

Case Study European Parliament, Quartier Léopold, Brussels

The project

The 'Quartier Léopold' is one of the largest and most significant structural projects completed in Brussels in the past twenty years. Designed by the architectural consortium Atelier 'Espace Léopold', the building became the focus of world-wide attention in 1993 when the European Commission, Parliament and Council took up residence.

The Léopold is not one, but a series of buildings covering an extended area in Brussels. Its sheer size means that its designers have had the three dimensional freedom to merge classical curves and lines into adjacent sections of post modern construction with surprising ease and grace. As one moves around the building, a selection of shapes and lines emerge from the structure, leaving the viewer with the image of a new born city.

The visual intensity of the Léopold was dependent on the sensitive use of materials to construct the building. The architectural consortium responsible for the structure opted to develop a reflective blue glazed facade, embellished with marble and stone at its base. This creative use of material adds a new depth and dimension to the Léopold, using natural light to generate multiple reflections of both the sky and surrounding environment.

In addition to its over-riding visual impact, the Léopold is the first significant four-sided structurally glazed building in Belgium to be constructed without the use of safety mechanical devices. This is possible as a result of the specification of Dow Corning® 993 structural glazing sealant and Dow Corning® Q3-3362 insulated glazing silicone sealant. Both products were considered by the control body overseeing this project to meet the requirements of the new European standards.

Ther Products

To receive this approval, Dow Corning 993 had to demonstrate the following properties:

- Resistance to initial mechanical strength in tension and shear at extreme temperatures (-20°C, +23°C and +80°C)
- Residual mechanical strength after artificial ageing:
 - Immersion in water at high temperature (1000 hours at +45°C)
 - Humidity and NaCl atmosphere
 - Humidity and SO2 atmosphere
 - Compatibility with facade cleaning products
 - Compatibility with adjacent material
- Resistance to tearing
- Mechanical fatigue in traction and shear
- UV resistance
- Resistance to creep under long-term shear and tensile loading

The Léopold building is an extraordinary construction - a true demonstration of the art of the possible. That such a vast expanse of glass facade can now be so securely bonded with little or no use of mechanical fixings, highlights just how far Dow Corning silicone sealant technology has developed over the past decade.



Building:	European Parliament, Quartier Léopold
City:	Brussels
Country:	Belgium
Product:	Dow Corning® 993 Dow Corning® Firestop 700 Dow Corning® Firestop 800
Architect:	Atelier 'Espace Léopold'
Curtainwall:	Permasteelisa

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- The architectural consortium opted to develop a reflective blue glazed facade, embellished with marble and stone at its base with the use of natural light.
- The Léopold is the first significant four-sided structurally glazed building in Belgium to be constructed without the use of safety mechanical devices - due to the specification of Dow Corning 993 structural glazing sealant and Dow Corning Q3-3362 insulated glazing silicone sealant.

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