



TROSIFOL®

CASE STUDY

PORSCHE DESIGN TOWER, FLORIDA



Photo: © Porsche Design Tower, Miami

SUNNY ISLES BEACH, FLORIDA, USA

SENTRYGLAS®
– PART OF THE TROSIFOL®
STRUCTURAL PRODUCT PORTFOLIO –
BALANCES FORM, FIT AND FUNCTION
AT THE PORSCHE DESIGN TOWER



Photo: © Porsche Design Tower, Miami

Described by Dezer Developments and the Porsche Design Group as ‘engineered luxury’, the \$560 million Porsche Design Tower is a 57 storey ultra-luxury structure occupying 2.2 acres (8,900 m²) of beachfront land on Collins Avenue in Sunny Isles Beach, Florida.

The tower – the first of its kind anywhere – comes equipped with a speedy 600 ft (183 m) per minute elevator for the residence owner’s cars – allowing owners to park their vehicles right next to their apartments, no matter what floor, in their own sky garage.

The developers and the architects had to balance luxurious, beachside living and the incredible unobstructed views over the Atlantic Ocean with the functional demands of a building of this type and structure. They also needed to consider stringent building code requirements as well, especially in relation to Florida’s and Dade County’s demanding hurricane mitigation regulations and its local sea turtle lighting ordinances. David Rinehart, the North America Protective Glazing Marketing Manager of Trosifol®, notes: “After Hurricane Andrew occurred in 1992, the design requirements of architectural glazing intended for use in South Florida had to change to meet new impact and cycling per-

formance requirements that were intended to ensure better structure survivability due to resistance to wind-borne debris and the potential damage caused by hurricane-force wind and rain. Laminated glass provided the post-glass breakage integrity for fenestration systems such as windows, doors, storefront, curtain wall, and skylight systems installed in residential and commercial buildings.”

For this demanding application, the 25,000 m² (269,100 ft²) of glazing deployed on the external surfaces of the tower takes advantage of the advanced functional characteristics of SentryGlas® ionoplast interlayers from Trosifol®.

According to Tim Kaiser, from Cardinal Glass, the project’s laminator: “Two types of panel formulations were used. The 2,500 m² (26,909 ft²) of panels used on the first three storeys have to offer protection from large-missile impacts, as per the Miami Dade Hurricane Ordinances. At 13.6 mm (0.54 in) thick, they comprise 6 mm (0.24 in) of our grey low E 366 glass, with a sputtered coating, a 2.28 mm (90 mil) SentryGlas® interlayer and 6 mm (0.24 in) of clear glass. The rest of the building’s 22,500 m² (242,188 ft²) of glass panels have

to address small-missile ordnances and have the same glass formulation, but with a thinner 0.89 mm (35 mil) SentryGlas® interlayer. As well as using it on the external balcony railings - in line with expanding local legislation - we also had to take into account the sea turtle lighting ordinances. For this reason the glazing can only allow 45% or less light transmittance.

“SentryGlas® is used for a number of reasons,” he continues. “Firstly it meets the demanding legislation in this state and the panel formulations we used are already certified. Secondly, we are seeing more and more use of larger glazed areas in buildings in Florida, due to their beachfront locations. The relatively lower of thickness of SentryGlas®-equipped glazing panels coupled to its increased performance verses other interlayers make it eminently more suitable. From a laminators perspective we are able to offer longer warranties too, not only because of its superior impact and strength characteristics, but also due to its better edge and delamination performance.”

The façade engineer, designer, manufacturer, fabricator and installation contractor, agrees with Kaiser on the reasons for deploying SentryGlas®. “A lot of companies in South Florida use PVB for the small-missile protected areas, but in partnership with Cardinal we

are promoting the use of SentryGlas® in South Florida. This is not only for its superior longevity and delamination performance, especially where there are exposed edges, but also on the back of its better testing results. It can resist higher design pressures too, but using thinner panel constructions. This is the nature of the beast in our industry; many jobs in South Florida are seeing delamination issues due to exposed edges, so SentryGlas® is becoming the obvious choice.”

The façade contractor also points out the additional benefits from an installer’s perspective. “The choice of interlayer has a huge effect the installation process, especially when glass replacement is required. In any job you are going to have breakages, it is inevitable, especially when you consider the fact that we regularly work on projects with more than 10,000 individual glazed units. If a panel breaks, it can be incredibly dangerous and very scary - especially if you are 50 storeys up. Panels using SentryGlas® stay rigid, making the whole removal process not only easier, but much safer. Other laminates don’t fare so well and can actually allow the glass to fold over, which is not ideal for all sorts of obvious reasons.”

The architect adds: “Down here we have hurricanes so everything is laminated, even our railings. We are



Photo: © Porsche Design Tower, Miami

also seeing greater use of laminates for interior walls, such as mezzanine windows, where we are designing structures that borrow light from one space and share it with another. Laminates give us more interesting design avenues too, compared to regular glass. We can then couple this added creativity with the confidence that the glazing we use is tested and approved by the testing labs in Dade County.”

