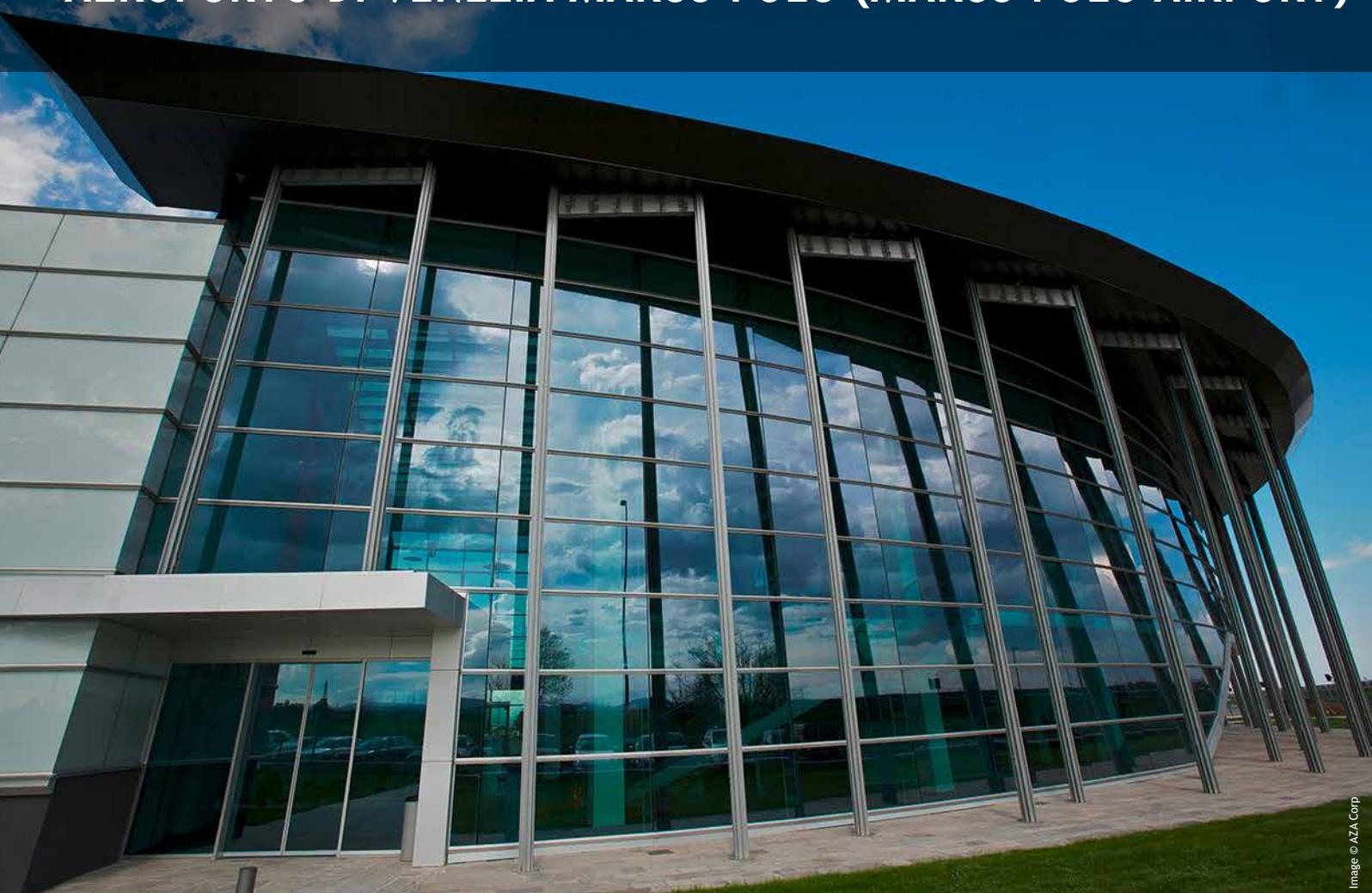
