



NEWSLETTER March 2009

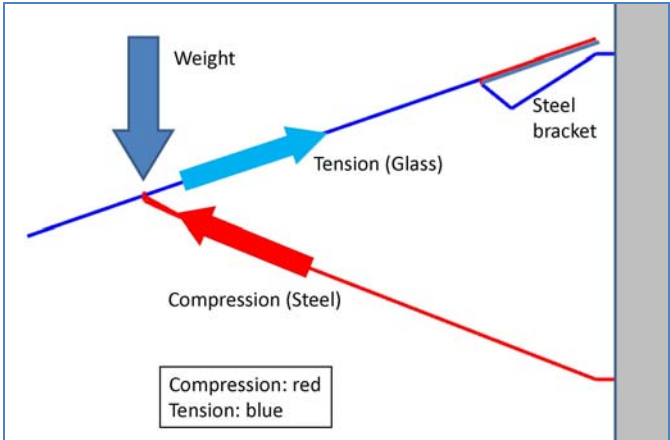
[Brooklyn Academy of Music](#) Canopy wins New York Construction “[Best of 2008 Award](#)”



“The unveiling of BAM’s dramatic glass canopy in March 2008 marked the culmination of an extensive exterior façade restoration project nearly a decade in the making. [...]Hugh Hardy, the visionary architect behind such projects as the BAM Harvey Theater, BAM Rose Cinemas, and the Lepercq Space, pointed out, “The concept for the undulating glass canopy developed out of BAM’s long history of adapting programming to cultural, musical, and audience changes, seamlessly blending tradition with innovation. The canopy is an architectural expression of this adaptation as it introduces an innovative element to the robust Herts & Tallant façade.”

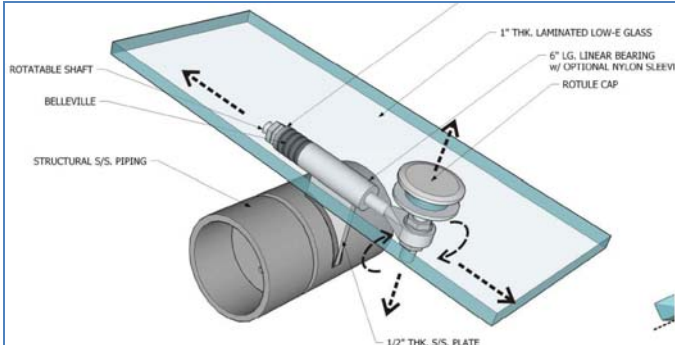
Spanning 132 feet across the front façade of the building on Lafayette Avenue, the canopy comprised 65 triangular panels of one-inch-thick laminated structural glass supported by a pair of twelve-inch-thick stainless steel tubes that tie back to newly erected steel columns (visible around the escalator in the

Dorothy W. Levitt lobby). It’s transparent, frameless surface, undulating shape, and cantilevered design, which projects eighteen feet from the front of the building, gives it a weightless, floating appearance. BAM President Karen Brooks Hopkins remarked, “The new canopy has a tough, urban look, but is simultaneously graceful and light; it is perfect for BAM.”
Toby Rappaport, BAM’s Director of Capital Projects.



The technical innovation reveals itself easily to the engineer’s trained eye: the glass is part of the main structural system of the canopy, not only the cover; it carries the tension of the triangular system back into the upper steel pipe along the wall.

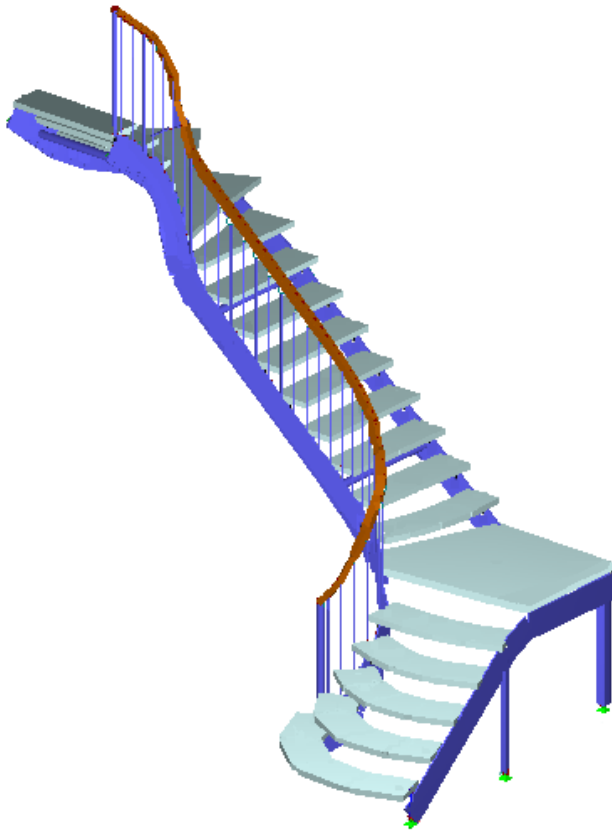
In order to avoid a “zipper effect” in case one glass breaks accidentally, STUTZKI Engineering added “shock-absorbers” into each glass fitting that also helps to distribute the tension forces in the glass more evenly:



