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Laminated Glass News

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Shanghai World Financial Center: World's tallest building uses laminated glass with Butacite® for façades

At over 492 m (1,614 ft) high, The Shanghai World Financial Center will be one of the tallest buildings in the world when it is completed in 2007. Architects Kohn Pedersen Fox (KPF) of New York worked with laminator SYP of Shanghai to select DuPont™ Butacite® PVB interlayer for the architectural laminated glass that sheaths the sculpted tower and podium of this building with great monolithic simplicity and beauty.

On completion, the Shanghai World Financial Center, which is owned by Japan's Mori Building Corporation, will also boast an observation bridge. The bridge, also incorporating state-of-the-art architectural laminated glass with DuPont™ interlayers, will be the highest outdoor observation deck in the world.

According to architects KPF, architectural laminated glass was selected to sheathe the Shanghai World Financial Center because of the material's outstanding optics and safety, and its outstanding acoustic and energy-saving performance within the insulated glass units used in the vision portions of the building's curtain wall.

Senior designer for the project at KPF in New York, David Malott, noted that the elegant simplicity of the glass-sheathed, sculpted tower and podium was designed

as a "simple, calming" contrast with the disjunctive urban fabric resulting from the rapid development of Shanghai's downtown, Pudong banking and commercial district in recent years.

Malott told LGN: "We selected Low-E reflective laminated glass to sheathe the Shanghai World Financial Center because of the material's sharp aesthetics and its optimal safety; the building owner wanted to obviate the risk of spontaneous breakage that could result from tempered glass. Aesthetically, the monolithic sheathing of the sculpted tower has worked wonderfully; we achieved the consistent look we wanted between the vision glass (incorporating insulating glass units (IGUs) for optimal acoustics and energy-saving) and the spandrel glass.

"The Low-E reflective laminated glass shimmers with the silver aspect we wanted from the outside, while from the inside it is highly transparent, resulting in outstanding views over Shanghai; this was important for the banking tenants and especially for the hotel rooms.

"The viewing platform, which will consist of an observation hall and exhibition space, a sky bridge with a sliding glass roof and, at the very top and a narrow walkway or 'sky walker', will incorporate laminated glass with DuPont interlayers throughout

for optimal safety and unobstructed views with minimal fixings, despite the platform's great height and significant wind load."

Technical director of glass supplier Shanghai Yaho Pilkington (SYP), Pan Wei, told LGN: "Laminated glass with Butacite® was the solution to the architects' specifications from many different angles. The first was energy-conservation; the architects wanted an excellent shading coefficient and U-value for the insulating glass units of the curtain wall. Incorporating a 30 percent solar reflective coating, this laminated glass construction helps shield the building's inhabitants from Shanghai's cold winters and hot summers.

"Second, laminated heat strengthened glass fulfilled the architects' stringent safety specification as it does not spontaneously break, as tempered glass can. The third requirement was outstanding aesthetics including a particular, silver-grey color match, and no 'roller wave'-type distortion. Lastly, excellent acoustics were important; the laminated glass IGU construction selected means that the sound transmission class (STC) rises from 34dB to 38dB. The use of laminated glass with Butacite® fulfilled all these requirements."

Note: The title of "World's Tallest Building" has three criteria, as defined by the Council on Tall Buildings. The Shanghai World Financial Center will hold two of the records - highest occupiable floor and highest roof level - while Taipei 101 will still hold the record for highest architectural feature.

At over 492m (1,614 ft) high, the Shanghai World Financial Center will be one of the world's tallest buildings when it is completed by architects KPF in 2007.

Cathedral of Blessed Sacrament's restored inner dome lay light achieved thanks to SentryGlas® Expressions™

A key feature of the new restoration of the Cathedral of the Blessed Sacrament in Sacramento, California (USA), originally dedicated in 1889, is the reopening of an interior central dome, which had been covered over since the 1930s.

