Dow performance silicones

Silicone sealant enables top performance of structural glazing and weatherproofing façade

CASE STUDY: PING AN FINANCE CENTRE NORTH TOWER



The project

The Ping An Finance Centre, which is the third highest building in mainland China, is 592.5 meters high and has 118 stories. It has a total floor area of 410,000 square meters. Integrating office, luxury hotel, entertainment and retail space, the tower will become an invigorating landmark in Shenzhen and will attract a number of famous multinational companies.

Ping An Finance Centre has a four-sided structural glazing façade design and mechanical fixed stainless steel panel cladding. High energy efficiency and lower façade U-values are required by the architect.

The design of the exterior curtain wall units uses DOWSIL™ structural silicone sealant at four sides of the glass panels and for stainless steel panel as reinforcement. At the same time, this building is required Towerto have Leadership in Energy and Environmental Design (LEED) Gold and China three-star certifications.

The challenges

As with any of the highest buildings in the world, Dow's technical experts were confronted with testing and specifying products that are able to withstand the rigors of high wind load, ultraviolet light, seismic activity and inclement weather conditions.

50+ YEARS PROVEN PERFORMANCE

City and country

Shenzhen, China

Products*

- DOWSIL™ 993N Structural Glazing Sealant
- DOWSIL™ 3362N Sealant
- DOWSIL™ 995 Silicone Structural Sealant
- DOWSIL™ 791 Weatherproofing Silicone Sealant
- DOWSIL™ Neutral Plus Silicone Sealant

Key participants

- **Architects**
  Kohn Pederson Fox Associates, CCDI, Thornton Tomasetti
- **Fabricator**
  Shenyang Yuanda Aluminium Industry Engineering Co., Ltd.
- **Developer**
  Ping An Insurance (Group) Company of China Ltd. (Member of Ping An Group)

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

Shenzhen is close to a seaport and experiences typhoons. Large structural sealant bite is required for high windload areas. In addition, large areas of the curtain wall, which in total is 117,500 m2, are positioned at extreme height, bringing a new set of technical challenges.

The solutions

While the shape of the tower along its height has been varied to minimize wind forces on the building, DOWSIL™ 993N Structural Glazing Sealant plays an important role in providing a strong adhesive bond, UV resistance and fast cure in the joints between the laminated glass units and the curtain wall frame, as well as remaining environmentally friendly.

DOWSIL™ Neutral Plus Silicone Sealant is also specified for this project with the following features and benefits:

- One-part room temperature cured silicone sealant
- Keeps flexibility at -40°C ~ 150°C after cured
- Good adhesion to various construction substrates, such as glass, anodized aluminum, GMS steel, ceramic and some surface treated materials
- Multi-purpose one-part neutral cured silicone sealant

As a global leader in silicon-based technology with a local presence around the world, Dow is readily available to consult with customers and supply technical expertise and products to project partners worldwide.

Dow provides a series of technical services, including print review, lab testing and deglazing, to ensure the quality of the curtain wall units during the design, material selection and units assembly.

Lower volatile organic content (VOC) meets the LEED certification and reduces the effect to the environment.

Dow provides proven products and services, and has more than 50 years of field experience to understand how to prevent SSG project failure due to sealant and its design. Free project services are offered to support sealant products and ensure they are used in an appropriate way.

For more information

Learn more about Dow's full range of High Performance Building solutions, including service and support, by visiting us online at **dow.com/construction**.

Dow has sales offices, manufacturing sites and science and technology laboratories around the globe. Find local contact information at **dow.com/contactus**.

DOWSIL™

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