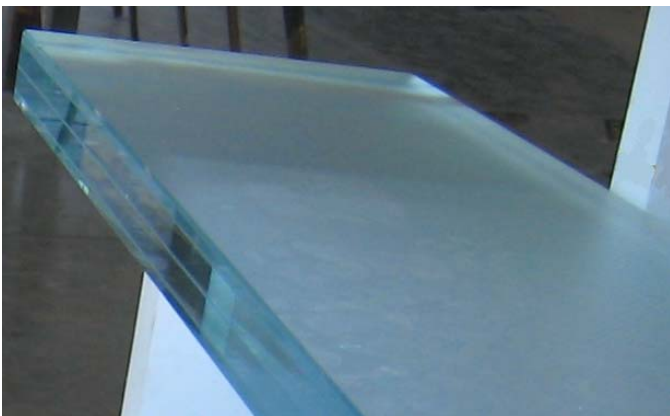
Architect: [H3 Hardy Collaboration](#), New York City, NY

STUTZKI Engineering provided the complete engineering and the method statement of the installation for this project.

Current Project: Glass stair for private residence



The example depicted above in a computer model is a glass stair project that is currently under construction. STUTZKI Engineering was selected to provide engineering support for this small interior stair, including the glass, steel, and connection design.



The use of glass in stair design creates a wonderful product that allows light to pass through giving the stair a lightweight feel. This stair consists of 20 glass treads and a glass landing. STUTZKI Engineering provided finite element modeling of the treads and landing to determine the minimal thickness and makeup of the laminated glass. Each tread and the landing consist of five lites of annealed glass laminated together using a Sentry Glass interlayer produced by [DuPont](#). The total thickness of the treads and the landing will be less than two inches. Tread fabrication and lamination will be done by [Depp Glass](#).

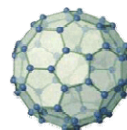
The wood cladded steel stringer that supports the glass gives the stair a warm appearance and gives the occupant a feeling of stability as they ascend or descend the stair. Structural analysis was completed on the stair as a whole to verify the designed materials and sizes including fine tuning of the vibrations to keep out of any uncomfortable range. Through careful work we were able to produce a structurally sound product that did not diverge from the the original design intent. Fabrication recently began on the steel at [Schwartz's Forge and Metalworks](#). The stringer is supported by two exposed square hollow steel sections and three columns that will be hidden in a wall. The wood handrail attaches to the stringer with MONEL® alloy rails. Exposed connections were minimized by cladding the steel with wood to allow for an elegant finished project that the owner can be proud to show. The installation of the stair is provided by [SOHO Construction Group](#).

STUTZKI engineering has worked on numerous glass stair projects. We pride ourselves on delivering a product that is both structurally sound and pleasing to the eye. We do everything that we can to ensure that the designers vision is maintained.

STUTZKI Engineering provides innovative solutions to Architects and Contractors. Our services include glazing system engineering and consulting for curtainwalls, skylights, bridges, fabric structures, and stairs. We specialize in the structural applications of glass products, cable structures, blast resistant design, and thermal analysis.

STUTZKI Engineering can also provide design and drafting services for glass and metal panel systems, including point-supported glass systems, point-held glass systems, glass stairs, glass floors and glass bridges.

For more information about STUTZKI Engineering Inc. Please call 1-414-455-4815 or visit www.stutzkiengineering.com.



Stutzki Engineering, Inc.
338 N. Milwaukee Street, Suite 101
Milwaukee, WI 53202

[Unsubscribe \(Link\)](#)