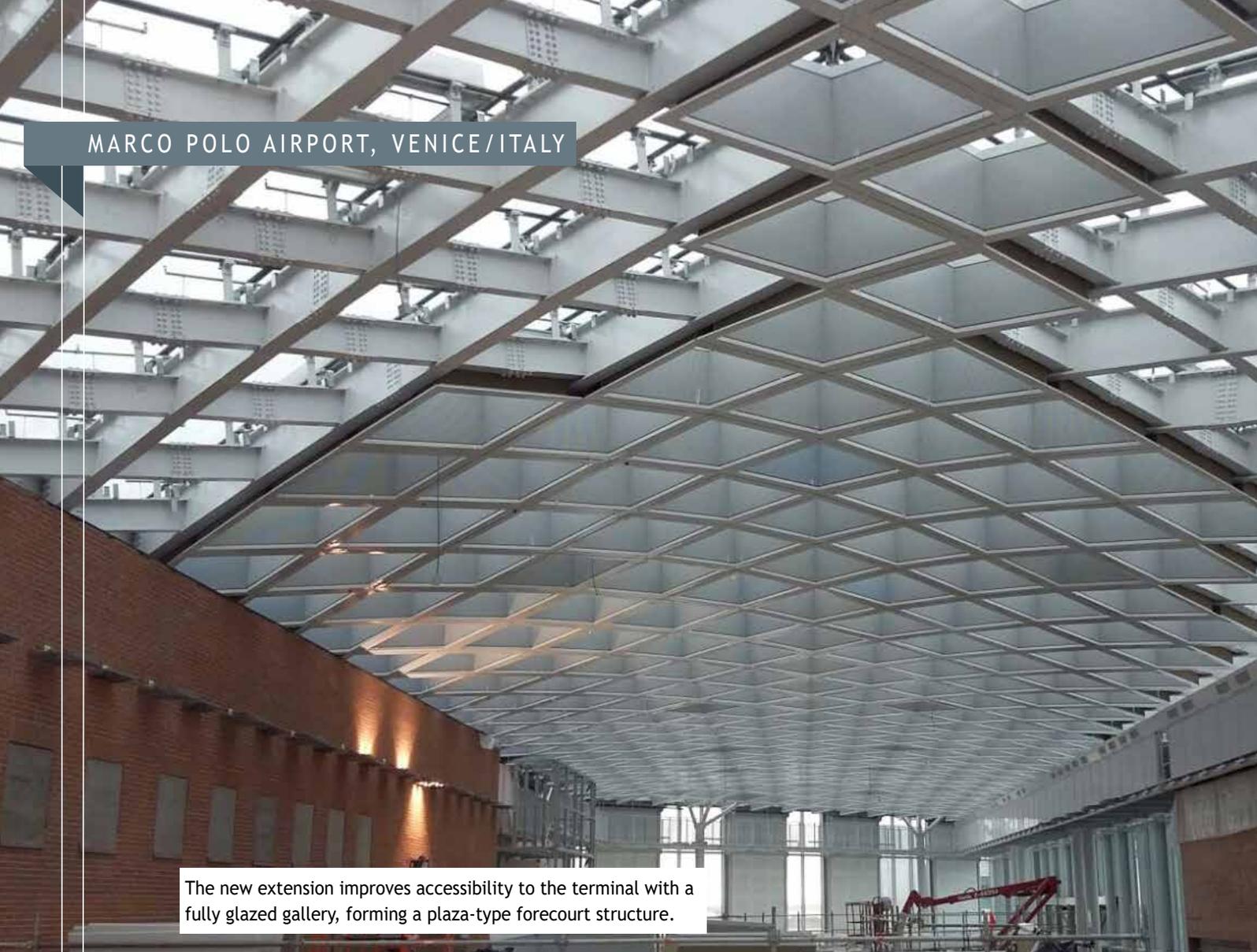