The restored inner dome, with its brilliantly-colored, 7.3 m- (24 ft-) diameter lay light incorporating DuPont™ SentryGlas® Expressions™ decorative laminated glass technology in lieu of traditional stained glass, at once dramatically alters the interior look of the Cathedral, allowing light to filter down from high above, and complies with today's safety standards for overhead glazing. The restored inner dome was a high-light of the Cathedral's January 2005 rededication ceremonies. The lay light provider was Arch Deco Glass, a division of Arch Aluminum & Glass Co. Inc of Columbus, Ohio.

The owner's representative and supervising architect, Harry C. Hallenbeck, FAIA of Vanir Construction Management Inc., told LGN: "Aesthetically, the result using SentryGlas® Expressions™ decorative glass technology is even more wonderful than we could have

anticipated. We had first assumed that we would use traditional, leaded stained glass but the building code requirements specified that we needed to incorporate a layer of laminated glass beneath the stained glass for overhead safety reasons. This would have involved a double layer of cost! We then looked at using laminated glass with colored films but we could not obtain a result giving us the design freedom we wanted, or that resembled traditional stained glass.

"When we discovered SentryGlas® Expressions™ and showed the technology to our lay light artist, Jeff Greene of New York-based EverGreene Painting Studios, we all quickly agreed that it would be a fabulous solution to our needs, aesthetically and functionally.

"The color matching between the 16 flat, pyramid-shaped pieces of laminated glass surrounding the centerpiece is outstanding, allowing us to use a repeat design that is undetectable to the naked eye. The 2.1 m-(7 ft-) diameter, sixteen-faceted centerpiece itself depicts a heavenly white dove amidst radiant clouds symbolizing the Holy Spirit

"The decorative glass with SentryGlas® Expressions™ at once hints at a technique that is thousands of years old but also... translates the design to the architectural vernacular of our times in a very pleasing way," says owner's representative and supervising architect, Harry C. Hallenbeck, FAIA.

that is breathtaking in its simplicity and powerfully executed. The dove hovers safely 33.5 m (110 ft) directly above the altar of the Cathedral, showering colored light down onto it with a lovely effect.

"In a sense this decorative glass piece at once hints at a technique that is thousands of years old - traditional stained glass - but also, because it feels a little different (the colors are not so deep, the lead lines not as

dark), translates the design to the architectural vernacular of our times in a very pleasing way.

"In summary, the use of SentryGlas® Expressions™ for the lay light was a splendid solution on three fronts: cost efficiency; meeting the safety codes and outstanding - and very unique - visuals, both during the day and when the dome is illuminated at night."



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The miracles of science™

Creating bold architectural statements with the Planar™ / SentryGlas® Plus System

At Pilkington Architectural, every day, we are talking to architects around the world. One thing they have in common is the desire to create bold architectural statements while achieving high performance functionality. All the architects we speak to want more transparency, larger pieces of glass and increased safety for their buildings.

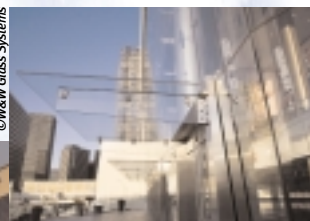


Phil Savage, Global Sales and Marketing Manager of Pilkington

It was architectural trends of this nature that led Pilkington, with its history of engineering excellence, to team up with DuPont, the leading supplier of laminated glass interlayers, and introduce the new Planar™ / SentryGlas® Plus system, a joint development between two market leaders. The system is a synergy of the very best of our companies have to offer architects and the construction industry. It is a bolt-fixed laminated glass solution to meet tomorrow's design challenges, allowing architects to use larger panels that can bear increased snow or wind loads.

Architects should consider using the Planar™ / SentryGlas® Plus system in applications from canopies and skylights to entire façades, where large panels, minimal fixings and lots of natural daylight are required. Inside a shopping mall, for example, you can have the feeling of being outside by having a light-weight, seemingly invisibly-supported skylight. With cantilever canopies you can achieve a larger span because of the enhanced structural strength of SentryGlas® Plus, in combination with Pilkington's advanced glass engineering.

