

Rue de Châteaudun, Paris:

Curved fire protection glass for a historic office building



pic_01.JPG: The special feature of the 33-meter-high inner courtyard façade are the gently rounded „corners“ with an angle of about 130 degrees. This softens the severity of the post and beam construction. As appealing as the structure now appears, its implementation with curved PYRAN® G fire resistant glass from SCHOTT Technical Glass Solutions, Jena, was equally demanding. (Photo: David Wagner, SCHOTT France SAS, Paris).

Client: AXA Investment Managers-Real Assets / CDC (Caisse des Dépôts et Consignations)
Architects: DTACC architects, Paris
Photos: Florian Kleinfenn, Paris | Copyright: © SCHOTT Technical Glass Solutions, Jena
Text: Anne Marie Ring, BAUtext Mediendienst, Munich

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pic_02.tif: The round shape of the panes is easy to retrace on the floor covering.



pic_03.tif: As appealing as the curved panes appear, their installation was equally demanding.



pic_04.tif: The architects selected the special glass ISO PYRAN® G glazed within an aluminum profile.



pic_05.tif: E30 was required from the 1st floor upwards – ISO PYRAN® G even achieved E60 in the test.



pic_06.tif: Aluminum louvers fitted onto the surface of the glazing create a structure for the space-enclosing façade.



pic_07.tif: They lend the „smooth“ façade materiality, depth and rhythm.

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The office building at the exclusive Paris address „21, Rue de Châteaudun“ had every comfort imaginable when it opened in the early 1930s. But the features that were celebrated as an achievement at the time have long become standard today. In order to maintain its reputation as a premium address, the building has now been thoroughly renovated. The architects used ISO PYRAN® fire resistant glass from SCHOTT Technical Glass Solutions for the glazing of the courtyard-side mullion and transom façade, which had to meet fire resistance class E30 from the first floor onwards – even across the gently rounded „corners“.

The office building in the 9th Paris Arrondissement was designed by the Parisian architect Robert Raymond Février and built in the early 1930s for the renowned insurance company „La Paternelle“. Février specialized in this type of building, which combined European design with American technology. Hidden behind the classic Art-Déco façade were some sophisticated technical features designed to make daily office life more pleasant for employees: Elevators on all floors, air conditioning systems integrated in the ceilings and acoustic walls. In those days office technology was largely mechanical and correspondingly loud. Almost a century later, what was then celebrated as an achievement has long since become standard. Nowadays, other criteria are more important: resource-conserving operation, minimal environmental impact, pleasant ambient conditions and an abundance of natural daylight. These are essential criteria that must be fulfilled to guarantee the most desirable tenants and thus retaining long-term value of a building.

The owners of the building, which is still used as an office – AXA Investment Managers-Real Assets / CDC (Caisse des Dépôts et Consignations) – wanted to equip their real estate in the center of Paris for the future. With the above criteria in mind, the architects of the Paris office of the DTACC transformed the aging building into a contemporary office building that meets all of today's requirements.

The nine-story building, which has a total floor space of 11,200 m², extends along two streets, Rue Lafitte and Rue de Châteaudun. The main entrance is located at the corner where Rue Lafitte joins Rue de Châteaudun. Here, a large automatic door opens up to an attractive foyer from which the building's two wings can be accessed. The street-side facades of light limestone were cleaned and the floor to ceiling windows replaced. To create an optimal layout, the entire non-load-bearing walls were removed from the inside; the masonry is limited to the load-bearing walls around the access cores. During the previous renovation in the 1990s, the façade facing the inner courtyard had already been replaced by a largely glazed curtain wall, which no longer met today's energy requirements. For this reason, and in order to provide the workplaces situated here with even more daylight, the brick parapets have now also been removed and the facade has been erected over a height of 33 meters as a glazed mullion and transom construction. Outstanding are the gently rounded corners, with an angle of about 130 degrees. It was the goal of the architects to replace the „right angle“ with flowing transitions that soften the severity of the stick-system construction and convey an overall harmonious image in keeping with the spirit of the times. Outward opening window sashes arranged in a regular pattern allow users to air the rooms as they please.

As appealing as the façade now appears, the implementation of the curved panes was equally demanding. As if the integration of such large-format, rounded panes was not challenging enough, the entire courtyard façade, from the first floor upwards, had to comply with fire resistance class E30 to prevent fire flashover. The architects opted for a construction made of aluminum pro-

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files and the special glass ISO PYRAN® from SCHOTT Technical Glass Solutions based in Jena. In a material-related fire test in accordance with EN 1364, ISO PYRAN® (flat design) and ISO PYRAN® (curved) were tested with the FW60+ aluminum profile from Schüco International KG, Bielefeld. The results were impressive as the component achieved E60 having withstood the flames for exactly 66 minutes, instead of the required 30 minutes.

SCHOTT Technical Glass Solutions supplied the Spanish company CRICURSA with the special glass PYRAN® S as raw glass panels for manufacturing the curved panes. The Barcelona-based company is one of the leading manufacturers of curved and laminated glass worldwide. For the Rue de Châteaudun, CRICURSA manufactured 1800 x 3100 mm panes of curved and toughened glass with a radius of 2400 mm (design: G8-16-66.2). The size of the panels and their curve, presented a huge challenge for their installation. The aluminum profiles had previously been bent in the workshop of Alugreen SA, a subsidiary of the processor M.C.I., in accordance with the radius of the panels. Working together in close cooperation with the system providers – SCHOTT Technical Glass Solutions and Schüco International – in conjunction with the highest level of expertise and precise workmanship, the façade was sealed pane by pane. The horizontal and vertical louvres fitted onto the surface of the glazing lend it additional materiality, depth and rhythm. These are also composed of aluminum profiles and were clipped onto the outside of the mullion and transom façade.

The constructive commitment – constructive here in the truest sense of the word – of all those involved, has paid off. After the work was completed, the building was not only awarded several internationally recognised certificates, including the BREEAM Refurbishment, BBC Effinergie Rénovation, HQU Rénovation and Biodiversity – but the architects were also commissioned to renovate the adjacent office building, No. 23, Rue de Châteaudun. The two buildings, once built as a single unit, are now in the hands of different owners. It was the common will to demonstrate architectural unity, at least visually, by continuing the courtyard façade in the same style. Regarding the fire protection requirements, the same specifications applied as for Building No. 21. And once again, the architects selected PYRAN® S, the special glass from SCHOTT Technical Glass Solutions. What could be a better reference than a renewed cooperation after the completion of an undoubtedly complicated construction task!

BAUTAFEL

Client: AXA Investment Managers-Real Assets / CDC (Caisse des Dépôts et Consignations)

Architects: DTACC architects, Paris

Fire protection glass: PYRAN® / SCHOTT Technical Glass Solutions, Jena

Aluminum profile: FW60+ / Schüco International KG, Bielefeld

Glass processing: CRICURSA, Granollers/Barcelona

Preparation and assembly: M.C.I. and Alugreen SA, Montreuil

Text: Anne Marie Ring, BAUtext Mediendienst Munich

Photos: Florian Kleinfenn, Paris (except pic_01: SCHOTT/David Wagner).

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