

Dow Performance Silicones

Structural Silicone Secures Incredible Glass Sculpture at 57th International Art Exhibition in Venice

DOWSIL™Case Study: *Qwalala* (2017) – A Glass Sculpture by Pae White

The Project

May 11th 2017 saw a monumental new glass sculpture titled *Qwalala* by American artist Pae White unveiled in Venice, Italy at LE STANZE DEL VETRO, Fondazione Giorgio Cini, on the Island of San Giorgio Maggiore. This coincided with the 57th International Art Exhibition – La Biennale di Venezia.

The sculpture is a 75-meter-long, up to 2.4-meter-high “self-supporting” serpentine wall created from thousands of one-of-a-kind, glass bricks, each hand-cast by Poesia Glass Studio in the Veneto region. The artwork’s name *Qwalala* references the meandering flow of the Gualala River in Northern California, USA, the wall’s ever-shifting play of light recalls

the way the colour and temperature of the water changes minute by minute as it flows to the sea.

According to LE STANZE DEL VETRO, the museum that commissioned the sculpture, “the wall explores the limits of glass as a building material and bears witness

City and Country

Venice, Italy

Product*

- DOWSIL™ 993 Structural Glazing Sealant

Key Participants

- **Client**
Le Stanze del Vetro
- **Artist**
Pae White
- **Engineering Partner**
schlaich bergemann partner
- **Sealant Applicator**
TM Beramo Glass S.r.l.
- **Construction Contractor**
Costruzioni e Restauri G. Salmistrari S.r.l.
- **Glass Brick Producer**
Poesia Glass Studio
- **Project Manager**
David Hrankovic

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

to Pae White's interest in combining common materials with cutting-edge technology, traditional craftsmanship with advanced engineering, and employing industrial manufacturing to challenge the limits of each of these."

DOWSIL™ 993 Structural Glazing Sealant was identified as the product that best fitted the specific project requirements and the demanding performance criteria for structurally bonding the glass blocks safely and securely into position.

The Challenge

The beautiful but complex array of glass blocks posed some interesting construction challenges. Creating a self-supporting structure with bricks weighing 23 kilograms each is not only a work of art, it also is a feat of engineering. German engineering firm schlaich bergemann partner carefully calculated the geometry and stresses of the sculpture and researched multiple options for glues and sealants.

The sculpture was erected on site, thus requiring ease of installation of the bonding material and fast cure. Exposure to the elements and the viewing public also necessitated good durability and mechanical strength of the sealant, to resist the stresses of both live and dead loads.

The Solution

Following the selection of DOWSIL™ 993 Structural Glazing Sealant as best fitting the project requirements, the artist, the museum, schlaich bergemann partner and Dow worked closely together to address the intricacies of the build.

For Dow and their authorized applicator TM Bergamo Glass S.r.l., perhaps the greatest challenge revolved around the on-site preparation of a two-component sealant and the subsequent application and bonding of around 3,000 individual blocks as the sculpture was built.

The structure is supported by a steel base and held together entirely by DOWSIL™ 993 Structural Glazing Sealant, which has proven structural capabilities, is designed to accommodate movement and is highly resistant to UV radiation, temperature extremes and weathering.

Davide Bianchi (Dow High Performance Building Solutions business developer for Italy) commented, "DOWSIL™ 993 Structural Glazing Sealant's white color, mechanical strength and cure speed made it the ideal sealing and bonding choice to help Pae White achieve her artistic vision. DOWSIL™ 993 Structural Glazing Sealant is based on more than 50 years of silicone structural glazing science and has a long history of



proven performance worldwide,” Bianchi said. “How fitting that it should be showcased in conjunction with an international event celebrating more than a century of art innovation!”

In addition to supplying the sealant for the project, Dow provided product selection advice, technical support and application calculations. The Dow team also recommended their authorized contractor, TM Bergamo Glass S.r.l., who have the equipment and experience required to complete the preparation and on-site bonding of two-component sealants.

Silicone Structural Glazing

A pioneer of this technique in the mid-1960s, Dow silicone structural glazing (SSG) is a curtainwall bonding technology that uses a structural silicone sealant for structural glazing applications. SSG has grown in popularity worldwide, freeing architects (and now artists!) to create structures previously thought to be beyond the realms of possibility. Two recent external durability studies carried out by Federal Institute for Materials Research and Testing (BAM) in Germany and on the original façade of the ift Rosenheim Building predict a potential service life of 50 years. For more information, please visit consumer.dow.com/50plus.

DOWSIL™ 993 Structural Glazing Sealant

DOWSIL™ 993 Structural Glazing Sealant is a two-component neutral curing silicone specifically designed for structural bonding of glass to metal frames. Meeting the European Technical Approval Guideline 002 (ETAG 002-1), this method of fixation is increasingly popular and helps to achieve a sleek, pure glass aesthetic with no visible mechanical fasteners.



About Pae White

Pae White (b. 1963) is an American artist based in Los Angeles, California. Working across media, she pursues an expansive practice that embraces sculpture, installation and painting as well as architecture, furniture and graphics. White's large-scale architectural installations often are carefully integrated into their respective sites. Her practice is characterized by an unconventional use of materials such as glass, fabric, paper, wire and vinyl and her desire to create work beyond her personal skill set by inviting artisans and industrial fabricators to help realize her ideas. Exploiting the perceived gaps between art, craft and design, White has created an extraordinarily diverse body of work.

About Le Stanze del Vetro

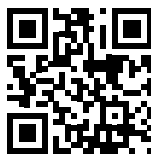
Le Stanze del Vetro is a long-term joint initiative between Fondazione Giorgio Cini and Pentagram Stiftung, devoted to exhibiting and studying the art of glassmaking in the 20th and 21st centuries. Pae White's *Qwalala* is the second in a series of outdoor commissions by Le Stanze del Vetro on San Giorgio Island in Venice. The concept of these temporary installations is to allow an internationally acclaimed artist to work on a

large scale and to engage with the space between sculpture and architecture. Each project will be presented over two years, during Venice's Art and Architecture Biennales, aiming to address both of their respective audiences as well as the public at large.

Contact Us

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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.



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