The Porsche Design Tower is a staggering example of functional capabilities being balanced highly effectively with a building’s aspect and its aesthetic appearance. With legislation getting tougher and the use of larger glazing areas steadily growing, SentryGlas®, as part of the Trosifol® Structural offering, is rapidly becoming the number one choice for these types of developments.

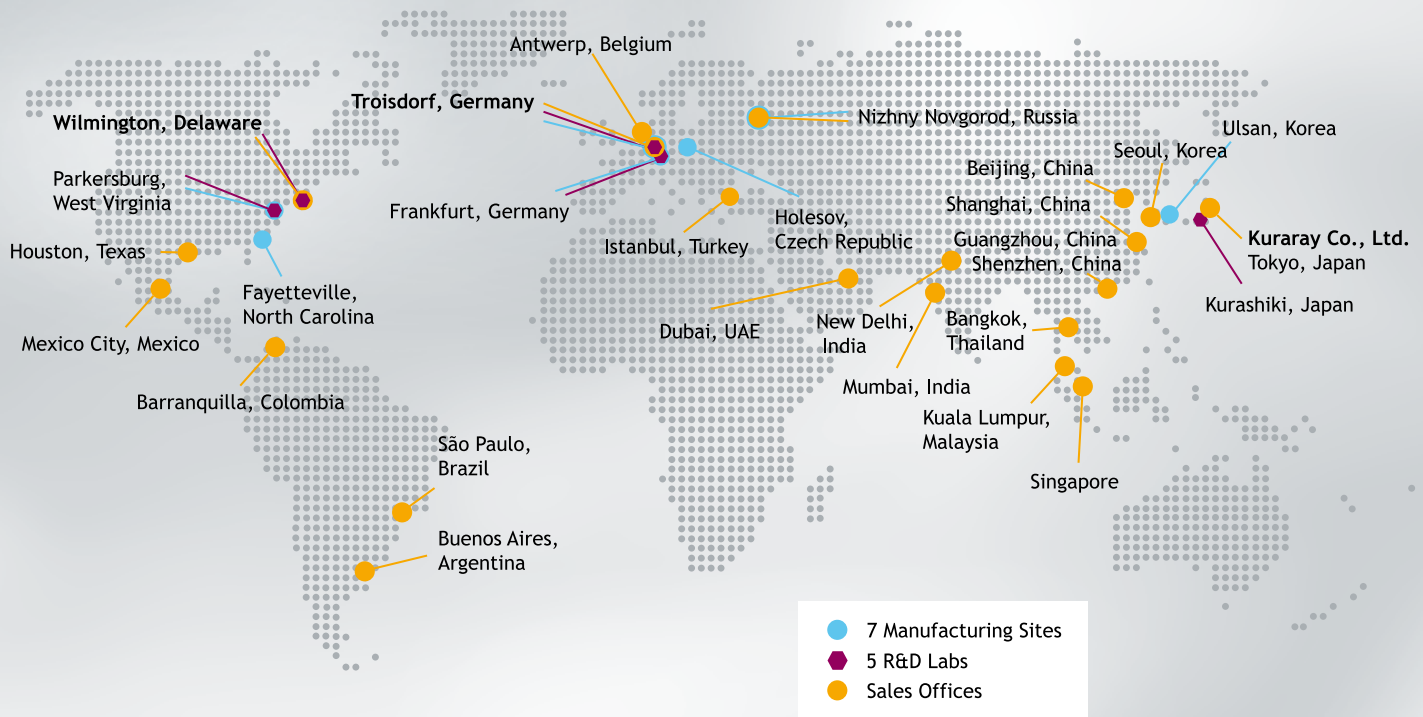


Laminators Cardinal Glass
Developer Dezer Developments Porsche Design Group

Photo: © Porsche Design Tower, Miami

Trosifol® is the global leader in PVB and ionoplast interlayers for laminated safety glass in the architectural segment. With the broadest product portfolio Trosifol® offers outstanding solutions:

- **Structural:** Trosifol® Extra Stiff (ES) PVB and SentryGlas® ionoplast interlayer
- **Acoustic:** Trosifol® SC Monolayer and Multilayer for sound insulation
- **UV Control:** from full UV protection to natural UV transmission
- **UltraClear:** Lowest Yellowness Index in industry
- **Decorative & Design:** opaque black & white, colored & printed interlayers



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Kuraray America, Inc.
 PVB Division
 Wells Fargo Tower
 2200 Concord Pike, Ste. 1101
 Wilmington, DE 19803, USA
 + 1 800 635 3182

Kuraray Europe GmbH
 PVB Division
 Mülheimer Str. 26
 53840 Troisdorf
 Germany
 +49 2241 2555 220

Kuraray Co., Ltd
 PVB Division
 1-1-3, Otemachi
 Chiyoda-Ku, Tokyo, 100-8115
 Japan
 + 81 3 6701 1508

trosifol@kuraray.com
www.trosifol.com

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