

Ottawa invigorates downtown core with a bold, sweeping Convention Centre

MAPEI products help construct glass-themed architectural gem

by Anita Burton, *Realtá* MAPEI Americas Editor



After enduring the snow and slush of a typical eastern winter, Canadians yearn for the promise of tulips springing forth. And perfectly poised like a glass tulip in the heart of downtown Ottawa is the new Ottawa Convention Centre, which replaces the former Congress Centre. Sandwiched between the Westin Hotel and post-war MacKenzie King Bridge in Canada's capital city, the new Ottawa Convention Centre is just steps to historic ByWard Market and adjacent to the famous Rideau Canal, a monumental waterway and official UNESCO World Heritage site.

In contrast to Ottawa's conservative architectural tradition, the new Convention Centre is anything but. Highly impressive in both form and function, and more than double the size of its original home, the Convention Centre is now able to compete with primary convention-based markets like Toronto and Vancouver for global meetings, trade shows, conferences and events. Its remarkable curved glass façade

offers panoramic views of downtown Ottawa and a glimpse of the Parliament buildings. The glass is lined with performance film to keep heat inside during the cold winter months, and heat outside during the humid summer months. Built to achieve LEED Silver Certification standards, the center's construction included recycling and reusing 90% of the demolition debris, and an established lifecycle renewal process was set in place for continual updating throughout the life of the building.

As far as helping to accomplish concrete restoration and floor covering installations, MAPEI was fortunate to leave its professional mark. Bellai Brothers Construction Ltd. was selected to pour all concrete slabs and form the walls for the Convention Centre. Well known in the Ottawa Valley for producing quality workmanship within all sectors of the construction industry, the company also serves as a key distributor for MAPEI's concrete restoration line of products.

Challenge:

To accomplish multiple concrete repairs that involved various depths of recessed concrete throughout the building.

Solution:

In order to repair deep recesses on the second floor of the Convention Centre, a 1-1/2" (3,8 cm) layer of **1 Mapecem® 100** high-build, fast-setting mortar was applied, followed by application of **Primer L™** acrylic latex primer. To smooth and level this floor, a 1-1/4" (3,2 cm) layer of quick-setting, abrasion-resistant **2 Ultraplan® 1 Plus** self-leveling underlayment was poured. In fact, **Ultraplan 1 Plus** was the preferred self-leveler for all areas of the building that required quick turnaround, as it can be applied from featheredge to 1-1/2" (3,8 cm) per lift, and receive foot traffic in just 2 to 3 hours.

Throughout the Convention Centre, wherever a deeper 2" (5 cm) thick recess required repair, installation crews first applied fast-track, low-odor **Primer T™** all-purpose primer, followed by quick-setting **Ultraplan Easy** high-strength, self-leveling underlayment. Requiring reduced surface preparation for faster job turnaround and reduced labor costs, **Ultraplan Easy** typically requires only a clean, soundly bonded substrate before being applied from featheredge to 2" (5 cm) per lift. Able to receive foot traffic in 2 to 3 hours, versatile **Ultraplan Easy** was particularly useful for leveling existing concrete slabs throughout many sections of the original building.

In the mechanical room and various bathrooms where cost-efficient repair solutions were required, installers generally relied on application of **Primer L**, followed by a 1/8" to 1" (3 mm to 2,5 cm) layer of **Novoplan® 2** professional self-leveling underlayment. In cases where a deeper pour and/or faster turnaround was necessary, they turned to quick-setting **Ultraplan 1 Plus**.

Challenge:

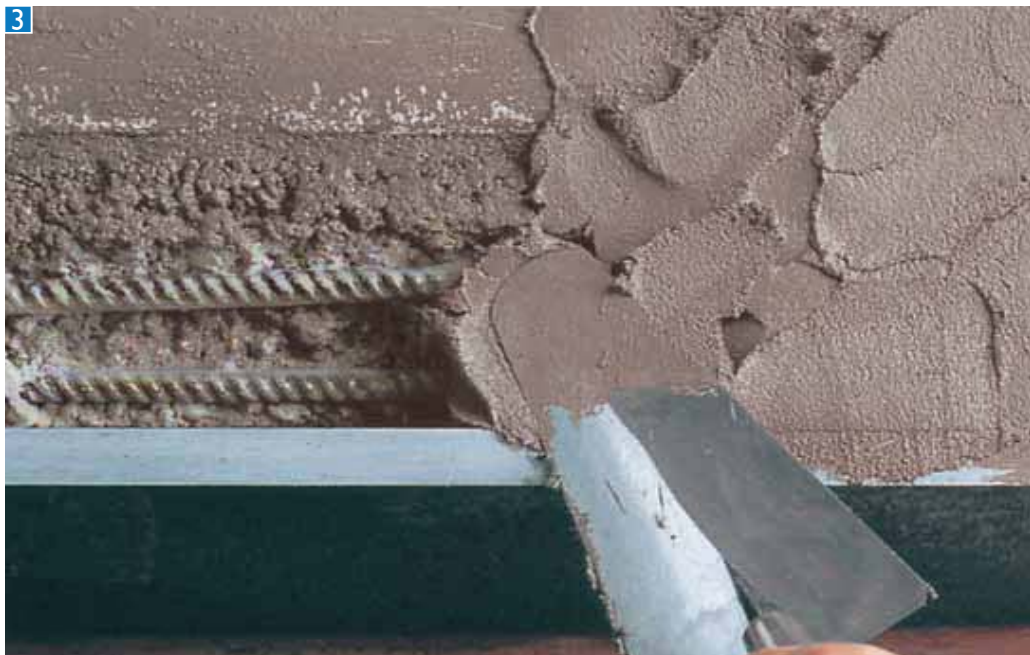
To complete several vertical and overhead repairs throughout the building.

