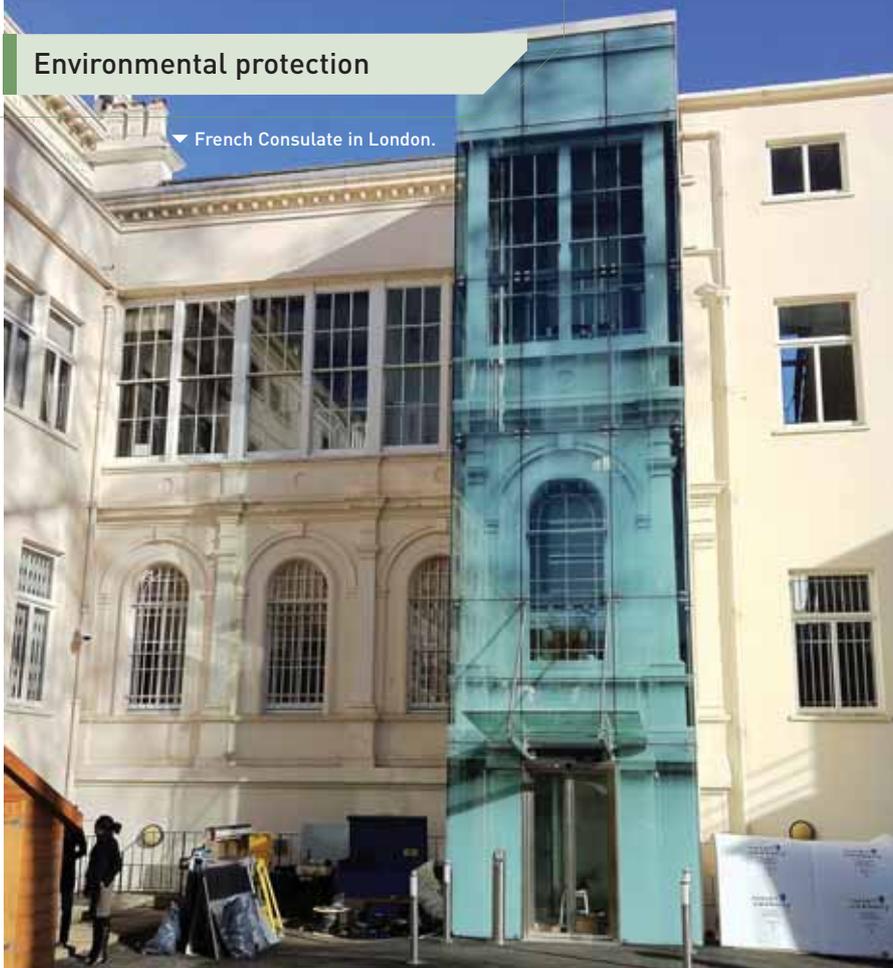


▼ French Consulate in London.



Eco-friendly benefits of digital ceramic printed glass

Architect Dan Schechter* shares the top eight ways that working with digital ceramic printed glass helps the environment.

In the face of global warming and rising costs, architects, developers, and consultants are increasingly seeking sustainable and green materials. Digital ceramic printed glass is a material that is eco-friendly and also provides functionality and endless design possibilities, making it an ideal material to support sustainable architecture.

Optimised energy requirements

Opacity, translucency and ink layer thickness can be precisely manipulated when digitally printing on glass. This provides an ability to control the shading coefficient, which controls flow

of natural light and heat.

With this information in hand, and with the help of the latest software, it is possible to measure and predict the temperature of the interior of a building while still in the planning stages.

This data allows architects, contractors, and developers to minimise the costs and size of air conditioning and lighting systems also reducing daily operating electrical costs.

Replication of natural materials

Stone, marble, wood and other natural materials are easily replicated through digital printing. The final result is glass

that has the appearance of the original material without exploiting the earth's limited natural resources. The 'printed natural materials' do not face the same risks of deterioration as the actual natural materials as the ceramic inks are baked into the glass, making the design extremely durable and resistant to scratching, chemicals and weathering.

Reduced external temperatures of buildings

Increasing temperature in our cities is a form of pollution that urban populations face. Sun reflection from buildings is a contributing factor to the rise in temperatures. Digital ceramic glass reduces this phenomenon with the option of printing on the external side of the glass. The images or patterns that are printed on face one reduce reflection of the light from the building into the surrounding environment, thereby reducing its contribution to ambient temperatures in cities.

Reduced bird collision

An estimated 100 million birds die each year in North America alone due to collisions with glass. Digital ceramic glass printing can help our winged friends stay safe while still achieving aesthetically pleasing scalable and colourful designs. Printed patterns and images on glass make the glass visible to the birds, reducing the risk that they will be confused by the reflection of trees or open skies.

Recyclable building material

Digital ceramic glass is treated like any other glass. The digital ceramic printed glass is handled and disposed of through standard recycling methods with no special considerations or arrangements.

Free of toxic heavy metals

Digital ceramic glass can be printed using inks that are free of toxic heavy metals, eliminating the hazards associated with these elements. For example, Dip-Tech Digital Ceramic Inks are free of cadmium and lead, providing a safer and more eco-friendly option for decorated glass.