©W&W Glass Systems



Pilkington Planar™ has dedicated teams of engineers who work on each project where the system is used, giving a strong design input to the project. The quality and engineering of the Planar™ / SentryGlas® Plus system is backed up by a 12-year warranty.

One particular advantage of including SentryGlas® Plus structural laminated glass in the system is that it retains its strength even in a post-breakage situation, making it resistant to natural disasters such as hurricanes and typhoons, or the impact from bomb blasts. The Planar™ / SentryGlas® Plus system already meets many of the most stringent building codes, and our development program is taking us into new areas such as hurricane performance to meet Miami-Dade County (Florida) requirements and high-profile security applications.

Another reason that Pilkington selected SentryGlas® Plus as an evolution to the Planar™ system is the incredible clarity of the interlayer, which marries well with Pilkington Optiwhite™ glass. Architects are impressed with the out-

standing clarity of the Planar™ / SentryGlas® Plus combination. It's a whole new step-change in clarity, compared to clear glass and PVB. Transparency is what architects ask us for more than any other single benefit. The inclusion of SentryGlas® Plus to the Pilkington Planar™ system also makes the glass system thinner and lighter – and therefore more affordable for all.

The outstanding edge stability of SentryGlas® Plus was another reason why Pilkington selected DuPont's structural interlayer for inclusion in the Planar™ system. Great edge stability is key to excellent visuals and with SentryGlas® Plus you have no discoloration at the edges or delamination. You can have beautiful, exposed edges in exterior applications like canopies or in structural laminated glass beams, or in any façade that uses silicone and point fixings for a wonderful, frameless look.

In the future, I see architects using the Planar™ / SentryGlas® Plus system increasingly in balustrades. Any architect who has been to the Rockefeller Center viewing platform in New York City, which has an incredible balustrade of laminated glass using SentryGlas® Plus, will want to design balustrades like that! It is definitely a showcase for the future of balustrades! Our mission at Pilkington Architectural is to keep the Pilkington Planar™ system at the forefront of glass design technology and to continually expand the Planar™ concept. The introduction of SentryGlas® Plus represents a great evolution of the system, moving the Planar™ concept of clutter-free, transparent glazing into even more demanding applications.

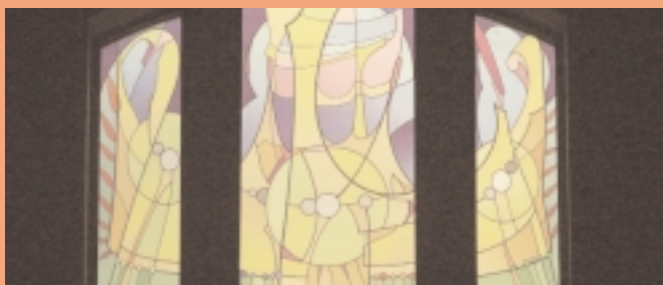
by Phil Savage, Sales and Marketing Manager, Pilkington Architectural / Pilkington Planar™

Respected stained glass master welcomes new digital medium for an ancient craft at Immaculate Heart of Mary Church, Texas

The Immaculate Heart of Mary Catholic Church in Texas is a new project by Raymond O'Conner Architects of Fort Worth (Texas), dedicated in the fall of 2005. The diocese, located in a relatively poor part of Fort Worth, was operating on a tight budget to complete the church and there were initially fears that traditional stained glass windows would be cost-prohibitive.

