

## Case Study:

# Covent Garden Royal Rogier Towers Brussels, Belgium



Photograph: Marc Detiffe

## The Project

A striking curved elevation, gas-filled insulating glazing panels and the use of warm edge technology made the sealing of the façade of a landmark tower and adjoining buildings in the Espace Nord area of Brussels a particular challenge for the team at *Dow Corning*.

The Covent Garden Royal Rogier buildings, designed by architects Montois Partners, provide the city with 72,500 m<sup>2</sup> of prime office space and 350 underground parking spaces. A central part of the regeneration of the Espace Nord area of Brussels, the two buildings – of ten and 26 storeys – are separated by a huge covered garden which reuses waste water from the buildings for irrigation.

## The Vision:

The project managed by Belgian firm BOPRO, have a combined façade area of 35,000 m<sup>2</sup>. *Dow Corning's* technical and design teams worked closely with curtain walling contractor Belgo Metal NV from the very outset of the project. They worked with the design team to review and approve joint design calculation to ensure correct performance specifications and carried out extensive adhesion and substrate testing.

## The Challenge

The gas-filled IG units for the buildings' façades were constructed by Glaverbel and Polypane Glasindustrie NV who manufactured them using *Dow Corning* 3362 and 3362HD respectively. The Glaverbel panels on the main tower feature warm edge technology as a spacer. Given the stringent thermal performance requirements of the façade, the combined use of structural glazing with gas filled insulating glass and warm edge technology proved to be a perfect solution to obtain an overall U-Value of 1.5 W/m<sup>2</sup>K.

*Dow Corning* 791 was selected for weathersealing thanks to its high movement capability (+/- 50%). It is ideally suited for expansion, connection, perimeter and all other types of movement joints and is compatible with all *Dow Corning* structural sealants. It demonstrates excellent weatherability being UV stable and maintaining high performance across a wide temperature range, making it an extremely versatile sealant that can be used on a wide variety of substrates.

<b>City:</b>	Brussels
<b>Country:</b>	Belgium
<b>Product:</b>	<i>Dow Corning</i> <sup>®</sup> 993 Structural Glazing Sealant <i>Dow Corning</i> <sup>®</sup> 3362 Insulating Glass Sealant <i>Dow Corning</i> <sup>®</sup> 791 Weatherproofing Sealant
<b>Architects:</b>	Montois Partners Art & Build
<b>Curtain Walling Company:</b>	Belgo Metal NV (Permasteelisa Group)
<b>IG Fabricator:</b>	Glaverbel (main tower)/ Polypane Glasindustrie NV (building A)

- Two landmark buildings in the Espace Nord area of Brussels with a combined façade area of 35,000 m<sup>2</sup>, providing the city with 72,500 m<sup>2</sup> of prime office space and 350 underground parking spaces
- Structural glazing combined with gas filled insulating glass and warm edge technology achieved an overall U-Value of 1.5 W/m<sup>2</sup>K
- *Dow Corning* worked with design team to review and approve joint design calculation and carried out extensive adhesion and substrate testing

## The Team

*Dow Corning* was closely involved with Polypane Glasindustrie NV and Glaverbel in the design of their gas-filled IG systems, specifying *Dow Corning* 3362HD and 3362 respectively as a secondary edge silicone sealant. *Dow Corning* 3362 is a two component neutral curing silicone sealant specially designed for this kind of high performance Insulating Glass unit. When used in a correctly designed IG system, it passes pr EN 1279-3 performance specifications and requirements for gas leakage rate and gas concentration tolerances. It is extremely stable under even extreme environmental conditions, including pollution, making it perfect for this kind of city centre project.

## The Products

For the construction of structural glazing panels for Tower B, *Dow Corning* recommended its 993 Structural Glazing Sealant for bonding the glass to the frames for its excellent adhesion to anodised aluminium. *Dow Corning* 993 Structural Glazing Silicone 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. As well as anodised aluminium, it has excellent adhesion to a wide range of other substrates including coated, enamelled and reflective glass, polyester paint-coated aluminium and stainless steel. *Dow Corning* 993 demonstrates significant stability through a wide temperature range of -55° to +150°C.

## Contact Dow Corning...

Dow Corning has sales offices, manufacturing sites, as well as science and technology laboratories around the globe. Telephone numbers of locations near you are available on the world wide web at [www.dowcorning.com](http://www.dowcorning.com), or by calling one of our primary locations listed below.

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