

PROJECT

With about one million square feet of custom-fabricated glass curtainwall, the Time Warner Center in New York City required structural and weatherproofing sealants that were able to meet rigorous testing and performance standards as well as provide aesthetic appeal and ease of application.

PRODUCTS

Dow Corning® 983 Silicone Glazing and Curtainwall Adhesive/Sealant

Dow Corning® 795 Silicone Building Sealant

Dow Corning® 995 Silicone Structural Glazing Sealant

KEY PARTICIPANTS

Dow Corning Corporation
(Midland, Michigan)

RSG Caulking & Waterproofing, Inc.
(Mamaroneck, New York)

Skidmore, Owings & Merrill LLP
(New York, New York)

Glassalum International Corporation
(Miami, Florida)

Dow Corning® brand sealants featured on high-profile New York project

As president of one of the largest caulking installation companies in New York, Bob Guerrerio Jr., of RSG Caulking & Waterproofing, knows the importance of product dependability when it comes to weatherproofing the massive glass curtainwalls that distinguish the city’s famous skyline. “We’ve used *Dow Corning®* sealants with great success on almost every project we’ve had for the past 22 years,” Guerrerio said, “and in my opinion, their products are among the best for exterior sealing of any building.”

One of RSG’s latest projects was the recently completed Time Warner Center. Located on the western rim of Columbus Circle adjacent to Central Park, the building rises from a curved stone and glass base containing retail and studio components. Two glass trapezoidal towers set atop the podium rise to a height of 750 feet, culminating in glass and steel “crowns.”

Curtainwall Fabrication

According to Reiner Bagnato, technical coordinator for project designers Skidmore, Owings & Merrill LLP, the Center’s curtainwall is comprised of about one million square feet of custom-fabricated panels consisting of one-inch-thick insulated glass units structurally sealed to aluminum frames in the shop, then weathersealed in the field. Glassalum International Corporation built nearly fourteen thousand 5-foot by 15-foot units in their Miami plant, then shipped them to New York for installation.

Luis Morales, vice president in charge of engineering for Glassalum, detailed their fabrication process: “We used *Dow Corning® 983 Silicone Glazing and Curtainwall Adhesive/Sealant* to install the insulating glass in the structural frame,” Morales said. “Then we weathersealed each unit with *Dow Corning® 795 Silicone Building Sealant*.”

Post-installation weathersealing between panel joints was also completed with 795 Sealant. In addition, installers used *Dow Corning® 995 Silicone Structural Glazing Sealant* for reglazing in the field when needed.

Testing and Installation

The contract documents required Glassalum to subject curtainwall panels to an elaborate, 60-part test for air and water infiltration as well as structural performance. As part of the testing sequence, loads were applied to the structural frame supporting the mock-up



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specimen to simulate anticipated building movements. “We even racked the structural frame to simulate movement under earthquake conditions,” said Bagnato.

According to Glassalum Quality Control Manager Yamil Novoa, Construction Research Lab tested 48 prototype units before production began. Static water and air tests were conducted in addition to dynamic, seismic and structural load testing. All the *Dow Corning* sealants passed and were approved for production use. In addition, a 1 percent random sample of units was

tested under negative pressure throughout the fabrication process as a quality control measure. On every startup, Glassalum also conducted adhesion, pull, butterfly, snap and shore A hardness tests, among others.

RSG deployed a 6- to 14-person crew over a year and a half to complete the exterior weathersealing on the Center. Guerrierio estimates that RSG applied 795 Sealant to about 400,000 total lineal feet of panel joints on both towers and the seven-story stone and glass base of the building.



About the Dow Corning Products Used

- *Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant is a fast-cure, two-part silicone formulation that cures to a high-modulus elastomeric adhesive/sealant, exhibiting structural capability and excellent adhesion to most common building substrates. This product has a 12-month shelf life, adjustable cure rate and easy tooling properties.
- *Dow Corning* 795 Silicone Building Sealant is a one-part, non-sagging silicone sealant that cures to a medium-modulus silicone rubber upon exposure to atmospheric moisture. Its stable extrusion rate and adhesion allow it to be used year round in all temperature extremes.
- *Dow Corning* 995 Silicone Structural Glazing Sealant is a one-component, self-priming, shelf-stable, neutral-cure elastomeric adhesive specifically formulated for silicone structural glazing. It exhibits excellent unprimed adhesion to most building substrates.

About the Time Warner Center

Completed in February 2004, the multi-use complex sits on a 3.25-acre site and has 2.8 million square feet of floor space. It houses the Time Warner World Headquarters; a 250-room luxury hotel (the Mandarin Oriental, New York); spaces for retail, entertainment, restaurants and offices; 225 luxury condominiums; as well as CNN live broadcast production studios and a concert hall for the use of Jazz at Lincoln Center. The Center was designed by David Childs of Skidmore, Owings & Merrill LLP and developed by the Related Companies, LP, and Apollo Real Estate Advisors, LP. Bovis Lend Lease LMB, Inc., was the general contractor.

The site was purchased for \$357 million from the Metropolitan Transport Authority in the summer of 2000 and the cost of construction was about \$1.75 billion. The lower portion is fabricated with a steel frame and the towers are built around 40-foot by 140-foot concrete cores. The wall of the open mall facing Columbus Circle is made of laminated glass panes attached to a non-rigid, 150-foot high by 85-foot wide cable mesh frame, the largest glass wall of its kind in the world.

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For more information about these and other Dow Corning materials for the construction industry, or for the name of the Dow Corning representative in your area, call toll-free 1-877-SEALANT (1-877-732-5268). Or visit our construction website at www.dowcorning.com/construction.

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