The problem was solved by the use of DuPont™ SentryGlas® Expressions™ technology, which enabled respected stained glass master Jeff Smith of Texas-based Architectural Stained Glass Inc. to complete a series of vibrant and colorful sacred art laminated glass windows for the Church. The sacred artwork featured in the windows is based on a contemporary reading of traditional Christian

themes, personae and symbols. The job was completed with cost savings of at least 25 percent compared to an equivalent set of stained glass

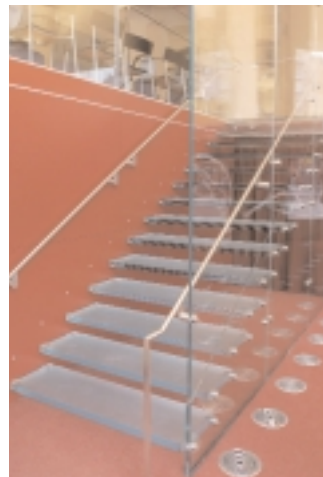


Gaudi's La Pedrera, Barcelona, refitted with translucent stairway using SentryGlas® Plus

La Pedrera is an art-nouveau style house built in Barcelona, Spain, completed in 1912 by the much-admired Spanish architect Antoni Gaudi (1852-1926), that has become a Mecca for art lovers visiting the city.

When Barcelona firm MBM Arquitectes was retained to convert a partitioned bank office on the ground floor of La Pedrera into a unified space for small-scale public cultural activities, project architect Lluís Pau explained that his team aimed to create "a clean and empty space without visible obstacles".

The renovation, completed in mid-2005, included the addition of a "translucent" laminated glass staircase, in the words of the architect, using DuPont™ SentryGlas® Plus and Butacite® interlayers, to connect the lobby space to the first floor. Pau said: "We designed the translucent laminated glass staircase as much for the outstanding design freedom this high technology laminated glass gives us as for its amazing structural properties. The staircase is at once unequivocally contemporary and, at the same time, respects Gaudi's own architectural language, even underlining it."



©Cricursa

Laminated glass staircase and balustrade at Gaudi's La Pedrera, a national monument in Barcelona, Spain.

Ferran Figuerola of glass fabricator Cricursa commented: "The translucent, 50 mm- (2 in-) thick, laminated stair treads are attached by a point-fixing system whereby four titanium insets laminated into the SentryGlas® Plus structural interlayer fit directly into drilled holes in the laminated glass balustrade, which contains Butacite® interlayer. The construction

of the treads is: two layers of 8 mm (0.3 in), tempered, low-iron glass with a non-slip coating on the top layer; two layers of 15 mm (0.6 in) glass and three separate interlayers of SentryGlas® Plus, each of 1.52 mm (0.060 in) thickness. The outstanding mechanical strength and rigidity of DuPont's structural interlayer, and its excellent adhesion to metal, means that this fixing system is sufficient to support the weight of the glass stairway and the balustrade."

Lazzara luxury yachts have laminated glass with DuPont™ interlayers

Procurve Glass Technology of Hatboro, Pennsylvania (USA) has been supplying flat and curved laminated glass containing DuPont™ Butacite® PVB, SentryGlas® Expressions™ and SentryGlas® Plus interlayers for luxury yachts made by shipbuilder Lazzara of Tampa, Florida (USA) since 1999, to the complete satisfaction of Lazzara and its customers.

Lazzara glass specifications call for laminated glass because of its ability to protect against the harmful effects of UV, as well as its enhanced security and sound control benefits. In addition, laminated glass has demonstrated its durability, even when subjected to constant sea water exposure and boat cleaning agents. Procurve Glass Technology President Steven Lerner told LGN: "Longevity of the laminated glass is a critical requirement for marine industry, particularly for Lazzara's high-end, custom-made yachts. Laminated glass with DuPont interlayers continues to meet all of these requirements with an excellent track record, which has contributed to its enduring success with Lazzara and our other marine industry customers throughout the world."

The Lazzara 84, launched at the Miami Boat Show in February 2006.



©Lazzara

Smith told LGN: "I was overwhelmed by the creative freedom of being able to select any color at all (the traditional stained glass color palette is limited to several hundred colors), by being able to factor in textures by using a system of light to dark gradients in one pane of glass – for example red to purple – and being able to select the degree of transparency I wanted to use as a background, from opaque to translucent to 100 percent transparent for optimal light transmission." He noted that other advantages of using SentryGlas® Expressions™ compared to traditional stained glass included long-term protection of the artwork within the laminate and sound reduction benefits inside the church due to the PVB layer in the laminated glass.

