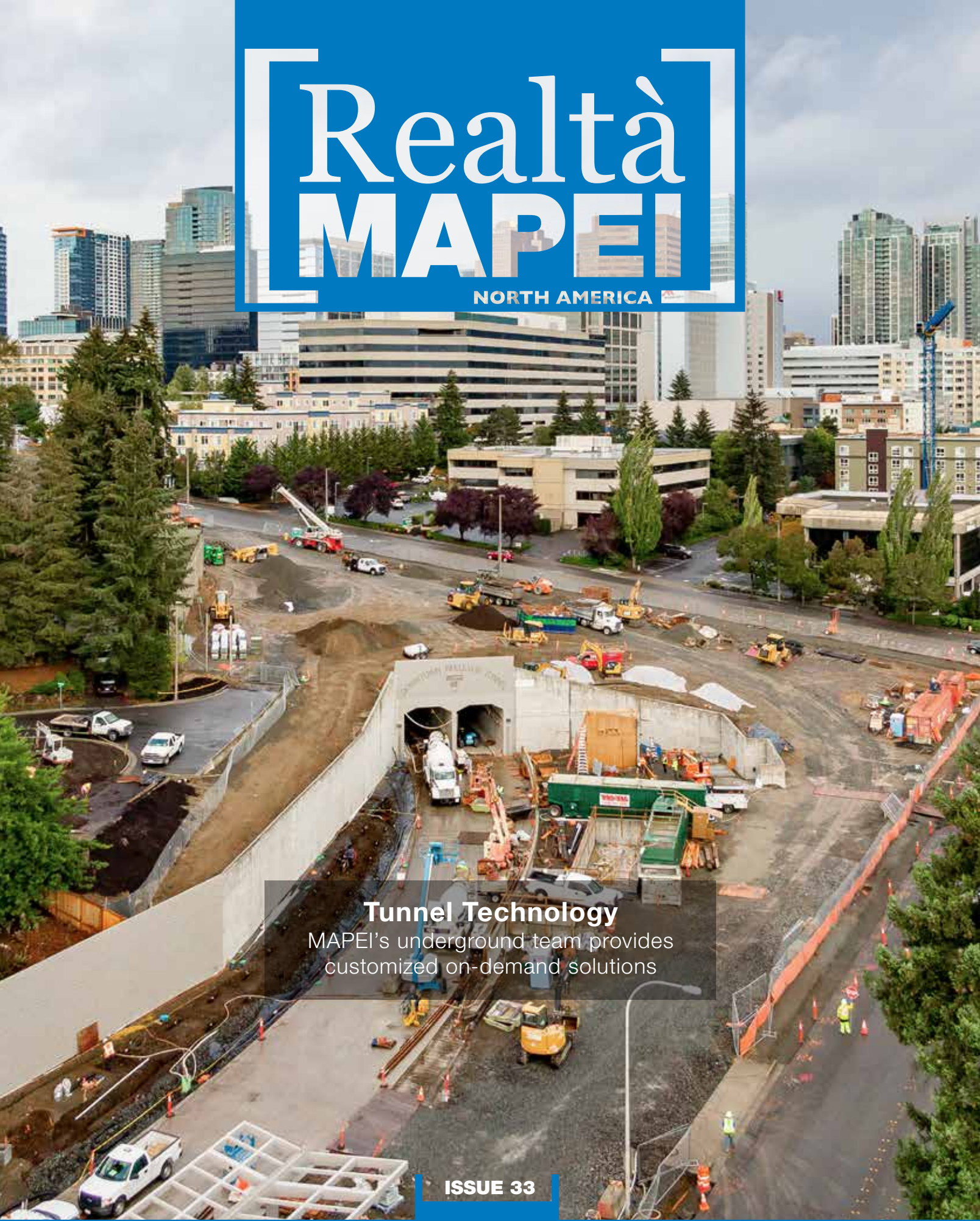
Realtà MAPEI

NORTH AMERICA



Tunnel Technology

MAPEI's underground team provides customized on-demand solutions

ISSUE 33

Dam work • Sports surface systems • Innovative high-flow and deep-pour SLUs

Luigi Di Geso
President and CEO,
MAPEI North America

Growth beyond mortars and grouts

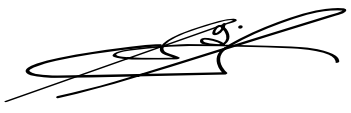
The theme for this issue of *Realtà MAPEI North America* is "More than mortars and grouts." It is true that we lead the industry with our mortar and grout technologies. We have recently expanded both of those product families with innovative new technology that is designed to help meet the challenges faced on today's ever-evolving jobsites, including shorter working hours, smaller crews and reduced budgets. However, as this issue of our magazine will demonstrate, we are more than the sum of our famous mortars and grouts. In the past decade, eight new product lines have joined our setting materials. This issue highlights a few of those successful lines.

