



Dow Performance Silicones

# Refurbishing the Symbol of Europe



Case Study: Berlaymont Building



### City and Country

Brussels, Belgium

### Product\*

- DOWSIL™ 993 Structural Glazing Sealant

### Key Participants

- **Architect**  
SA Berlaymont 2000
- **Curtain Walling Company**  
Belgo Metal NV /  
Permasteelisa Central Europe BV  
(Permasteelisa Group)
- **Fabricator**  
Scheuten Glasgroep BV /  
Polypane Glasindustrie NV

\*Prior to February 2018, products listed were branded as Dow Corning.

### The Project

- Massive refurbishment project of EU building often described as The Symbol of Europe making it a modern, green building for the 21<sup>st</sup> century
- Outer 'living' façade composed of 21,000 square metres of mobile glass louvers moved according to the position of the sun, temperature, and wind speed
- Silicone bonding of louvers underwent stringent testing to pass the test requirements imposed by the Control Body in charge of the safety and durability of the façade structure
- DOWSIL™ 993 Structural Glazing Sealant is a two-component, fast cure, neutral curing sealant intended for structural bonding of glass, metal and other panel materials and to meet all European standards

### The Project

Often described as a symbol of the European Union, the Berlaymont Building in Brussels has undergone a complete renovation to bring its celebrated 1960s architecture up-to-date with the new sustainability and technological criteria of the 21<sup>st</sup> century. Throughout the project, Dow's team of technical experts has worked closely with the design and development teams to ensure that their chief requirements – energy conservation, increased durability of materials,



ease of maintenance and optimum natural light penetration – could be met using the latest silicone technology to facilitate their vision for the building's glazing.

## The Vision

The renovation began in 1995 after the building had been closed for some four years due to asbestos contamination and its unsuitability for modern EU requirements. After a ten year programme by main contractor Europconstruct SA, the building has reopened to help the EU meet its increasing requirement for office space. The building is considered to be a classic of 1960s European architecture with its star-shaped structure and sheer scale making it a notable Brussels landmark. The primary aim of the architects responsible for the refurbishment – SA Berlaymont 2000 – was to retain the original building's striking appearance while improving its efficiency and environmental credentials.

## The Challenge

One of the most striking features of the newly refurbished building is its outer 'living façade' constructed by curtain walling contractor Belgo Metal NV/ Permasteelisa Central Europe BV.

The façade is composed of 21,000 square metres of mobile glass louvers controlled by a computer connected to weather sensors, which repositions the panels according to the position of the sun, temperature, and wind speed. This outer façade, built around the existing structure, acts as a high-tech blanket retaining warmth during the winter months and protecting it against solar heat gain during the summer. In addition, this double façade reduces noise levels within the building.

## The Team

For the construction of the 2 m x 0.5 m louvers, DOWSIL™ 993 Structural Glazing Sealant was specified to bond laminated glass, supplied by Scheuten Glasgroep BV, onto its aluminium frame and as an edge seal to improve the louvers' resistance to damage. DOWSIL™ 993 Structural Glazing Sealant was chosen for its unique strength/flexibility ratio and proven track record of durability. The silicone bonding has to undergo extensive and stringent testing in order to pass the test requirements imposed by the Control Body in charge of the safety and durability of the façade structure.

## The Product

DOWSIL™ 993 Structural Glazing Sealant is a two-component, fast cure, neutral curing sealant intended for structural bonding of glass, metal and other panel materials and to meet all European standards. It has excellent adhesion to a wide range of substrates including coated, enamelled and reflective glass, anodised and polyester paint-coated aluminium and stainless steel. DOWSIL™ 993 Structural Glazing Sealant demonstrates significant stability through a wide temperature range of -55°C to +150°C.

## Contact Us

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Dow has sales offices, manufacturing sites and science and technology laboratories around the globe. Find local contact information at [consumer.dow.com/ContactUs](http://consumer.dow.com/ContactUs).

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