



vivaNext mass-transit terminal construction

Toronto, ON, Canada



Project Information

Project category:
Infrastructure

Year of construction:
2019

Years of MAPEI involvement:
2019-2020

MAPEI coordinator:
Jeff McCoppen

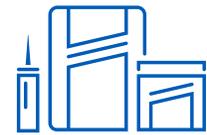
Project owner:
York Region Rapid Transit Corporation

Contractor:
Belluz Group Ltd.



Project Overview

Faced with a tight schedule and challenging weather conditions, Belluz Group Ltd. turned to MAPEI for the range of high-end products and support that was needed to complete a new-build terminal project in the heart of Canada's biggest city.



Products Used

- Fiberglass Mesh**
- Mapecem® 202**
- Mapecem Quickpatch**
- MAPEI Ultralite® S2**
- Mapelastic® 315**
- Planibond® EBA**
- Planicrete® AC**
- Planigrout® 712**
- Topcem™ Premix**
- Ultracolor® Plus FA**



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A mass-transit for all seasons

vivaNext is a major mass-transit expansion project that stretches across the north of Canada's largest metropolitan area and into Toronto's downtown core at the shore of Lake Ontario. With dedicated bus lanes and large, attractive passenger terminals, the project is meant to entice more use of public transit, thus reducing reliance on automobiles.

Building external infrastructure in this geographical area always poses a unique challenge, as the region experiences one of the larger seasonal-temperature differentials to be found anywhere — from its lowest winter temperature of -27.4°F (-33°C) to its highest summertime temperature of 105°F (41°C).

The project's contractor, Belluz Group Ltd., was tasked with finding a proven solution that would withstand installation through the freeze-thaw cycles of the different seasons while providing durability and waterproofing assurance. The solution would be used for the portion of the project that covers the Highway 7 line and Yonge Street, and totals about 75,000 square feet (6 968 m²); this portion was completed three months ahead of schedule.

Paul Belluz, a partner at Belluz Group, was seeking high-performance products that could be applied on a tight schedule, plus meet the specific needs for installation during the winter months. Product choices had to be as flexible as the weather.

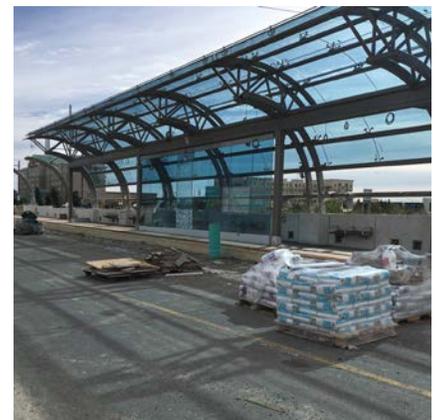
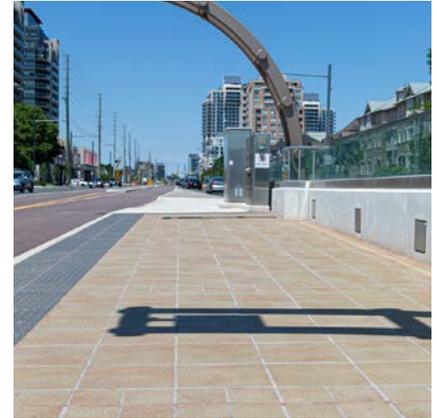
"We knew we'd need to tarp the site in winter," Paul Belluz said. "We knew MAPEI quality and we knew we could rely on MAPEI Technical Services."

MAPEI on the job

For roadside platforms at terminals, mortar-bed foundations were laid using **Topcem Premix** accelerated-cure screed with **Planicrete AC** acrylic latex admixture where site conditions allowed. In specialized conditions, **Mapecem 202** medium-build, two-component, fast-setting mortar was chosen. This portion of the work was completed using **Mapecem Quickpatch** high-performance concrete patch primarily as a gap filler to provide continuous sloping for runoff.

Once surface preparation of the on-ground concrete was done, the exterior specifications called for a good waterproofing barrier and tile shell. Along with **Fiberglass Mesh**, the Belluz Group crew installed **Mapelastic 315** cement-based waterproofing membrane, which exceeds ANSI A118.10 requirements for waterproofing.

The need for flexibility influenced the choice of mortar as well. To facilitate installation that would not be hampered by extreme weather conditions, tiling was completed using **MAPEI Ultralite S2** highly deformable, lightweight, gauged-tile mortar with polymer and formulated with Easy Glide Technology™ for ease of application. **MAPEI Ultralite S2** features a long open time and superior transfer properties to enhance back-buttering



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— all of which made it possible for installation crews to maximize their efficiency despite working in challenging weather conditions.

The need for a quick turnaround influenced the choice for grouting. **Ultracolor Plus FA** grout was selected, where appropriate, for its rapid-setting properties and its DropEffect™ technology, which reduces surface absorption and helps repel water, dirt and grime from penetrating grout joints.

For areas that called for cast-iron tiles, installation crews used **Planigrout 712** grout, which provides superior resistance to water penetration, freeze/thaw cycles and de-icing salts. **Planigrout 712**, which also provides exceptional placing and performance characteristics, was coupled with **Planibond EBA** (its epoxy bonding agent).

The completed work on the site is just one piece of a major infrastructure build for vivaNext. With over 40 platforms, the project is designed to tie into the Metrolinx light rail transit (LRT) network, with 25 terminals planned across Eglinton Avenue — this will all help move traffic seamlessly throughout Toronto.

Aided by the scope of reliable MAPEI products that are formulated to meet the specific needs of any construction job in any season, the future of Toronto mass transit appears to be set.



MAPEI Inc.

2900 Francis-Hughes Avenue
Laval, Québec H7L 3J5
(450) 662-1212

Technical Services

1-800-361-9309 (Canada)

Customer Services

1-800-42-MAPEI (1-800-426-2734)