



# THE NATIONAL MUSEUM OF THE AMERICAN INDIAN

**A very memorable building has recently joined the many distinguished museums and monuments that line the National Mall leading away from the USA Capitol in Washington.**

**T**he National Museum of the American Indian (NMAI) is housed in a structure full of flowing curves reminiscent of wind and water. Construction of the design, conceptualized by Canadian architect (and Native American) Douglas Cardinal, began in September 1999. The museum opened 5 years later in September 2004.

'American Mist' Natural Stone GA Masonry, based in Crestwood, Kentucky (USA), won the contract to install 90,000 m<sup>2</sup> of 'American Mist' stone slabs in the interior of the museum. The slabs - or "pavers", as property manager Channing Strom calls them - were quarried in Pennsylvania and fabricated in Quebec, and specifically chosen because of the curved white wisp that runs along each paver. A unique challenge for Strom's group was to set the slabs so that the curving wisp would provide a distinct directional flow for visitors walking through the museum.

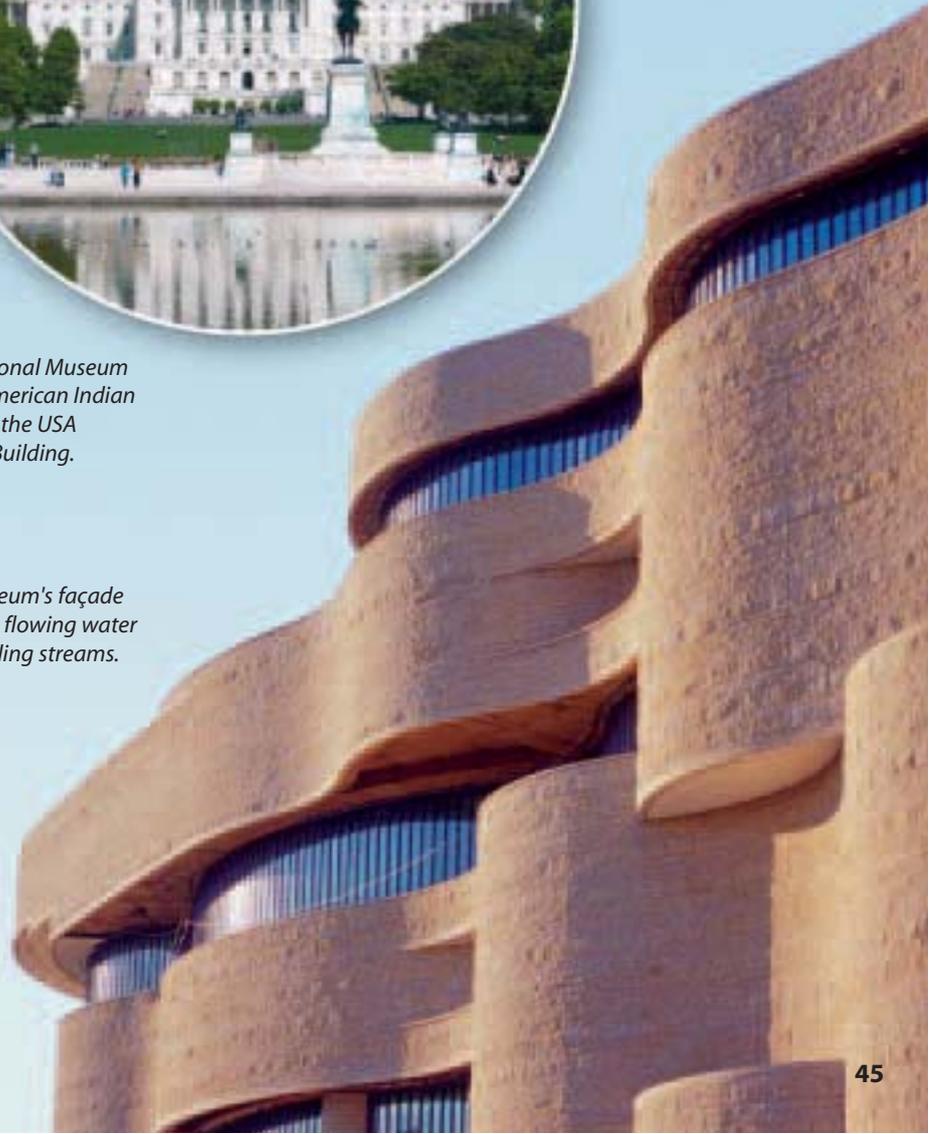
Strom first consulted with Brolain Distributors in Cambridge, Ontario, where GA Masonry also has an office. Brolain suggested the use of Mapei's KERABOND\* + KERALASTIC\* (which is the American equivalent of ISOLASTIC available in the rest of the world) premium flexible mortar system to ensure a strong, lasting installation. Morris Tile, Mapei's distributor located in Alexandria, Virginia (USA), provided the KERABOND\* + KERALASTIC\* system, along with ULTRACOLOR\* ultra premium sanded grout. Strom also used Mapei's PLANICRETE AC\*, an admixture for concrete that makes the mortar bed and slurry bond coat for preparing the installation surface.

