specialty needs like retail environments and tradeshow, come many possibilities for the digital printer.

Kevin Currier joined VUTEk in 1997 as a prepress specialist and trainer. In 1999 he was made Manager of Application Engineering with responsibilities worldwide. Prior to that, he worked in a variety of prepress and digital imaging companies. Kevin has a BFA from the University of New Hampshire.