



## Dow Performance Silicones

# DOWSIL™ 795 Silicone Building Sealant Still Performing After 20+ Years in One of Thailand's First Four-Sided Structurally Glazed Buildings



## Case Study: Thai Airways International Headquarters



### City and Country

Bangkok, Thailand

### Product\*

- DOWSIL™ 795 Silicone Building Sealant

### Key Participants

- **Building Owner**  
Thai Airways International Public Co., Ltd.
- **Field Glazing and Curtainwall Contractor**  
YHS International Co., Ltd.
- **Exterior Wall Consultants**  
Testwell Craig Berger Inc.
- **Main Contractor**  
Italian Thai Development

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

### The Project

In the Thai Airways International Building – the headquarters of Thai Airways International and one of the first buildings in Thailand with a four-sided structurally glazed silicone curtainwall system – DOWSIL™ 795 Silicone Building Sealant continues to perform well after more than 20 years.

When the Thai Airways International headquarters building was constructed in Bangkok in 1986-1987, it was one of the first four-sided structurally glazed buildings in all of Asia. The building still stands to this day among the numerous structurally glazed facades located across the city and is a testament to the robustness of the curtainwall system and the performance of DOWSIL™ 795 Silicone Building Sealant.

### A New Technology Challenge

When the project director of Thai Airways International informed curtainwall

contractor YHS International Co., Ltd., through main contractor Italian Thai Development, that the national airline company wanted an all glass-building with all of the aluminum framing material concealed on all four sides and the glass panels held only by a silicone sealant, it was challenged to construct one of the first such buildings of its kind in Thailand.

“This was a big challenge to YHS because we had no prior experience with this new curtainwall technology,” said Sutee Jitcharoongphorn,



managing director of YHS. “Many doubted that a silicone sealant could hold the glass panels for more than 20 years.”

Strong support from Dow made all the difference. Dow not only provided technical information about the new curtainwall system, but also connected YHS with U.S. owners of four-sided structurally glazed buildings and a leading exterior wall consultant in New York City.

## Designed to Last

Israel Berger, president of Testwell Craig Berger Inc., helped YHS gain the technical know-how for producing the new type of curtainwall system from New York-based major four-sided structural silicone curtainwall manufacturer Flour City Architectural Metal Division.

The project involved a unitized design with L-joints that were factory-glazed with DOWSIL™ 795 Silicone Building Sealant and an open-cell polyurethane spacer tape.

## Ensuring Success with Real Technical Support

As one of the world’s leading manufacturers of silicone sealant, Dow was committed to making the Thai Airways International Building project a success and continued to work closely with YHS.

Adhesion tests to a variety of coated glasses, aluminum and dark bronze anodized aluminum were conducted with DOWSIL™ 795 Silicone Building Sealant to confirm that the structural glazing sealant would perform as intended. The compatibility of DOWSIL™ 795 Silicone Building Sealant with all other ancillary products that would contact the sealant, including the polyurethane spacer tape, was evaluated.

Dow also participated in a print review of the design to ensure that all of the

structural loads, including the windload that was placed on the glass and frames, were all within the performance specifications of the structural glazing sealant.

“While the project to construct the curtainwall for Thai Airways International’s head offices was a real challenge, it was also a rewarding experience thanks to the invaluable service and support we received from Dow. We truly appreciate their encouragement to take advantage of this unique opportunity and their assistance in helping us successfully complete the project,” Jitcharoongphorn said.

## A Big Impact

Once constructed, the unique Thai Airways International Building received significant attention from the architectural aluminum and building industries in Thailand.

“After completing the installation of this new type of curtainwall, it was quite obvious that the building did indeed present a more elegant and clean appearance,” Jitcharoongphorn said. “For its time, it had a really impressive and modern look. And the new curtainwall system required a reduced installation time and provided greater quality control during fabrication and installation and reduced material waste. As a result, other builders took notice.”

Today in Bangkok and across Asia, structurally glazed buildings are too numerous to count. And the Thai Airways International Building played a pivotal role in bringing this technology to the region.

## Still Going Strong

Since completion of the Thai Airways International Building, the facade has been inspected several times, most recently in

August 2011, and the DOWSIL™ 795 Silicone Building Sealant has continued to perform well. However, this building, like all others, can still suffer from broken or damaged units. Silicone structural glazing retains the glass, maintaining a safe environment until glass can be replaced. This technology provides an effective yet uncomplicated repair process that allows for individual units to be replaced while still maintaining its safe and sustainable record.

## The Story Continues

In August 2011, Dow continued with its longstanding support and commitment to the construction industry by launching a new and improved DOWSIL™ 795 Silicone Building Sealant in Asia. The sealant, which has been renamed DOWSIL™ 795 Structural Glazing Sealant in the Asian market, has the same long life expectancy as its predecessor, but with several added advantages: higher tensile strength; better extrusion rates, making it easier to gun and tool; and shorter lead times and fresher material due to being manufactured in Asia. This new and improved sealant is available in four colors: white, grey, black and bronze.

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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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Form No. 63-1229-01 A