The interior stone installation began in



*The National Museum of the American Indian sits near the USA Capitol Building.*

*The museum's façade suggests flowing water and rippling streams.*



January 2004 and was completed by June. The stone slabs were fabricated to fit the curves of the building and, while most of the work was done in Quebec, Strom's team still did a significant amount of stone cutting on site. It was necessary to ensure that the flooring pavers could accommodate the floor's rounded edges. Similar to the exterior of the building, there were no right-angle edges in the interior.

**Waterproofing the Fountain and Stream**

An interesting exterior feature of the museum reflects the desire of Native American people for harmony within their environment. A water element, commemorating a tidal creek that originally ran through the construction site, now spills from a fountain at the northeastern corner, flowing along the northern façade to the eastern entrance. GA Masonry worked to waterproof

the fountain and stream, which is actually located above the museum's maintenance facilities. To prevent water from leaking onto the equipment and supplies below, Strom used Mapei's MAPELASTIC 315, a flexible cementitious waterproofing membrane, to line the entire length of the water element.

**Fast-track Mortar System**

GA Masonry lined the stream with the 'American Mist' slabs, using Mapei's GRANIRAPID\*, a premium, rapid-setting, flexible polymer-modified mortar system. GRANIRAPID\* cures quickly, allowing application of grout in 3 to 4 hours. When Strom used ULTRACOLOR sanded grout, the installation permitted water immersion in 72 hours, as opposed to 28 days for traditional systems.

The use of GRANIRAPID ensured that the water element would be comple-

ted before the opening of the museum, while the wisps of white in the black granite slabs accented the stream's directional flow.

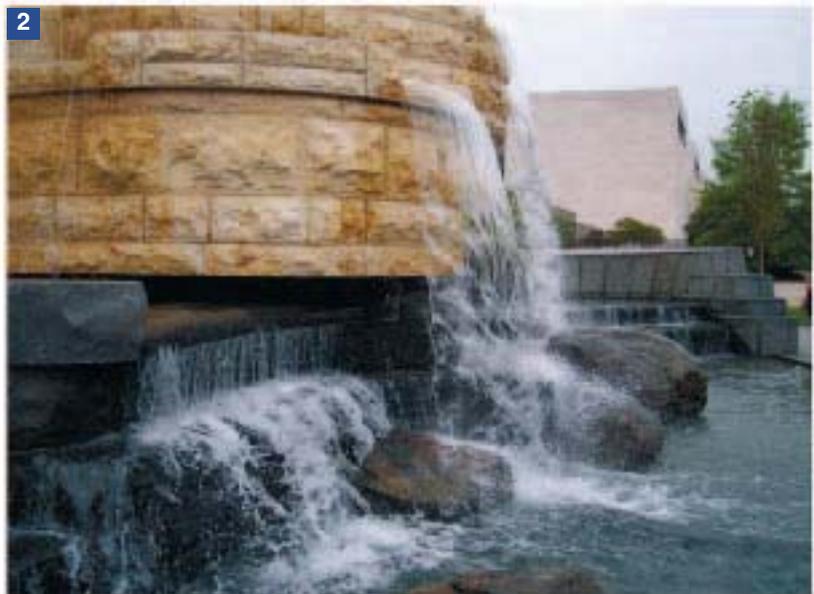
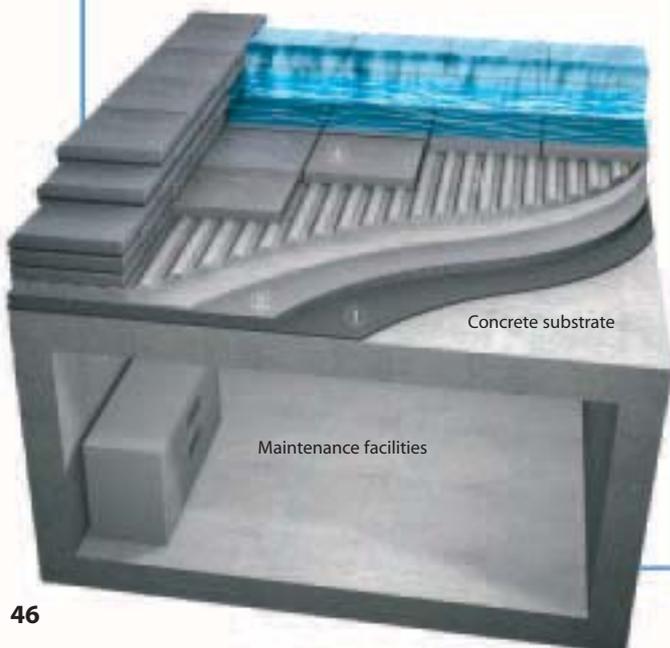
Strom used local installers for the NMAI project, which received several local craftsmanship awards, including a special award from the Washington Building Congress. The work also received recognition from *Mid-Atlantic Construction Magazine*, where it was honored with the Cultural Institution Award of Merit for 2004.