For example, our Products for Sports Flooring line includes products for both turf and soil, as well as sports courts – including a tennis court that can be permanently or temporarily installed. It is so flexible, and yet so durable, it can be rolled up and moved or stored. Definitely not your average clay court. And the turf segment is helping some famous golf courses and stadiums to stay green year-round.

Our Underground Technology Team – the team and the products they represent – are on the leading edge in tunneling, mining and underground construction work. This issue highlights technology by which one of MAPEI's UTT products has turned a typically toxic process into something that is no longer harmful to the environment.

And speaking of maintaining a safe environment, our Products for the Marine Industry line offers lightweight, hygienic and sustainable solutions for yachts and cruise ships. This line also ingeniously replicates the look of terrazzo without the weight and the look of teak without the upkeep. This is product innovation at its finest.

This constant drive to innovate, to improve products no matter the product line, is in MAPEI's DNA. Since our birth in Milan in 1937, we have never been content with the status quo, never content to rest. In the words of our past MAPEI Group president, we "never stop pedaling." Thus, MAPEI will not only be mortars and grouts, but so much more.



CONTENTS

TOP STORY

2 East Link Light Rail, Bellevue Tunnel

PRODUCT SPOTLIGHTS

5 *Polyfoamer Eco 100 Plus*

14 *Novoplan® HFL*

TECHNICAL FEATURES

6 MAPEI UTT introduces a more environmentally friendly soil conditioner for tunneling

8 MAPEI's premium acrylic systems for sports surfaces

12 Two new MAPEI self-levelers solve high-flow and deep-pour challenges

SPECIAL FEATURES

15 Prominent hydropower projects worldwide feature MAPEI technology

18 MAPEI products help build a system of dams to stop high tides in Venice

32 MAPEI icons Giorgio Squinzi and Adriana Spazzoli receive posthumous tributes

REFERENCE PROJECTS

25 Lofts du Village

28 Oroville State Theatre

34 **BUSINESS NEWS**

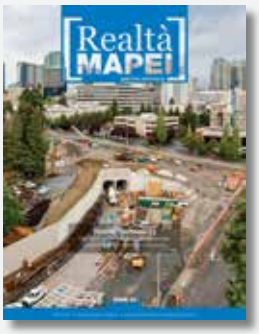
INSIDE SCOOP

36 MAPEI's EPDs and Manufacturer's Inventories

38 **A WORLD OF PROJECTS**

39 **MTI NEWS**

MAPEI USA
MAPEI Canada



ON THE COVER
Waterproofing and shotcrete solutions from MAPEI's UTT group helped create Seattle's new light rail transportation route.

EDITOR
Jennifer Kramer

EDITORIAL CONTRIBUTORS
Jeffrey B. Johnson, Scott Murray, Dr. Cristina Oñate, Princess Pitts, Brittany Storm

PRODUCTION EDITORS
Brian Hedberg, Corey Siggins

GRAPHIC DESIGNER
Stephen Gil

CONTRIBUTING PHOTOGRAPHER
Raul Ballester

PRODUCTION MANAGER
Jeremy Mitchell

DIRECTOR OF OPERATIONAL MARKETING
Steven Day

PRESIDENT AND CEO
Luigi Di Geso

PUBLISHER
MAPEI Corporation
Headquarters of North America
1144 E. Newport Center Drive
Deerfield Beach, FL 33442

MAPEI GLOBAL CORPORATE HEADQUARTERS
Mapei SpA
Via Cafiero, 22 – 20158 Milan (Italy)

