



Dow Performance Silicones

Dow Assists in Construction of Shanghai Metro



Case Study: Shanghai Metro



City and Country

Shanghai, China

Products*

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

Key Participants

- Shanghai Shentong Metro Co., Ltd.
- Sunvast Decoration Engineering Co., Ltd. (Shanghai)
- Shanghai Electric Transport Platform
- Screen Door Engineering Company
- Faiveley Transport Metro Technology Co., Ltd. (Shanghai)
- Dow – Silicone Sealant Provider

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

Project Description

As an independent rail transportation system, metro makes a great contribution to society due to its high efficiency, low pollution and ability to carry large numbers of passengers. Metro platform screen doors first came into use in the 1980s. In recent years, they have been vigorously developed in China. Platform screen doors' most important function

is the separation of the metro car and platform, which makes the metro station safer by preventing passengers from falling or jumping onto the track. At the same time, it also reduces the flow of air between the car and track area, and therefore reduces the amount of energy consumed by the environmental control system. This saves energy, and reduces the operating cost of the metro. It also effectively reduces noise, improving the

environment on the platform. In Shanghai, nearly every metro station, large and small, has platform screen doors.

Project Challenges

The metro platform screen doors are situated at the edge of the metro platform, where screen doors separate the metro car. As a result, they must be able to withstand



a variety of loads, including wind loads, crowd loads, impact loads, and earthquake loads. This puts rigorous demands on the silicone sealant used on the glass and door frames in the fixed platform screen door system, in which case it must withstand all kinds of pressure on the glass, such as positive and negative wind pressures, changes of temperature, and earthquakes.

Effective Solutions

For the various technological challenges, Dow recommended the use of DOWSIL™ 993N Structural Glazing Sealant, DOWSIL™ 995 Silicone Structural Sealant and DOWSIL™ 791 Silicone Weatherproofing Sealant. The structural glazing sealants provided by Dow form very strong bonds, and also are stable at high and low temperature extremes and have physical and mechanical properties of high standard, with excellent weather-resistance and neutral solidification. They are also nontoxic and non-corrosive. Additionally, these products from Dow all meet Chinese, American and European technological standards.

In addition to the outstanding capabilities, DOWSIL™ structural sealants also provide

black, grey, white and other colors to enhance the appearance of sealed products. While providing outstanding sealants, Dow also organized and implemented a series of professional technical support services to guarantee the correct usage of the products and standardized techniques, and to ensure comprehensive and complete solutions. Dow's professional support services include preliminary technical consultations and training, specialized testing of materials and evaluation of blueprints, and guidance in the application of sealants and on-site service.

Since 2003, when Dow provided an outstanding structural sealant solution for the metro platform screen doors on Shanghai's Metro Line 1, products from Dow have been widely used on the Shanghai Metro platform screen door system, including Metro Lines 4, 5, 6, 8, and 9, and on the extended portions of Lines 2, 7, 10 and 11 now under construction. In addition, Dow also participated in the construction of metro platform screen doors in cities across China, including Beijing, Guangzhou, Hangzhou, Nanjing, Suzhou, Shenyang, Chengdu and Tianjin.

With excellent product performance and comprehensive technical service force, Dow has formed long-term cooperative relationships with renowned platform screen door design companies and producers both in China and abroad. For many years, in China and in other countries and regions of the world, DOWSIL™ structural sealants have been widely used in large urban metro platform screen door and safety door systems. They have been favored by metro proprietors, designers and builders.

Contact Us

Dow is collaborating with industry professionals around the world to develop solutions to improve the energy efficiency of buildings for a more comfortable environment. Learn more about Dow's full range of High Performance Building solutions by visiting us online at **consumer.dow.com/construction**.

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

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