"Mapei was very helpful to us throughout the installation; representatives were always available to support us with training and answers for our technical questions," said Strom. "The MAPELASTIC 315\* was easily applied with a trowel and set up well, but the most amazing thing was how quickly the GRANIRAPID\* mortar set up. It really helped us complete the project in time for the grand opening."

**WATERPROOFING THE EXTERIOR FOUNTAIN AND STREAM AT NMAI**

- ① **Mapelastc 315** flexible waterproofing membrane, used to waterproof the water element.
- ② Mortar bed consisting of sand, cement and **Planicrete AC** acrylic latex admixture.
- ③ **Granirapid** fast-setting flexible mortar system, used to fast-track installation of 'American Mist' stone along the water element
- ④ **Ultracolor** ultra premium sanded grout, used to install stone along the water element

The use of **Granirapid** and **Ultracolor** allowed the installation to cure rapidly, developed high early mechanical strength and ensured water immersion in a revolutionary 72 hours, as opposed to 28 days for traditional mortar systems.



The Smithsonian Institute, which oversees the building, consulted closely with Native Americans to ensure that the museum tells the story of a living people. Reflected in its exhibits of ancient and modern work are beautiful examples of storytelling, traditional and contemporary music, and centuries-old craftsmanship and artistry. Mapei has taken great pleasure in being a part of the construction of a home for the spirit of a proud and enduring people. 

Photo 1.  
90,000 m<sup>2</sup> of 'American Mist' stone slabs were installed in the museum's interior.

Photo 2.  
The exterior fountains, featuring a powerful cascade and a quiet pool, commemorates an original tidal creek.

Photo 3.  
Installing 'American Mist' stone slabs in the stream.



### Museum Information

If you happen to be in Washington, you can easily enjoy a visit to the National Museum of the American Indian.

#### Location:

NMAI on the National Mall  
Fourth Street & Independence Ave., S.W.  
Washington, D.C. (USA) 20560  
Phone: +1-202- 633-1000

#### Hours:

10 a.m. to 5:30 p.m. daily; closed Dec. 25.  
(Exhibition spaces, café and stores begin closing at 5:15 p.m.)

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### TECHNICAL DATA

**National Museum of the American Indian (NMAI), Washington (USA)**

**Works:** installation of stone slabs on interior floorings and on the fountain's exterior surfaces; waterproofing treatment of the fountain and stream.

**Year:** 2004

**Customer:** Smithsonian Institute, Washington

**Project:** Douglas Cardinal, Ottawa (Canada) and SmithGroup, Washington

**Works Management:** Clark Construction LLC, Bethesda (USA)

**Contractor:** GA Masonry Corporation, Crestwood, Kentucky (USA)

**Installation Company:** GA Masonry Corporation

**Mapei Distributors:** Morris Tile, Alexandria, Virginia (USA) and Brolain Distributors, Cambridge, Ontario (USA)

**Mapei Coordinator:** Dave Cima, Mapei Corp.

**\*Mapei Products:** Granirapid, Kerabond, Keralastic (which is the American equivalent of Isolastic available in the rest of the world), Mapelastic 315, Planicrete AC, Ultracolor. The products referred to in this article are manufactured and distributed in America by Mapei Corp. (USA) and Mapei Inc. (CDN). For further information, see the web site [www.mapei.com](http://www.mapei.com).