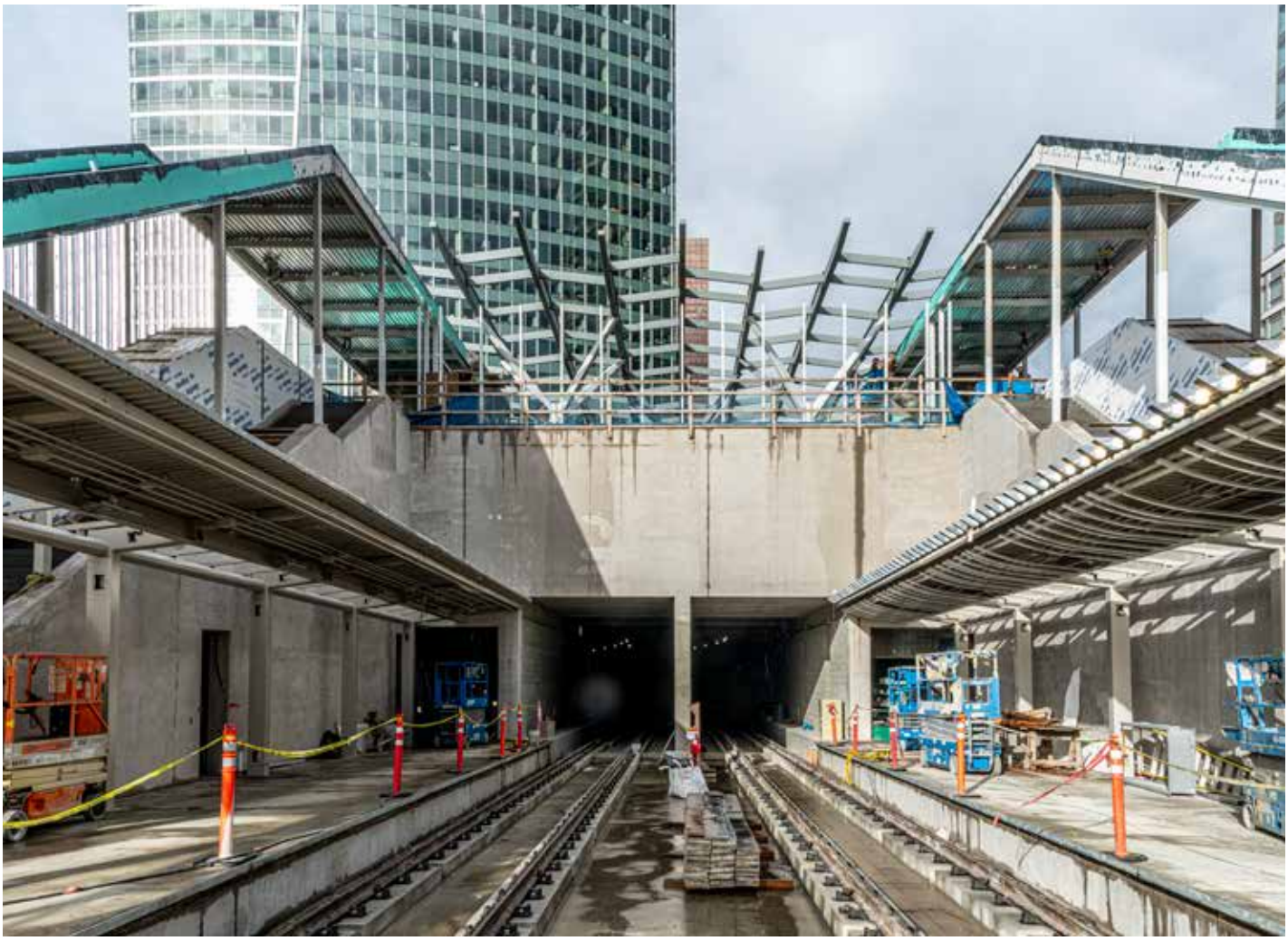
1-800-42-MAPEI (1-800-426-2734)

www.mapei.com

TUNNEL TEAMWORK

MAPEI UTT helps to complete Seattle's Bellevue Tunnel

East Link Light Rail, Bellevue Tunnel – Bellevue, WA, USA



Overview: Three years ago, work began on constructing an underground light rail tunnel in downtown Bellevue, Washington. This project represented the first time that MAPEI's ***Mapelastic TU System*** synthetic membrane was used for major tunnel construction in the United States. MAPEI was successfully chosen over the competitors, even though it had not worked on previous projects of its type in America. This project is also special as it was the last one that MAPEI's Bill Allen worked on before his untimely passing.

