Glass
Magazine

A Glass *Symphony*

Palau de la Música. Valencia

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The ‘new’ **Palau de la Música** in **Valencia** wrapped in the world’s finest **curved glass**

The Palau de la Música in Valencia ushers in a new era with the complete renovation of this cultural icon in Spain.

After four years of meticulous work, the Palau shines in all its glory, mirroring the grand glass dome that defines its architectural character.

The Valencian auditorium, renowned for its prestige and **exceptional acoustics in Europe**, was inaugurated in 1986 and designed by the National Architecture Prize-winning studio of José María García de Paredes.

Now, the **Santatecla Arquitectos firm** has overseen and directed the rehabilitation. Beyond addressing issues in some deteriorated spaces like the roofs, the primary goal was to preserve the essence of the original construction while aligning it with **sustainability and energy efficiency** criteria for 21st-century international building standards.

In this context, the contribution of glass processing by **Cricursa** for the Valencian firm **Singular Glass**, responsible for the overall installation, creates a symphony both in terms of aesthetics and sustainability.

The “score,” composed by Santatecla Arquitectos and masterfully interpreted in the...

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installation by Singular Glass, incorporates nearly **3,000 meters of curved double glazing with a 20mm Argon-filled chamber**, tempered and annealed units, all coated with an **Ultraclear Sunguard SN 70/35 layer**.

Tvitec | Cricursa's high-performance solutions were not the only ones supplied for the project. A diverse range of products from Schüco Iberia was chosen for the curtain walls and all the metalwork.

The choice of glass, in accordance with the architects' specifications, adds to the showcase of Cricursa's curved glass manufacturing capabilities. "We opted for an exterior selective glass with a very neutral appearance but with excellent solar protection and exceptional thermal insulation, meeting the architect's requirements," explains **Alex Sasplugas**, one of the world's curving geniuses on an international scale. "For the interior ensemble, the technical decision was to use a laminated safety glass composed of two low-iron 5mm glass panels", he concluded.

The chosen thermal treatment was annealing, ensuring impeccable optical quality, a detail closely aligned with the architect's vision

Technical Data Sheet

Curved glazing area: 2,274 sqm

Glass tipy: 8 mm. tempered HST

Coating: Ultraclear Sunguard SN 70/35

Argon gas filling: 90%

Warm edge spacer: black

Laminated: 5+5 0,76 Pvb

Class edge: polished

Annealing: Ultracear annealed

Air cavity: width 20 mm

U shaped inserts

An Evolutionary Experience

Alex Sasplugas
General Manager | Cricursa

As we grow older, we gain the knowledge of experience. But we remember when we were younger and had our whole lives ahead of us. You can't have it all. However, this year has given us the opportunity to update the past with the accumulated knowledge, thanks to the Palau de la Música, for which Cricursa manufactured curved glass in 1986, now replaced with glass of better energy performance. In 1986, during my early days at the company, and taking advantage of military service leave, I was fortunate to participate in the first production of these glass panels.

The Palau was one of the major projects of that time, both in terms of the scale of the project and the elegance of its design. Architect José María Paredes, a National Prize winner in 1956, had envisioned an auditorium with a massive transparent roof, which was an architectural milestone and a challenge for the company.

José Figueroa, the current head of the curved glass section with nearly half a century of curved glass expertise, was one of those responsible for ensuring the production batches needed to deliver the project on time. Spain was a country known for its sun, light, and warmth.

The façade was a transparent skin, crafted from 5+5 tempered laminated curved glass. At that time, tempered curved glass and selective coated glass did not exist, let alone sustainability consciousness. To control the energy load, the glass had to be darkened or made highly reflective. However, the architect had chosen a highly transparent skin to give the building a sense of elegance. Over time, everything evolves, including technology.

Now it was time to adapt the skylight to modern standards: reducing energy input, lowering consumption, and making it more sustainable. The old glass panels had remained in perfect condition. There were no breakages, even though many experts today might argue that 5+5 tempered laminated glass is too thin for a skylight.

When determining the new composition, some raised this question. Our recommendation to architect Roberto Santatecla was to use an insulating glass unit combining an 8mm tempered outer pane with a 5+5 laminated tempered inner pane. The outer pane features a triple silver low-E coating on surface #2 to achieve excellent thermal performance. The inner laminated pane can be as thin as the glass that has served as the building's skin for 37 years, avoiding overburdening the structure. Thanks to its tempering, we also avoid many of the anisotropies associated with tempered glass, which, in the case of a skylight, could be very noticeable against the backdrop of the blue sky.

We believe that the mission has been accomplished.

Adaptation of the Palau de la Música

Roberto Santatecla
Architect | Santatecla Architects

The first time I visited the Palau, the building was under construction. The city was too. It was the early 1980s. Architecture students and Valencians in general had been eagerly following the debate about the new project that would occupy the former Turia Riverbed, and we breathed a sigh of relief with the beautiful idea of the 'green river' proposed by Ricardo Bofill.

Like many other things in the country, the General Urban Development Plan was under review. With everything to be decided, the choice of the space to build the new Palau de la Música, on a podium-like embankment on the left bank of what would become that large green forest, right on Paseo de la Alameda and facing the city's expansion, was probably the first of the successes that led the building to become a true landmark for Valencia.

Jose María García de Paredes, the architect of the Palau, in his understanding of the urban and social context, conceived a building designed for the enjoyment of music but also for social relations and cultural exchange. He thus created two unique stone-clad halls for its main purpose - music - and, as a counterpoint, designed that magnificent space for interaction within a spacious glassed-in lobby, open to the sky and the green riverbed.

And he did it brilliantly, overcoming the challenge of dealing with the curves of the metal structure, the mullion profile of the curtain wall supporting the glass, and the glass itself forming the building's skin. This, despite the precedents on a large scale, such as the Crystal Palace in Hyde Park (1851) and the glass roof of the Grand Palais in Paris (1900), or in the city itself, on a much smaller but hugely significant scale, the Tropical Greenhouse (1861) by Sebastián Monleón Estellés and the Bassa Greenhouse (1881), both in the Botanical Garden of the Universitat de València. The responses to the location and program were clear, accurate, and resounding.

Today, from the other side of the river, the Palau building stands as a symbol for the city, imposing in its architecture and a strong protagonist of the 'river of culture' that the old Turia Riverbed has become.

But no one and nothing can escape the mark left by the passage of time. Neither can the Palau. Seals that proved ineffective, successive attempts to control sunlight over more than three decades, new energy efficiency standards, or marked interventions in the mullion, which even modified the appearance of the glazing, demanded a major rehabilitation plan. Staying true to the original project drafted by García de Paredes in 1984, using the most innovative construction technologies of the moment, has been the goal of our team.

Achieving a cleanly curved glass skin, essentially simple, with which to restore the original image of the glass envelope of the lobby while improving its strength, climatic performance, and energy efficiency, is the result of an experimental, almost artisanal, effort that has sought innovation and respect for the original idea. The latest technologies have been used for glass manipulation - entirely replaced by a new composition of two ultra-clear, low-emission, and solar control glass sheets - and aluminum, employed for the exterior landscape in a safer and more efficient manner.

With the work completed, the waters return to their course, and the Palau de la Música reintegrates into the social and cultural life of the city of Valencia.

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Flat + Curved

Sustainable Glass

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