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STEEL CURTAIN WALL SYSTEM SHEDS LIGHT ON TORONTO'S NEW SUBWAY STATION

Project: Vaughan Metropolitan Centre Station
Location: Toronto, ON
Architect: Arup Canada in conjunction with Grimshaw Architects
Product: SteelBuilt Curtainwall Infinity™ System and Fireframes® Curtainwall Series in stainless steel



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Toronto, Ontario, is now home to the new Vaughan Metropolitan Centre (VMC) Subway Station, a 13,300 square meter (143,160 sq. ft.) transit station that serves one of Canada's fastest growing municipalities. Built on undeveloped land in the current commercial district outside of the city, the VMC is necessarily long and narrow. It is easily distinguished by its expansive curved entryway, which acts as a counterpoint to the station's vertical form and helps welcome visitors with a flood of natural light.

For the entry to be successful, it was necessary for the specified curtain wall system to support large free spans of glazing to allow generous amounts of daylight to fill the pavilion and support light transfer to the belowground concourse. The system also needed the flexibility to segment around the exterior at varying heights, forming a curved perimeter that complements the transit centre's saddle-shaped roof.

Adding to the specification challenge was the importance of finding a curtain wall system with enhanced corrosion resistance. This was vital to the project given Canada's harsh climate, and because maintenance access was expected to be challenging in certain areas of the building.

To combat these challenges, Grimshaw Architects partnered with Technical Glass Products (TGP) to design a durable curtain wall system that was adaptable enough to wrap around the exterior and strong enough to support large free spans of glazing. The team found their solution with TGP's SteelBuilt Curtainwall Infinity™ System.

The SteelBuilt Curtainwall Infinity System is approximately three times stronger than traditional aluminum curtain wall assemblies, enabling expansive glazed areas to ensure that VMC visitors receive ample daylight while waiting inside. It also provides great design flexibility since it can use nearly any type of custom steel member as a back mullion. This made it possible for the firm to segment the curtain wall system around the exterior and create the entry's trademark curved look. The system's crisp frame profiles complement the slender back mullions, providing building occupants with narrow sightlines and an open, modern pavilion that reflects Toronto's design-forward style.



To address the concern of corrosion, the SteelBuilt Curtainwall Infinity System goes a step beyond using stainless steel cover caps and uses framing members that are made entirely from a stainless steel alloy. The transit centre's main interior elevator shaft, which is visible through the exterior curtain wall, is matched in stainless steel using TGP's Fireframes® Curtainwall Series fire-rated frames. The high-performance system satisfies building codes by defending against the spread of flames, smoke and heat while its narrow steel profiles maintain visual harmony with the non-rated curtain wall system.

The result of these two curtain wall systems is a beautiful, strong and durable entry pavilion that looks as if it houses art, not a subway line, to encourage public use.

"We are always looking for opportunities to create high quality places with real character," said Juan Porral, Partner, Grimshaw Architects, in the firm's account of the project. "By elevating a functional building to something artful and full of life that people will remember and enjoy, we can have a greater impact on the urban space and user experience."

For more information about SteelBuilt Curtainwall Infinity products, along with TGP's other specialty architectural glass and framing, visit tgpamerica.com. For more information about Fireframes Curtainwall Series frames, along with TGP's other fire-rated glass and framing, visit fireglass.com.