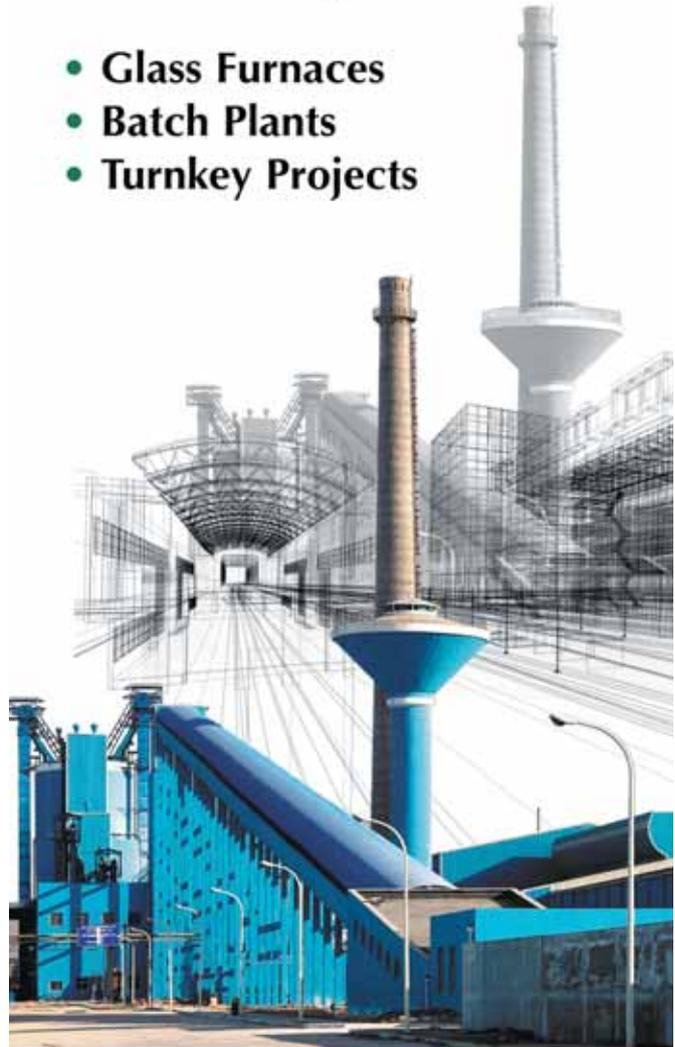
Support for urban renewal

Printing a design on glass panels is suited to urban renewal projects where redesigning only part of a building is preferable to demolition and complete

continued >>

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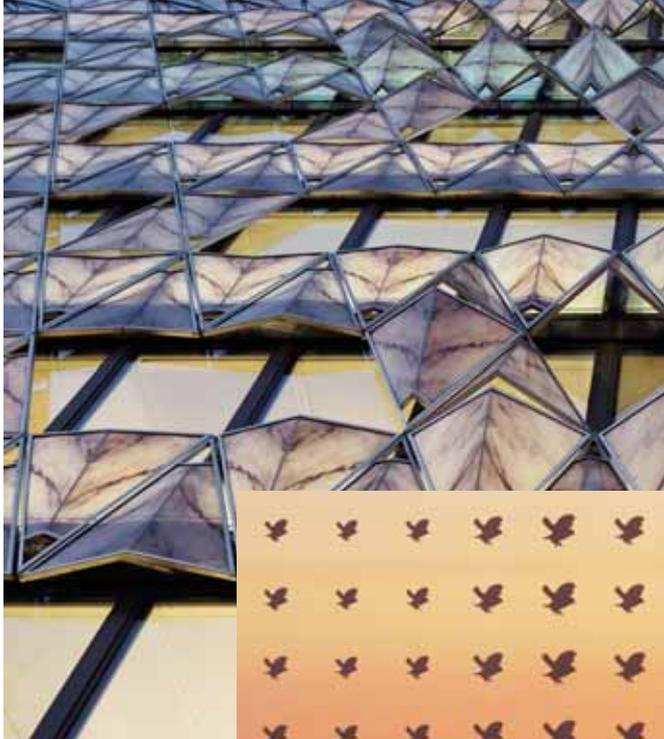
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▲ Origami Building, France



▶ Columbia College.



▶ Mansueto Library, USA.

rebuilding. Digital ceramic glass can be designed to match the surrounding buildings, restore the look of the original structure, or create something new and exciting.

Environmental certification requirements

The demand for environmental certification for building strategies and practices is increasing. Leadership in Energy & Environmental Design (LEED) and Building Research Establishment Environmental Assessment Method (BREEAM) are two well-known green building certification and assessment methods. Each programme evaluates a number of variables, such as energy requirements, water consumption, materials and resources, health and indoor environmental quality, and pollution, providing scores for each, and an overall achievement rating.

As both the functionality and design of building glass touch impact many of the variables under consideration, digital ceramic glass can contribute significantly to a positive evaluation of a building's environmental standing. ■

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