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Dominique Perrault: a voyage of discovery with architectural laminated glass

From his early minimalist laminated glass boxes to today's futuristic structures of laminated glass and metal mesh, French architect Dominique Perrault never ceases to amaze and delight with his pioneering architectural laminated glass innovations.

Dominique Perrault is one of the most widely-respected architects of our age. Born in Clermont-Ferrand, France in 1953, he studied architecture and town planning at the Ecole Nationale Supérieure des Beaux-Arts and the Ecole Supérieure des Ponts et Chaussées, Paris's two top architectural schools. From the opening of his Paris office in 1981, he began almost immediately to win national and international recognition and prizes for his work, a trend that continues today. He has also held an impressive number of professorships, including Professor of Architecture at the ETH University in Zurich, and honors, including the French Legion of Honor and Honorary Fellow of the Royal Institute of British Architects (RIBA). He has served on numerous juries including the DuPont "Benedictus Awards For Innovation in Laminated Glass, and is consultant architect for many French and European cities.

From the beginning of his distinguished career, Perrault's pioneering architectural vision focused on concepts like light as a primary building material, transparency, inclusion, minimalism and discovering new ways to work with architectural laminated glass. Two projects that woke the architectural world to his talent in the 1990s, The Hotel Berliet (1990) and the National French Library (1993), are both located in Paris and build on Perrault's concept of a minimalist, laminated glass box as the starting point for architectural dialogue. Perrault's pioneering vision for laminated glass continues today in projects of world renown such as the Theatre Mariinsky in Saint Petersburg, Russia, as he uses the material in even more daring and innovative ways.

Laminated Glass News: Dominique Perrault, how did you become interested in working with laminated glass?

Dominique Perrault: My use of laminated glass stems from my fascination in working with light. As an architect I am interested in creating transparent, inclusive buildings where my desire has been to have used light itself as the primary building material. I once wrote: "The only material is light." Light is the source of life itself, it has very positive associations for human beings.

Yet as architects, the 'glass boxes' we build also need to provide shelter from heat and cold, and provide privacy as well as transparency; that's why we use laminated glass with all of its technical attributes.

©Egon Wurm



Above: Café Lichtblick, Innsbruck, Austria (2005). Walls of curved structural laminated glass give great, uninterrupted views of the surrounding Austrian Alps.

Right: Theatre Mariinsky II, Saint Petersburg, Russia (completion: 2009). Renderings of the building show the architect's intention of constructing a striking roof made of a combination of laminated glass and golden aluminum mesh, which will become the main architectural feature of the city's renovated, 2,000-seat theatre, ballet and opera house.

Below: Tenerife Spa Hotel (completion 2006): Models for a spa hotel in Tenerife show a softly-colored, filigree metal mesh covering laminated glass boxes that are 'piled on top of each other' in the words of the architect.

Some of my major projects, like the French National Library, have changed a whole urban landscape because of their large scale. The technical advances in laminated glass over the past 20 years have been catalysts for leaps forward in architectural design freedom, both functionally and aesthetically.

LGN: Can you give us some examples of how you are working with laminated glass in your architecture today?

DP: Over time, I came to feel that my laminated glass buildings were naked. I wanted to clothe them and I became greatly interested in the combination of laminated glass with other elements, particularly metal mesh. For sun shading, to cite just one rather banal example, laminated glass with metal mesh is much more attractive aesthetically than louvers!

©Georges Fessy



The French National Library (1995) Situated on the banks of the River Seine to the east of Paris, the site of the French National Library is dominated by four L-shaped laminated glass towers, designed to resemble four open books, grouped around a central square. Perrault said of the multi-award-winning French National Library, one of President Mitterrand's last "Grands Projets" for Paris: "In my work, these glass, box-like buildings are permeable, permissive and are open to transformation from the people who inhabit them." (*'Effective Architecture'*, 1998.)

