



Dow Performance Silicones

Dow Provides Silicone Solution for the Intelligent Double Skin Breathing Glass Curtain Wall of Beijing Chemsunny World Trade Center



Case Study: Beijing Chemsunny World Trade Center



City and Country

Beijing, China

Products*

- DOWSIL™ 3362 Insulating Glass Sealant
- DOWSIL™ 791 Silicone Weatherproofing Sealant
- DOWSIL™ 993 Structural Glazing Sealant

Key Participants

- **Architecture Design Firm**
Skidmore, Owings & Merrill LLP
- **Curtain Wall Consulting Firm**
Schmidlin Ltd.
- **Curtain Wall Manufacturer**
Zhongshan Shengxing Glass Service Co., Ltd.
- **Silicone Sealant Provider**
Dow

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

The Project

100% silicone sealants from Dow were used in the development of the intelligent and ecological double skin breathing glass curtain wall and the glass curtain wall of the double-sky atrium dual structure lobby of Beijing Chemsunny World Trade Center.

Project Description

Beijing Chemsunny World Trade Center was designed by Skidmore, Owings & Merrill (SOM) chief designer, Adrain D. Smith. The building's façade consists of intelligent and ecological two-double breathing-type modern glass curtain wall.

Double skin breathing glass curtain wall is the most energy-efficient glass curtain wall system due to its improved heat conduction, sunshade effect, and reduced energy consumption. It secures improved air ventilation and eliminates dust



accumulation, allowing for improved living conditions and work environments. In heavy weather, windows can be opened for fresh air to reduce the occurrence of air conditioning syndrome.

The Challenge

The double skin breathing glass curtain wall is composed of two layers of glass curtain wall and an air corridor in between. To meet the requirements for natural ventilation, energy savings and heat insulation as well as waterproof and dustproof, air-tightness and water-tightness of the curtain wall were crucial factors for the success of the project.

Effective Solutions

As an established technical leader in the silicone industry with deep experience in the China market and full understanding of architect's design concept, Dow recommended its DOWSIL™ 3362 Insulating Glass Sealant as the secondary sealing material for the insulating glass units and DOWSIL™ 791 Silicone Weatherproofing Sealant and DOWSIL™ 993 Structural Glazing Sealant for the curtain wall. Both products align with strict project requirements for air-tightness and water-tightness.

DOWSIL™ 3362 Insulating Glass Sealant is a two-component neutral and curing silicone sealant designed for the application in high performance insulating glass units. It has been certified

by EN1279-3 for its air-tightness and gas concentration. It enjoys excellent stability under extreme conditions.

DOWSIL™ 791 Silicone Weatherproofing Sealant is an ideal sealing material for extension, connection, surrounding sealing and other displacement interfaces. It features great weatherproofing capabilities that are free from sun/rain/snow/ozone impact and retains superior performance even under extreme conditions or sharp temperature fluctuation.

The versatility of DOWSIL™ 791 Silicone Weatherproofing Sealant, DOWSIL™ 993 Structural Glazing Sealant and DOWSIL™ 3362 Insulating Glass Sealant applied to Beijing Chemsunny World Trade Center project enabled the world's largest intelligent and ecological two-double breathing-type glass curtain wall.

Professional Technology

In addition to excellent silicone sealant products, Dow offers a range of professional technical services to ensure proper product application and a normative construction process. The technical support covers blueprint inspection and basic materials test services. These services promote methods and key points of curtain wall project management, coupled with comprehensive quality control processes and manufacturing technology training at production base and construction site to ensure high efficiency and quality of the whole curtain wall system.

Result

With a total investment of about RMB 3 billion, Beijing Chemsunny World Trade Center project was listed among the 5th China Architectural New Technology Application Example Engineering by the Ministry of Construction in 2005 for its superior technology. It was inspected and accepted by an expert team on November 22nd, 2007, becoming the most environment-friendly and innovative landmark building on Changan Street.

For More Information

For more information about these and other Dow materials for the construction industry, or for the name of the Dow sales representative or product distributor in your area, visit consumer.dow.com/construction.

Dow has sales offices, manufacturing sites, and science and technology laboratories throughout China. Telephone numbers of locations near you are available at consumer.dow.com/ContactUs.

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