

Functional Elegance



The new gigantic Coeur Défense office complex in the middle of the Parisian La Défense business district is now complete. 10,000 square meters of Schott's special glass "Pyran S" guarantee an extra safety margin in case of fire.

After several starts and numerous blueprint modifications, the mammoth project was finally completed in the summer of 2001. With an area of 350,000 square meters, it is one of the most important office and real estate projects in Europe. It created a total of 10,000 jobs.

A Masterpiece of Functional Architecture

With Coeur Défense, French architect Jean-Paul Viguier has created a modern and functional complex. The impression is futuristic. The slender, towering skyscrapers with rounded corners remind one of twins or of a very tall couple. In front of the 180-meter-high twin towers with their 40 stories, stand three eight-storied buildings, each one



32 meters high. The whole complex is connected by a 40-meter-high atrium that gives it the stability it needs. Coeur Défense houses a reception hall, companies, stores and a conference center. There is even space for cultural events. The basement offers space for taxis and trucks, and the five subterranean stories have 3,500 parking places. In the interior of every building, 8 express elevators move unceasingly between the floors. It takes only 25 seconds to be catapulted from the ground floor to the 39th floor.

Cost Optimization was Decisive

The dimensions of the entire project are overwhelming. Along the two towering skyscrapers with their 39 office floors – the 40th is for technical equipment and engineering purposes – offer 65,000 square meters of office space. The façades of the buildings have a total surface of 90,000 square meters. A total of 20 hectares of carpeting and millions of kilometers of cables had to be laid.

Transparency and openness characterize the entire building complex of Coeur Défense.



The Tanagra Co. invested 4.2 billion francs, the equivalent of 641 million euros, in the project. Other participating companies were Unibail with 38 percent, Bouygues Real Estate with 10 percent, the American Cross Roads Property Investors company with 40 percent, and the German insurance company Gothaer Versicherung with 10 percent.

In order to control expenses, architect Viguier gave the highest priority to functionality and cost optimization. His last blueprint was aimed at the optimum design of the thermal behavior of the façades and the way daylight entered the building. However, not at the expense of aesthetics. After all, it was his intention that his entire work should have a transparent effect. Pioneering architectural work was necessary in order to take all safety aspects into account.

Decision in Favor of Schott's "Pyran S"

Rinaldi Structal, a subsidiary of Bouygues Batiment, commissioned the special glass producer and finisher Schott Jenaer Glas GmbH, through the French sales company Schott France, to supply the buildings with fire-proof glazing. Thanks to "Pyran S", Rinaldi was able to achieve fire-proof glazing and a double glazing with pressure balance properties and integrated venetian blinds. Dominique Kienlen, research and development manager for Rinaldi Structal, explains the reason: "In order to prevent early aging of double glazing – something customers often complain about – we put all our efforts into creating dust- and condensation-free window pane gaps."

Owing to the way "Pyran S" is processed, Rinaldi was able to comply with the strict fire protection and safety regulations as well, while also preserving the aesthetics of the design.

In the area between both towers, "Pyran S" had to meet all requirements for G 60 glazing, whereas in the connecting areas between the façade and the glass wall, the fire-resistant class G 120 was required. The corresponding fire-proof glazings are expected to hold back flames and smoke for 60 and 120 minutes, respectively. The entire Coeur Défense complex profits from



In the connection area between the twin towers, 10,000 square meters of "Pyran S" provide the extra safety margin in case of a fire.

the outstanding properties that "Pyran S" special glass offers.

Architect Viguier was able to break with the old architectural tradition of using darkly glazed, reflecting office towers in his office district of La Défense. He was able to achieve an aesthetic work full of transparency and openness thanks to 10,000 square meters of only

6-millimeter-thick "Pyran S". With its extremely high degree of 92 percent light transmission, it was the perfect solution for the giant construction project of the new century ■