

## Planostile metal panels dramatically improve subway station



The TTC is the third largest public transit system in North America servicing some 4.5 million people in the Greater Toronto Area from nearly 70 stations. Part of the TTC's commitment to meet the region's growing needs includes carrying an additional 175 million riders by 2021. TTC moves 460 million people annually – about 1.5 million riders every weekday. Of these weekday commuters, approximately 41,000 arrive and depart from Islington Subway Station.



Planostile Snap-in ceiling systems hide the suspension grid, provide very tight joints, and meet TTC's requirements for positive and negative air pressure.

To give Islington Station's commuters a station in which they once again could feel comfortable and proud, ROCKFON's team was involved from earliest stages of the project through to the final installation.

Located at 3286 Bloor Street West, at corner of Islington Avenue, Toronto, Islington Subway Station is housed within a 1,208-square-meter (13,000-square-foot) concrete building with underground access to the subway. The station is part of the original East-West subway line, known as Bloor-Danforth line, which opened in 1968. In 1980, it became a through station when the line extended to Kipling. Facility upgrades were completed by the early '80s that included installation of another manufacturer's linear metal ceiling with openings between the planks.

"Metal was an ideal choice as it neither accumulates moisture nor supports

substances supporting mold or microbial growth," says ROCKFON's district manager for Ontario and Quebec, Isabelle Champagne, CDT. "However, the openings that were intended to make it easy to maintain the ceiling system turned out to be very difficult for cleaning. In less than five years, it was already starting to look a bit ugly."

John Amaral, senior designer with TTC's Plant Maintenance Department - Engineering, agrees, "It was showing its age, was difficult to remove and re-install, and was difficult to keep clean."

In response, TTC initiated a multi-phased, multi-year construction project to significantly improve Islington Station and allow full accessibility to all levels of the station. One of many planned station renovations began in 2008, TTC worked in partnership with GO Transit, Mississauga Transit and the City of Toronto.

In 2009, Islington Station's old, interior ceiling had been removed, leaving the plenum open and unfinished. In addition to the unkempt appearance, commuters complained about disrepair of lighting and exposed wiring, pigeons roosting, water infiltrating and bad odors permeating the station.

Helping remedy this negative perception and the physical realities, Champagne and her colleagues, vice president of sales Steve Noeth and project manager Dave Jahn, were involved from the project's earliest stages. Together, they offered construction services and technical support to the TTC in development of a master specification. Jahn explains, "This master spec not only addressed Islington Station, but would serve as the basis for all ceiling replacement needs in the TTC stations scheduled for renovation."

Ceiling specifications were driven by TTC's Engineering, Construction and Expansion Department with priority to performance. Amaral also emphasizes that ease of installation and maintenance were critical as TTC's team at Islington would take on these responsibilities themselves.

"Our Planostile™ Snap-in ceiling systems hide the suspension systems, provide very tight joints and offer a high degree of security. The strength of snap-up systems and their metal panels makes them a reliable choice for challenging interior designs like these," describes Champagne.

The ceiling systems also needed to meet TTC's requirements for positive and negative air pressure, withstanding a wind load of up to 1.24 kPa without additional bracing or tie-downs. "Due to the



**ROCKFON's team provided support in developing a master specification that serves as the basis for all ceiling replacement needs in the TTC stations scheduled for renovation.**

fact that the system is designed as a friction fit engagement, it was imperative that the ceiling system could withstand the piston affect air pressures of incoming and departing trains. As such, meeting the air pressure criteria was crucial to its approval for use," says Amaral.

TTC's design criteria also necessitated a strong, yet lightweight material. Rockfon Planostile's aluminum panel ceiling system was selected and the tested for compliance. The metal comprising the Planostile panels contain 100% recycled aluminum content. At the end of the ceiling system's useful life, it is 100% locally recyclable.

Material choice focused on color and finish continuity with consideration to future replacement needs and visual appearance. "Aesthetically, we were aiming for clean lines and tight joints between the panels to result in a seamless looking ceiling," notes Amaral. The 2-by-2-foot aluminum panels were fabricated with beveled edges and finished in Satin Silver anodize. The finish does not contain volatile organic compounds, which help in mitigating mold and microbial growth.

Following the master specification, a series of mock-ups also were created to ensure that the actual system met TTC's criteria. Champagne adds, "As these products are manufactured in the U.S., it's good to keep in mind that there can be a difference between 'hard metric' and 'soft metric.' A standard 2-by-2 foot Imperial-sized panel may be provided as a 'soft' metric 610-by-610 mm panel. However, a 'hard' metric panel may be 600-by-600 mm in size. Imperial-sized lighting fixtures and air diffusers may not fit into metric-sized modules."

"We brought the material to TTC's maintenance crew on-site at Islington. It was March and dark outside," Jahn remembers. "We met during the night shift to avoid bothering the riders. We showed TTC how the Planostile system installed and what it looked like in place. We'd get their feedback and make modifications. Based on this process, the final ceiling system for Islington includes a custom-sized

panel and C-channel to integrate the existing light fixtures. We didn't want TTC's crew to have to cut anything other than maybe trimming the perimeter edge. The installation team reported it went smoothly, as planned."

Renovation on Islington Station's ceiling began in June 2012 and was completed in December. TTC's maintenance team installed the specialty metal panels at the station's concourse level and also above the pedestrian access to the fare booths, the bus platforms and the escalators to the subway platforms. To minimize disruption to commuters, installation was completed at night after normal business hours.

"Work could only be carried out when the subway station was closed to the public, 2-5 a.m., which is a very small window each night," elaborates Amaral. "Our in-house Night Work Crew would also be pulled away from this project if other more pressing work had to be completed elsewhere. Therefore, it is understandable that the project did take an extended period of time to complete."

Throughout the seven-month, \$200,000 ceiling installation project, TTC's on-site team averaged four people per shift. Amaral shared special recognition for "Andrew Marsh and his night crew for their exceptional workmanship. Toronto Transit Commission takes pride in the excellent in-house skilled labor force that we employ."

"They did a great job," praises Jahn. "It's a pleasure to work with TTC's team."

Champagne agrees and adds, "As soon as the new Planostile system was in place, it was like a day and night transformation."

Amaral also notes, "The sales and technical staff always made themselves available to us from early on when we were developing a new ceiling standard to the various ceiling mock-ups that were installed for testing purposes to the first installation at Islington Station."

PROJECT	Toronto Transit Commission, Islington Subway Station – Toronto, Ontario
OWNER	Toronto Transit Commission – Toronto, Ontario
ARCHITECT, INTERIOR DESIGNER	Toronto Transit Commission - Plant Maintenance Department - Engineering – Toronto, Ontario
CEILING INSTALLER	Toronto Transit Commission – Plant Maintenance Department –Toronto, Ontario
DISTRIBUTOR	Arrlin Acoustics – Etobicoke, Ontario
ROCKFON PRODUCTS	Rockfon Planostile™ Snap-in system

Photo Credit: Mark Borosch Photography