Solution:

Highly versatile, fiber-reinforced **3 Planitop® X** horizontal, vertical and overhead repair mortar came in handy throughout the span of construction on the Ottawa Convention Centre. Fast-setting **Planitop X** is formulated with Easy Glide Technology™, making it a dream to apply in thicknesses from featheredge to 4" (10 cm) per lift. Light gray in color to match existing concrete, this essential repair mortar is also fortified with a corrosion inhibitor to help promote long-lasting repairs.



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2
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Challenge:

To provide an acceptable Floor Flatness (FF) to a deflected slab on the third floor of the Convention Centre.

Solution:

Using a structural-grade leveler, Bellai Brothers laid down 1/4" (6 mm) of pea gravel and topped it off with *Ultraplan M20 Plus* quick-setting, self-leveling underlayment. Calcium aluminate-based *Ultraplan M20 Plus* can be poured from 1/8" to 2" (3 mm to 5 cm) thick, and provided the high compressive strength that was needed for successful restoration and repair of the slab. This self-leveler produces an exceptional flat, smooth concrete surface and offers maximum resistance to indentations.

Challenge:

To create an ultra smooth substrate before installing 200,000 sq. ft. (18 581 m²) of carpet tile.

Solution:

Carpet installation crews from Jacques Lamont Ltée first applied *Primer L* acrylic latex primer to the concrete slab, followed by a layer of *Novoplan 2* professional self-leveling underlayment.

In an old part of the building where a 3-1/2" (8,9 cm) recess required extra attention, installers applied a layer of *Topcem® Premix* accelerated-cure screed, specifically designed for easy screeding and re-sloping. *Topcem Premix* has the workability and working time of conventional mortars, but with a much faster curing time, making it an ideal repair solution for this particular recess. As with the rest of the slab, this section was ready to receive carpet following a layer of *Novoplan 2* self-leveling underlayment.

Challenge:

To install eco-friendly carpet tile throughout ballrooms, convention rooms and pre-function rooms.

Solution:

Eco-friendly Earthwerks carpet tiles were installed using two different MAPEI adhesives. In 140,000 sq. ft. (13 006 m²) of area where foot traffic was heavy during construction, installers used **4** *Ultrabond ECO® 810* professional carpet tile adhesive. Low-odor *Ultrabond ECO 810* is formulated with fast drying time and aggressive tack, allowing installers to keep the massive installation moving and on schedule.

In the ballroom and convention rooms where heavy machinery was scheduled to be used shortly after the carpet installation, 60,000 sq. ft. (5 574 m²) of carpet was installed using *Ultrabond ECO 885* premium polyolefin-backed carpet adhesive. Formulated to provide very aggressive bond to "eco-type" carpet backings, this fast-track adhesive helped expedite the carpet installation, allowing it to get successfully completed on time.



MAPEI products

- **Primer L** acrylic latex primer, for priming a variety of concrete substrates in preparation for self-leveling underlayments.
- **Planitop X** horizontal, vertical and overhead repair mortar, for accomplishing concrete repairs throughout the building.
- **Mapecem 100** high-build, fast-setting mortar, for repairing recesses on the second floor.
- **Ultraplan 1 Plus** self-leveling underlayment, for quick turnaround smoothing and leveling up to 1-1/2" (3,8 cm) per lift.
- **Primer T** all-purpose primer, for fast-track priming of concrete substrates.
- **Ultraplan Easy** easy-preparation, self-leveling underlayment, for fast-track, smoothing and leveling up to 2" (5 cm) per lift.
- **Novoplan 2** professional self-leveling underlayment, for cost-efficient smoothing and leveling from 1/8" to 1" (3 mm to 2,5 cm) per lift; for smoothing and leveling concrete substrates in preparation for a carpet tile installation.
- **Ultraplan M20 Plus** quick-setting, self-leveling underlayment, for accomplishing a structural repair on the third floor.
- **Topcem Premix** accelerated cure screed, for screeding and resloping a 3-1/2" (8,9 cm) recess.
- **Ultrabond ECO 810** professional carpet tile adhesive, for installing 140,000 sq. ft. (13 006 m²) of carpet tile.
- **Ultrabond ECO 885** premium polyolefin-backed carpet adhesive for installing 60,000 sq. ft. (5 574 m²) of carpet tile.

Technical Data

Ottawa Convention Center, Ottawa, Ontario (Canada)

Designer: Brisbin Brook Beynon Architects

Engineer: Adjeleian Allen Rubeli Ltd.

Year of Construction: 2010

Where MAPEI Products Were Used: Prime a variety of concrete substrates; provide horizontal, vertical and overhead repairs; repair concrete recesses; smooth and level concrete substrates using various self-leveling underlayments; accomplish structural repairs; screed and reslope concrete substrates; install eco-friendly carpet tile.

Client: Government of Ontario

General Contractor: PCL Construction

Floor Covering Installer: Jacques Lamont Ltée

Concrete Materials Installer: Bellai Brothers, Gatineau, QC

MAPEI Concrete Materials Distributor: Bellai Brothers, Gatineau, QC

MAPEI Floor Covering Distributor: Prosol Distribution, Ottawa, ON

MAPEI Coordinator: Justin Lafontaine