CASE STUDY

Compatible Sealants From a Trusted Supplier Simplify Complex Construction Project

Science and Engineering Hall, The George Washington University, Washington, D.C., United States



City and Country

Washington, D.C., USA

Products*

- DOWSIL™ 121 Structural Glazing Sealant
- DOWSIL™ 756 SMS Building Sealant
- DOWSIL™ 791 Silicone Weatherproofing Sealant
- DOWSIL™ 795 Silicone Building Sealant
- DOWSIL™ 983 Structural Glazing Sealant
- DOWSIL™ 995 Silicone Structural Sealant

Key Participants

- **Owner**
  The George Washington University
- **Architect**
  Ballinger – Philadelphia
- **Curtainwall and Glazing**
  Harmon Inc.

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

Construction of the new state-of-the-art Science and Engineering Hall (SEH) at the George Washington University (GW) – the largest institution of higher education in the District of Columbia – created the largest academic building dedicated to engineering sciences in the nation's capital. GW worked with architects from Philadelphia-based Ballinger to design and construct the approximately 500,000-square-foot facility, which has eight floors above grade and six floors below.

Located in the historic Foggy Bottom neighborhood, SEH was built with sustainability in mind and attained LEED Gold certification. The facility obtains power from a cogeneration system; a chilled-beam cooling system improves efficiency, and energy recovery wheels reduce energy needs. The building utilizes graywater recycling in bathroom toilets and has a vegetation-covered roof to keep the building cool and reduce water runoff.

The Challenge

Like any modern construction project, creating a unique, sustainable building while staying on schedule can be a substantial task. Adding to the challenge, the SEH building design features extensive, complex geometry. Despite the relatively small size of the building compared with a high-rise with a repeated design floor after floor, this eight-story building features hundreds of unique transitions and multiple substrates. The design entailed considerable coordination between multiple substrates with additional field-glazing challenges.

The Solution

With substantial field-glazing requirements, a tight schedule and coordination of different building trades to accommodate, construction of the SEH would be a complex project. To address project challenges, curtainwall and glazing contractor Harmon Inc. went to a trusted source for its weathersealing and structural sealing needs: Dow.

50+ YEARS PROVEN PERFORMANCE



The many proven weathersealing and structural glazing products from DOWSIL™ gave contractors the tools they needed to confidently accommodate multiple substrates and complicated transitions.

Sealant	Color	Shop/Field	Application
DOWSIL™ 121 Structural Glazing Sealant	Black	Field	Structural glazing
DOWSIL™ 983 Structural Glazing Sealant	Black	Shop	Structural glazing
DOWSIL™ 995 Silicone Structural Sealant	Black	Shop and field	Structural glazing, weatherseals
DOWSIL™ 756 SMS Building Sealant	Black, custom	Field	Perimeter weatherseals, building waterproofing
DOWSIL™ 791 Silicone Weatherproofing Sealant	Gray	Shop and field	Internal curtainwall seals
DOWSIL™ 795 Silicone Building Sealant	Black Charcoal	Field	Weatherseals, Interior aesthetic seals

DOWSIL™ sealants were used for a variety of weathersealing and structural sealing applications on the Science and Engineering Hall at the George Washington University.

"Dow provides the sealants to do the whole job – from shop to field," said Ronald Borza Jr., Regional Superintendent for Harmon. "One of Dow's strongest assets is the technical support. Any questions we have in the field are answered promptly. Time is money."

All of the curtainwall glass used on the building features four-sided structural glazing. Many of the field-glazed lites were planned as leave-outs for exterior work platforms, but with the many leave-outs, slow-curing sealants were not an option. This approach could add multiple weeklong delays for sealant cure before lites would be ready for replacement of the temporary glazing and weathersealing – a major setback.

DOWSIL™ fast-curing structural glazing sealant provided the required performance with the speed needed to keep the project on track.

"We field-glazed over 80 lites of glass on this project using either [DOWSIL™] 995 Silicone Structural Sealant or [DOWSIL™] 121 Structural Glazing Sealant," said Kandace L. Shortt, Senior Project Manager for Harmon. "[DOWSIL™] 121 Structural Glazing Sealant allowed us to remove the temporaries after 24 hours, which helped the schedule tremendously."

Proven Weatherproofing Materials

In addition to the curtainwall installation, the wide range of compatible, proven silicone construction materials from Dow helped address sealing needs for the variety of substrates used in the project.

Penetrations through the air vapor barrier where the rainscreen was attached were sealed with DOWSIL™ 756 SMS Building Sealant, which was chosen for its ability to adhere to the wide variety of membranes and substrates used in the various transitions, as well as its availability in custom colors for the exposed seals. DOWSIL™ 756 SMS Building Sealant also was utilized for lap seals and weathersealing needs.

Learn More

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 **dow.com/construction**.

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

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