TROSIFOL
CASE STUDY

AEROPORTO DI VENEZIA MARCO POLO (MARCO POLO AIRPORT)





MARCO POLO AIRPORT, VENICE/ITALY

The new extension improves accessibility to the terminal with a fully glazed gallery, forming a plaza-type forecourt structure.

STRENGTH, CLARITY & PEACE AND QUIET ALL DELIVERED AT VENICE, ITALY AIRPORT EXPANSION, THANKS TO TROSIFOL® INTERLAYERS

Multiple needs addressed with multiple capabilities thanks to Trosifol's extensive range of performance interlayers. Highly complex design exercise also conquered and successfully put into action.

Located on the mainland, just to the north of the historic Italian city of Venice, Aeroporto di Venezia Marco Polo (Marco Polo Airport) greets flights from all over the world; and with over 11 million passengers transiting in 2018, it has earned the accolade of being Italy's fourth busiest airport.

Its proximity to Venice, other local historical attractions and areas of natural beauty, is reflected in the amount of traffic it sees; and is why it has been the subject of numerous upgrades, such as the construction of a modern terminal in 2002.

A more recent project has seen the airport's passenger terminal not only refurbished but also extended to give it the capability to handle 15 million passengers per year. In order to give the passengers as pleasant an experience as possible, the new designs have incorporated large swathes of glass, much of which uses advanced interlayer technology from Trosifol for both strength and sound attenuation.

The new 11,000 m² (118,400 ft²) extension improves accessibility to the terminal with a 280 m (918 ft) long fully glazed gallery, forming a plaza-type forecourt

Architects	One Works, Milan
Façade contractor	AZA Corp
Laminator	TVITEC SYSTEM GLASS, S.L.
Airport management	SAVE S.p.A.



Image © AZA Corp

structure, which also connects to the dock – via new moving walkways – from where passengers can travel to Venice in style by Vaporetto or water taxi.

Designed by architectural firm One Works, a major feature of the new plaza is its grid-pattern roof, which allows large amounts of sunlight into the envelope of the building to give it a natural airy feel. According to the architect: “The new layout has been developed to marry the functional requirements of the day-to-day terminal operations,

but also to embrace the beauty of the spectacular views of the Venice lagoon that embarking passengers receive from the commercial square. One Works has created a harmonious dialog between the original airport buildings and the new extensions, ensuring that the iconic lagoon landmark is expanded sustainably, now and in the future.”



In addition to the roofing elements, Trosifol® Sound Control PVB also proved critical to the outstanding performance of the façade.

Image © AZA Corp



The roof panels created using SentryGlas® are technically complex, comprising double-glazed units that are either triangular or rectangular/trapezoid in shape.

According to Roberto Arias, marketing manager at Tvitec, the glass fabricator: “The roof panels created using SentryGlas® ionoplast interlayers from Trosifol are really technically complex. They comprise double-glazed units that are either triangular or rectangular/trapezoid in shape, most of which are over 2 m (6 ft) in size.”

Fabricated as insulating glass units, the 2,700 panels all consist of an outboard lite of 10 mm tempered glass, a 16 mm air space, and an inboard laminated lite, of two plies of 8 mm heat-strengthened glass bonded together by two plies of 0.89 mm (35 mil) SentryGlas® interlayer (total 1.78 mm / 70 mil).

“You will not see more technically transformed glass than this,” Arias continues. “In addition to the incorporation of multiple layers, a customized panel support system and special seals, the glazing was also cold bent on site, following significant mathematical modelling and testing. In total we supplied 6,300 m² (67,800 ft²) of high-performance glass, with the roof panels making up 5,946 m² (64,000 ft²) of this total.”

“SentryGlas® was very much the interlayer of choice in this application,” he continues, “primarily for its strength – both intact and post breakage – and its

resilience to snow and wind loads as well as worker transit for maintenance and cleaning. Furthermore, from the point of view of physical security, correct tempering and shard retention is essential in case of accidents or even attacks; where there is the possibility for more injuries from flying glass than from the ‘incident’ itself.”

In addition to the roofing elements, Trosifol® Sound Control PVB also proved critical to the outstanding performance of the 2,500 m² (26,900 ft²) façade, which uses two plies of 10 mm extra clear heat strengthened glass, sandwiching a 0.76 mm (30 mil) Trosifol® SC Monolayer interlayer. As well as offering the glass retention capabilities of a PVB interlayer, Trosifol® SC Monolayer delivers outstanding sound protection properties too, up to 3 dB better compared to standard PVB film. What is more, the production process for laminated safety glass containing Trosifol® SC Monolayer is just as efficient and simple as it is for standard PVB laminated glass products.

Every glazing opportunity comes with its own list of demands and nuances, all of which have to be considered by the engineers, fabricators, and installers working on the project. This airport expansion was, indeed, far from typical and pushed the envelope in



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 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:** black & white & colored interlayers

terms of balancing the aesthetic appeal of glazed elements with their eventual functional capabilities. Multi layers, cold bending, high strength, maximum clarity... the list goes on, but all were made possible thanks to the advanced capabilities of Trosifol®'s ionoplast and PVB interlayers. Couple this with the façade's sound attenuation requirements and Marco Polo Airport quickly becomes a showcase for what can be achieved with glass.



As well as offering the glass retention capabilities of a PVB interlayer, Trosifol® SC Monolayer delivers outstanding sound protection properties too, up to 3 dB better compared to standard PVB film.

HAVE YOU DONE A GREAT PROJECT WITH OUR TROSIFOL® OR SENTRYGLAS® PRODUCTS AND WOULD YOU LIKE TO HAVE IT FEATURED IN OUR LAMINATED GLASS NEWS?
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