

Making colourful coated glass

MIKE YOUNG OUTLINES SOME SCREENPRINTING SYSTEMS FOR DECORATING LARGE ARCHITECTURAL GLASS

Many of today's architects love designing prestigious buildings with glass exteriors: opulent skyscrapers and buildings for corporate headquarters, theatres, libraries, offices, hotels, showrooms and museums, as well as educational, medical, civic and convention centres, are all being built using colourful coated glass.

As well as being visually appealing, exterior glass (known as spandrel) and interior decorative glass (known as curtain walls) provide a multitude of benefits to architects, occupants, developers and visitors. Using glass for construction significantly reduces building costs and shortens completion time, and the design can create an air of opulence unmatched by other building materials.

New silicone-based elastomeric coatings will allow spandrel glass to be screenprinted rather than roll-coated, thus reducing the need for additional processing equipment. Typical glass sizes are growing, with sheets measuring more than 3 x 6 m being used more frequently. The use of screenprinted large architectural glass sizes is becoming more common than posters printed by commercial printers.

COLOURS AND EFFECTS

Colour-coated and decorative glass is being used more frequently as a structural component for building construction. This is due to several reasons such as its cost-effectiveness, its ease of use, its durability and its

striking visual appeal. Architects and professional interior designers are increasingly incorporating decorative glass into their creations. A wide range of colours to complement or contrast against each other can be used, providing a variety of distinctive and fresh-looking effects that would not be possible using different building components.

Spandrel is glass that has been covered with a permanent opaque coating. Its primary purpose for exteriors is to conceal construction components, such as floor structures, columns, plumbing, wiring and other unsightly but necessary features. Recently, decorative glass has begun to be used by interior designers to improve the appearance of interiors, especially with offices, hotels and public buildings.

Interior colour-coated glass functions either as a decorative showpiece or to conceal undesirable elements in the same way as spandrel, but with the addition of being a lot more attractive. Colours applied internally are often more vibrant than their exterior counterparts.

VERSATILE USES

The worldwide spandrel market has fundamentally changed – architects are able to create structures to suit developers' or occupiers' goals, while many interior designers are promoting decorative coloured glass for walls, stairs, partitions, bathrooms, tabletops, skylights and false ceilings, as well as more common uses such as kitchen counters and shower cubicle walls.

Another important feature of screenprinting is that it can create an appearance of having been etched, identical to the effects achieved by chemical etching. Printing is much more cost-effective and far better for the environment as it doesn't have to use potentially dangerous chemicals or the sandblasting process. The etched effect can be made even more realistic by printing semi-translucent coatings to produce varying degrees of colour transparencies on the glass,

improving the appearance still further.

The demand has increased for exterior and interior coated architectural glass, curtain walls, partitions and other fixtures that require an opaque or transparently-coloured coating. Signs indicate that this trend will continue to rise worldwide.

NEW DEMANDS

The need for suitable processing systems has led to new demands from screenprinting machinery manufacturers to produce extra large format machines. This requirement is not just for larger than usual printers, but for these to be designed specifically to withstand the rigours, stress and weight of glass substrates, which can be at least 8 m² in size and over 12 mm thick.

Some jobs consist of only a few pieces or even just one custom-built glass panel, typically wanted for replacements. As production jobs can be short, quick set-ups and changeovers are very important in order to minimise times when the machinery is idle, as well as to overcome the intrinsic peculiarities associated with extra-large printing.

German manufacturer Fleischle is a specialist in designing and manufacturing flat glass printing systems, with over 140 installations worldwide. Its printing systems include a large number of models to suit different applications and sizes, as well as various levels of automation and custom options to fit every budget. ■



THE FLEISCHLE SH 1/2. AUTOMATIC SCREEN PRINTER FOR IN-LINE DECORATIVE PRINTING OF LARGE ARCHITECTURAL GLASS



THE FLEISCHLE PARALLELOGRAM LP-S 1/2 AUTOMATIC SCREEN PRINTER FOR IN-LINE DECORATIVE PRINTING OF LARGE ARCHITECTURAL GLASS

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