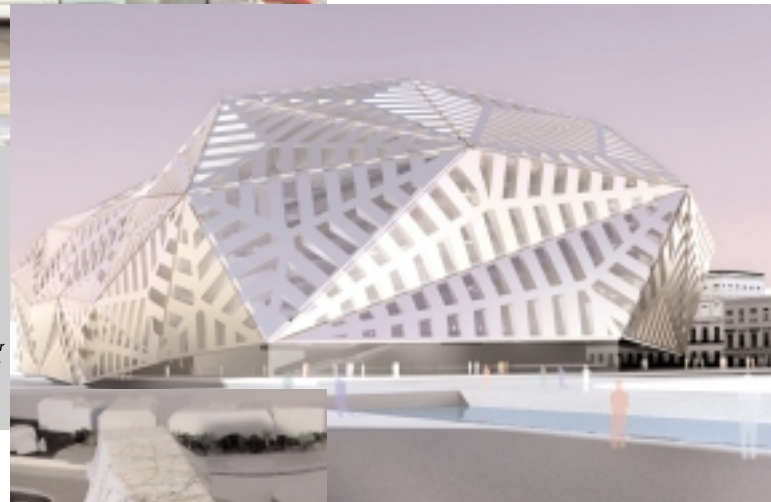
The Hotel Industriel Berliet (1990) Perrault constructed a multi-storey industrial edifice on the outskirts of Paris. His 'laminated glass box' aspires to expose what takes place on the inside, while providing an acoustic barrier to those within. When lit up at night-time, its skeleton shows machinery and people working on every floor.

©Michi Denoncé



Above: Perrault's team took this photo of construction workers sitting on the café's roof, which is supported by its structural laminated glass 'walls', as a parody on Frank Lloyd Wright's 1920s photo of workers sitting atop one of his first reinforced steel structures. The message from the architect in both cases was: "It holds!"

©Perrault Projects



©Georges Fessy

I love the aesthetic freedom that the blend of these two materials gives.

LGN: Please tell us more about your use of laminated glass as a structural material.

DP: After completing the Town Hall in Innsbruck, Austria (2002), we were asked to build a café on top the roof, completed in 2005. The privileged rooftop site with 360 degree views of the Austrian Alps led us to think of giving the café structural glass walls with no visual supports whatsoever. It was the first time I had used fully-transparent, curved laminated glass 'walls' as structural members to support the roof. The glass 'walls' can also be opened as sliding doors to up to 50 percent (still holding the weight of the roof). The Café Lichtblick speaks volumes about how architects can now work with laminated glass as a full working structural element of a building.

LGN: In which ways would you like to see architectural laminated glass develop in the future?

DP: I would like to see laminated glass become more 'intelligent' – that is, to work harder, to help architects become more innovative. Functionally: to help us in terms of energy-efficiency and to bear even heavier structural loads. Aesthetically: to get more interesting decoratively, to be able to freely change color even! I am very interested in the use of liquid crystals with glass to be able to obtain translucent façades. It's true that by blending more and more elements within the laminate, the glass itself ceases to be a pure element - but the architect gets more design freedom in return!"

More importantly, the minimalist laminated glass box becomes more complex, more Baroque, more poetic when you add metal mesh to the design; the combination of these two noble materials creates a more interesting architectural dialogue for the exterior of a building, as can be seen in my design for the laminated glass and gold metal mesh roof of the Theatre Mariinsky II in Saint Petersburg, Russia (completion: 2009).

For a thalassotherapy spa hotel we are designing in Tenerife (completion: 2006) we are having fun piling laminated glass boxes on top of each other and completely covering the ensemble with a softly colored, filigree metal mesh.

Laminated glass in religious buildings and sacred art

Holocaust Mural for Jewish College in Victoria, Australia

A 'Holocaust mural' that visually brings Jewish/Israeli and Aboriginal symbols together in a celebration of new life has received high critical acclaim in Australia. The photographer for the mural, Emmanuel Santos, says that DuPont™ SentryGlas® Expressions™ decorative laminated glass technology "brings the tradition of fresco painting into the digital age; Michelangelo would have loved it!"

