

School of the Arts Institute of Chicago

Chicago, IL

Structural Glazing Sealants
Create the World's First
4-Sided SSG Structure

A Historic Application

The School of the Arts Institute of Chicago (SAIC) is an art and design school located in downtown Chicago. Founded in 1866, the institute grew to consist of seven buildings, including the museum. 280 South Columbus was constructed in 1975-1976, and holds an auditorium, several campus departments, a gallery, a digital fabrication studio, wood shop, metal shop, and a foundry.

Designed by renowned architect Walter Netsch of Skidmore, Owings & Merrill, this building has an important place in the history of Structural Silicone Glazing (SSG) as one of the first significant 4-sided SSG projects.

In 1975, a project like this - a multi-story glass design with no retaining clips or mechanisms - was a very ambitious endeavor. Less than ten SSG applications had been completed at the time. Other projects had been required to add safety clips by city officials with safety concerns, or were otherwise small in scale.

SilPruf sealant had been launched just two years prior, and the GE team was confident in the strength of this powerful new product. They worked with the fabricator, Flour City, who constructed a mockup of the system in their Minneapolis shop. They tested the system to glass failure, and upon inspection of the frame, all of the silicone was still intact.



A Silicone Solution

With a combination of tested product performance and competitive pricing, SilPruf was approved for application at SAIC. The 1-part alkoxy sealant (a novel new GE invention) was field glazed, forming a structural joint between ½" laminated glass and anodized aluminum. The building includes a multi-story mirrored glass facade, with other areas of clear vision glass panels set into the concrete structure.

The architects, Skidmore, Owings & Merrill, specifically requested grey sealant to match the color of the pre-shimmed butyl used as the spacer alongside the SilPruf structural sealant. This was a unique feature, as black sealant predominated in projects of the 1970s. Interestingly, over the decades grey sealant became architecturally fashionable, and by the time the project was revisited in 2014, the use of grey-colored structural silicone had become far more common.

GE Silicones				
Field Inspection, SilPruf Structural Glazing Job, Chicago Area, Installed 1975				
SilPruf Installed – 1975 – Structural Joint to 1/2" Monolithic Glass and Anodized Aluminum – Weatherseal Joints				
Samples SilPruf Removed January 9, 1996. Test Results as Follows.				
Sample No.	Location	Shore A	Tensile* psi	Elongation* %
1	Weatherseal	28-30	127	228
2	Weatherseal	28-30	127	228
3	Weatherseal	28-30	125	267
4	Structural (too small)		140	313
5	Structural	20-22	116	201
6	Weatherseal	26	112	183
* Test samples of cured SilPruf sealant were buried in fresh SilPruf sealant in "H" tensile configuration, ASTM C-1135.				
RESULTS: After 19 Years Exposure to Chicago Environment in Structural and Weatherseal Joints, SilPruf Shows Normal, Unchanged T, E, Shore A Properties				

Figure 1
Sealant test results, 1995.



50 Years of Performance

In 1995, lab testing on original sealant extracted from the project showed that 20 years of exposure to the elements in Chicago yielded no change in elasticity, tensile strength, and shore A properties (See Fig. 1).

The clear vision glass areas were reglazed in 2013 where the laminated glass panels were replaced with Insulating Glass Units for energy efficiency reasons. During this reglazing project, samples of the original sealant were again extracted and subsequent testing showed no measurable change in adhesion, strength and elasticity.

The mirrored glass façade areas remain intact as of 2025, representing 50 years of structural performance, with silicone sealant still performing through the decades of eastern cold, wind, snow, and rain.

NOTE: Performance results are those of reported accounts, and are not to be relied upon as typical or expected under any other circumstances. Performance results will vary depending upon a number of factors. Prospective customers should rely solely upon their own evaluative techniques to determine what results are attainable and optimal to their specific needs. Further note that MPM is not endorsed by or affiliated with the owner(s) of SAIC.



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