

HARD SCIENCE

Durable concrete topping rejuvenated a busy science museum's floors



Canadian Science and Technology Museum – Ottawa, ON, Canada



Overview: A major renovation was undertaken at the Canadian Science and Technology Museum after museum officials discovered that the building contained mold and asbestos, and had a structurally compromised roof. The renovation work also included the flooring. MAPEI's **Planibond EBA** bonding agent was installed over the old concrete floors to ensure the proper adhesion of MAPEI's **Ultratop PC** polishable concrete topping.

The largest museum of its kind in Canada, the Canadian Science and Technology Museum allows visitors to experience science and technology firsthand with multiple exhibitions, collections, special events, workshops and more. The museum is a popular destination for schools and families alike.

In 2014, the Canadian Science and Technology Museum closed for a three-year-long renovation project when the museum administration discovered that the building contained mold and asbestos – in addition to learning that the roof was structurally compromised. The museum manager described the building as “tired and in need of a reboot.”

The administration turned to general contractor Pomerleau Inc. to fix the issues and bring the museum into the 21st century. Originally opened in 1967, the entire

building was due for renovation, especially because the museum tells the story of Canada's innovation in the realm of science and technology. Instead of facing a bright future, the structure was outdated and in desperate need of attention.

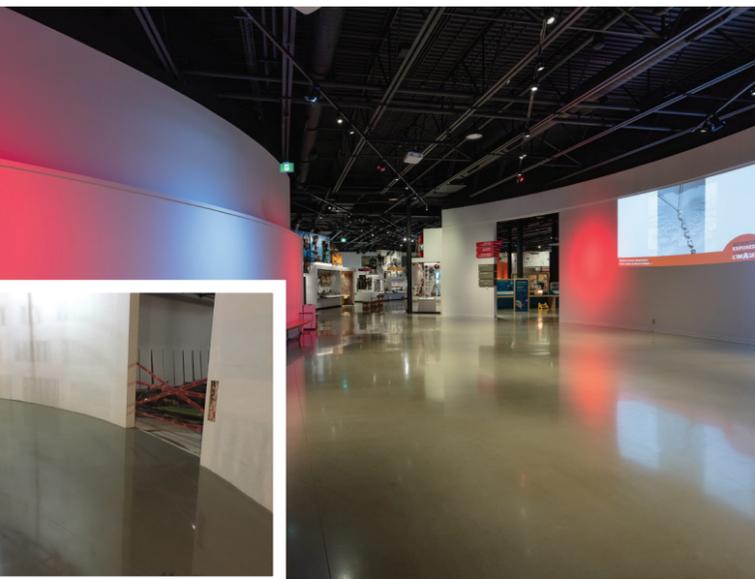
The renovation costing \$80.5 million USD (about CAD \$106 million) included mold and asbestos remediation, transforming the 10-acre (4.05-hectare) front lawn into a park, raising the entranceway roof by 40 feet (12.2 m) and adding a 1,172-square-foot (109-m²) canopy along with a 250-foot (76.2-m) facade for

visual projections. The entire space was completely redesigned, combining favorite existing elements with new, high-tech interactive exhibits like "Ingenium," which honors those "who think differently and test the limits of innovation."

Not surprisingly, one of the biggest parts of the job involved rejuvenating the building's 95,000 square feet (8 826 m²) of concrete flooring, an area of high-level foot traffic for pedestrians throughout the day. While the flooring itself wasn't in terrible shape, museum officials wanted the new floors to maintain a high-polished, shiny finish despite the constant high volume of foot traffic they endure. So the contractors at Pomerleau Inc. reached out to MAPEI Inc. for innovative products to protect the high-tech museum's concrete floors.

MAPEI products at work on the jobsite

First, MAPEI's *Planibond EBA* two-component, high-modulus epoxy bonding agent was installed on top of the existing concrete floor. Sand was then hand-broadcast into the wet epoxy to the point of refusal in order to ensure the proper adhesion of MAPEI's *Ultratop PC*. A self-leveling, cementitious topping that is optimized for polishing, *Ultratop PC* was an easy choice to use across the entire 95,000 square feet (8 826 m²) of concrete flooring. The extremely dense, hard and durable resurfacing material will enable the museum floors to keep their high-polish shine despite the many feet that walk on them.



TECHNICAL DATA

Canadian Science and Technology Museum – Ottawa, ON, Canada

Project category: Public Building – Museum

Year of original construction: 1967

Year of MAPEI involvement: 2016

Where MAPEI products were used: *Planibond*[®] EBA was installed on top of the existing concrete flooring. *Ultratop*[®] PC was installed on top of the *Planibond* EBA.

Project owner: Canadian government

MAPEI distributor: Réno-Direct

Architect: NORR

General contractor: Pomerleau Inc.

Installer: BTM Construction

Project manager: Jean François

Photographer: Olivier Gariépy

MAPEI coordinator: Justin Lafontaine

Project size: 95,000 square feet (8 826 m²)

Challenges: The floor requires a continued high-polish shine in spite of the high volume of foot traffic.

MAPEI Products

Self-leveling and bonding: *Planibond* EBA

Polishable concrete topping: *Ultratop* PC

