

A Digital Glass Decoration System Creates Artwork Display

By Michael Lackner

As part of Durst's ongoing research into developing new applications for large format UV-inkjet printing, the company has perfected the process of printing on glass.

Traditionally, printed glass could only be used for indoor applications. With Durst's new digital glass decoration system, printed glass can withstand harsh outdoor or wet conditions for long periods of time.

Wet-on-Wet Printing

This digital glass decoration system is specifically targeted at the screenprinting industry as a hybrid process. The special UV primer is applied by a screenprinting process onto glass, which then passes into a large-format UV inkjet printer. The image is printed and passed under a UV lamp where the primer and ink are cured together. The wet-on-wet printing forms a chemical bond and provides the print with excellent adhesion.

Exhibiting Art on Glass

The process and printed samples were shown at an artwork exhibition by leading Austrian artist Ernest Fuchs at the Sony Center in Berlin, Germany. His stunning collection of paintings were printed on glass and brought to life by UV-inkjet printing. More than 80 journalists attended a special event and showing of his work. Fuchs has stated his own interest and pleasure in supporting this exciting printing process.

The Sony Center, located in the Potsdamer Platz in the center of Berlin, was an ideal venue for exhibiting the artwork. Its striking



Ernest Fuch's art on glass at the Sony Center in Berlin, Germany.





Glass production.

architecture, entirely in steel and glass, features a spectacular glass roof spanning a large plaza area.

Testing

Durst commissioned standardized adhesion tests for the digital glass decoration system. The system passed the Water



Glass production.

Resistance Testing Coatings in 100% Relative Humidity (ASTM D2247), an important test for outdoor usage.

The printed glass panels are placed in an enclosed chamber maintained at a temperature of 100°F (38°C) at 100% relative humidity. The test samples are cooled at the back so that condensation forms. The test samples are then evaluated. There was no color change, blistering, loss of adhesion, softening or embrittlement.

The system was also tested for water resistance of coatings using water immersion (ASTM D870) where the test panels are immersed in water maintained at a temperature of 100°F (38°C). The test samples were evaluated and they passed all the criteria.

Importantly, these tests show that this process for UV-digital glass decoration is the first to meet the requirements for outdoor application. ▶

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