To celebrate its 50th anniversary, Mount Scopus Memorial College in Burwood, Victoria, Australia's largest Jewish state day school, invited one of the country's leading architectural firms, Synman Justin Bialek (SJB) Architects of Melbourne, to commence extensive refurbishment of its existing buildings.

Aesthetically the jewel in the crown of the refurbishment is a visually arresting, colorful and moving "Holocaust Mural" made using DuPont™ SentryGlas® Expressions™ decorative laminated glass technology, supplied by Digiglass of Melbourne, which SJB commissioned from Filippino/Australian photographer Emmanuel Santos (completion: August 2005). The mural is located outside the school's Sleazak Multi Media + Technology Center.

SJB founding partner Alan Synman told LGN:

"We asked Emmanuel to design a mural depicting the place of the College in Australia's Jewish community, its relationship with Israel and the college's 50-year old attachment to its local community here in Australia. Within the collage of photos in the mural, you can see Menorahs sculpted out of Jerusalem's Wailing Wall, the original wall of Jerusalem's ancient Temple, combined with photos of children from Mount Scopus School dancing the Horah, a traditional Jewish festive dance. As the collage progresses, the Wailing Wall is transfigured into Ayer's Rock, the most sacred Aboriginal site in Australia, and there is an Aboriginal Australian performing a traditional welcome dance; these images are interwoven with white doves, traditional symbols of peace."

Santos' mural is made up of 10 vertical and five horizontal panels of SentryGlas® Expressions™ decorative laminated glass; the vertical panels are approximately 1.5 m (9.8 ft) wide x 3.4 m (11.2 ft) high and the horizontal panels, laying across the top of the mural, are 3 m (9.8 ft) wide by 1.6 m (5.2 ft) high. The panels are joined by a concealed, butt-jointed system. Synman commented: "The photographic collage is mounted on an 80 percent white translucent backdrop, which at once neatly conceals ramps to the media center behind, and gives a particular vibrancy to the colors and images within the whole artwork."

©Emmanuel Santos



Photographer Emmanuel Santos told LGN: "Working with SentryGlas® Expressions™ decorative laminated glass technology was a wonderful learning process for me. I was amazed that images of such large scale and magnitude could be created digitally at such high resolution (200 dpi at full size) from my 22 standard photographic images. What is incredible is that there is no pixilation, even at this scale of blow-up."

The large images on the mural look like original photographs. The color stability is also outstanding. To me, SentryGlas® Expressions™ decorative laminated glass technology fits really well into the history of fine art. In the past, artists painted frescos on the interiors and exteriors of buildings. This technology brings the tradition of fresco painting into the digital age; Michelangelo would have loved it!"

Marble-matched 'paving stones' of SentryGlas® Expressions™ decorative laminated glass expose Roman tombs beneath Baroque Italian church

When the early 18th century, Baroque Church of Santo Stefano in Vicenza, Italy was undergoing restoration in 2004, architect Emilio Alberti and his team discovered Roman tombs under a section of the Church's floor.

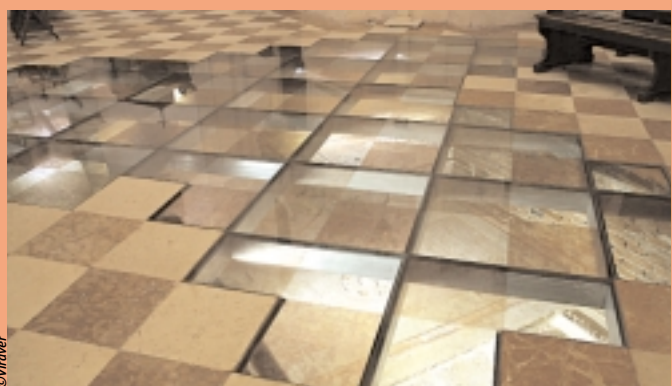
On the suggestion of laminated glass supplier Viraver of Padua, Alberti was able to expose the ruins by replacing part of the marble flagstones with transparent 'paving stones' made of SentryGlas® Expressions™ decorative laminated glass that are color-matched to the reddish-pink 'Asiago' marble of the rest of the floor.

Roberto Alfonso of laminator Viraver said: "The substitution of antique marble flagstones with

90 x 90 cm (35.4 x 35.4 in) panes of SentryGlas® Expressions™ decorative laminated glass works really well because of the sophisticated gradient color matching to the distinctive, pink Asiago marble that DuPont was able to achieve in the decorative glass."

Architect Alberti added: "Because of the transparent background to the pinkish, marble-like design, the tombs can be viewed perfectly, and the safety of visitors standing on the glass is ensured because of the 27 mm (1.06 in) laminated construction. SentryGlas® Expressions™ decorative laminated glass therefore provided an elegant solution to our needs."

©Viraver



HOK's striking design for Doha Airport Mosque, resembling a "a drop of water", features a domed laminated glass roof

Working with New Doha International Airport authority, architects HOK of San



Francisco have designed a simple yet visually striking, 1,900 m² (20,451 sq ft) Mosque for the airport that resembles a

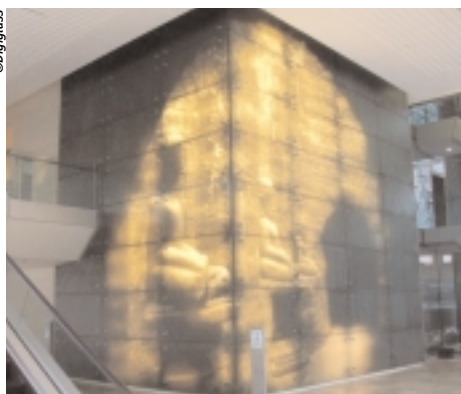
cleansing "drop of water", symbolizing purity. HOK Senior Project Architect Arthur Ramirez confirmed to LGN that the domed roof of the Mosque, to be completed in 2009, will be made of laminated glass for several important reasons: compliance with safety codes regarding overhead glazing; a substantial reduction of external aircraft noise, thus contributing to a peaceful atmosphere within the Mosque; and because the blast-mitigating properties of laminated glass have made it the standard choice for airport glass in this age of enhanced airport security.

©Digiglass

Giant Buddhas guard entrance to Three Pacific Place, Hong Kong, thanks to DuPont™ SentryGlas® Expressions™ technology

Swire Properties, façade developer Permasteelisa, renowned Asian art photographer Frank

Swire Properties, façade developer Permasteelisa, renowned Asian art photographer Frank Swire. The team used the technology to create a larger-than-life, luminous photographic wall featuring giant Buddhas for the lobby of Three Pacific Place, Grade A offices situated in the downtown business hub of Hong Kong.



The 18 m x 12 m (59 ft x 39.5 ft) photographic wall, situated just adjacent to the lobby's main escalator, pays homage to a paragon of Asian historic architectural achievement: the Mrauk U citadel, situated on Myanmar's (Burma's) remote western Arak coast. Among Mrauk U's greatest treasures is the Ka Thuang temple, whose arched corridors are lined with giant-sized, contemplative Buddhas. It is this series of contemplative Buddhas, sentinels that seem at once to welcome visitors to the temple and also guard it, that Fischbeck selected for the photographic wall of SentryGlas® Expressions™.

Fischbeck and laminated glass supplier Digiglass/Accotrade of Hong Kong have demonstrated how Asia's artistic heritage can be enshrined in modernity by using SentryGlas® Expressions™ decorative laminated glass tech-

nology. The team used the technology to create a larger-than-life, luminous photographic wall featuring giant Buddhas for the lobby of Three Pacific Place, Grade A offices situated in the downtown business hub of Hong Kong.

To contact your nearest DuPont representative or find out more about architectural laminated glass visit www.laminatedglassnews.com and www.dupont.com/safetyglass

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