The downtown Bellevue tunnel (E330) is a soft-ground, 1,985-foot (605-m), sequential excavation method (SEM) tunnel located in Bellevue, WA. The E330 is part of Sound Transit's larger East Link program that provides 14 miles (22.5 km) of light rail connecting the southern part of Seattle to Redmond, WA.

Sound Transit awarded Guy Atkinson Construction a $121 million contract to construct an underground light rail tunnel (the E330) in downtown Bellevue. The E330 contract is one of multiple projects that will complete the East Link light rail extension, which will run from downtown Seattle to Redmond.

The downtown Bellevue tunnel begins at the south portal near 112th Avenue SE and Main Street. It then runs under 110th Avenue NE for about one-half of a mile (0.80 km) and turns east near NE 6th Street toward the north portal – immediately adjacent to Bellevue City Hall and the Bellevue Transit Center.

The E330 tunneling operation included about 1,985 linear feet (605 m) of SEM tunnel construction, as well as tunnel pre-support, groundwater control, waterproofing, final lining, tunnel walkways, a center dividing wall, embeds and conduits, and a mid-tunnel access shaft and adit.

MAPEI's Underground Technology Team (UTT) – which is recognized for its worldwide expertise, its customized products, and its dedicated and professional staff – was awarded the design, bid and build contract for the tunnel.

MAPEI products on the jobsite

The MAPEI coordinator for the project was the late Bill Allen, who served as Business Development Manager for Tunneling for MAPEI UTT North America. He was not only a valued member of the UTT team and an expert in shotcrete, but he was also an American Concrete Institute examiner for nozzleman certification. Allen's skills came in handy due to the tunnel specifications calling for the application of shotcrete over three layers of *Mapelastic TU System* synthetic membrane – the first time that this product was used in a commercial application in the United States.

From the very beginning, the job presented challenges. The substrate was not smooth and, although that was not a major issue, the water infiltration that plagued the site was. According to Allen's report from November 2018, "It has been a struggle to deal with water ingress, water seepage and damp areas. We have learned

that the substrate must be dry to successfully install *Mapelastic TU*."

The general contractor, Guy Atkinson Construction, ran a crew of six to 10 per shift. MAPEI UTT was on site for the 2-p.m.-to-midnight shift, as that was when the patching operations were finished and the application work began.

The application process followed roughly the same schedule for the entire project, according to Monica Rourke, MAPEI UTT's North America Chemical Grout Injection Manager – Waterproofing as well as Allen's colleague on the team and the one who took over after his passing. Rourke said the general contractor would first patch the very rough, and many times wet, surface. Then *Mapelastic TU* was sprayed in three coats; the first coat was white, the second coat was blue/green, and the third coat was again white. Lastly, once *Mapelastic TU* had cured, the shotcrete was sprayed using a special two-component pump.

"The crew learned how to spot critical areas in the application – the water would darken the substrate – and used the colors to distinguish leaks coming through the sprayed surface," Rourke explained. These areas were then marked and patched, and the process would begin again.

At one point in the installation, "the general contractor damaged the *Mapelastic TU* when pulling off the forms at the joint," Rourke said. But, MAPEI had a solution. "The *Mapelastic TU* was patched using ***Mapeproof AL NA*** and also by patching over with a layer of *Mapelastic TU*," she continued.

With MAPEI products waterproofing the invert and walls, the tunnel opened in the late summer of 2020. "This is not only the first use of *Mapelastic TU* in the U.S., but it is also such a lasting tribute to the hard work and dedication of our team member, Bill Allen," Rourke said.

TECHNICAL DATA

East Link Light Rail, Bellevue Tunnel – Bellevue, WA, USA

Years of construction: 2017-2020
Years of MAPEI involvement: 2019-2020
MAPEI coordinators: Bill Allen (in memoriam), Monica Rourke and Enrico Pavese
Project owner: Sound Transit
General contractor: Guy Atkinson Construction
Installer company: F.D. Thomas, Inc.
Project manager: Bill Packs
Photographers: Monica Rourke and Stuart Isett
Project size: 1,985 linear feet (605 m) of tunnel construction
Where MAPEI products were used: *Mapelastic TU System* synthetic membrane was applied in three coats onto the walls of the tunnel. *Mapeproof AL NA* was used for any necessary patching.
Challenges: Loss of team member halfway through job; uneven substrate; damage caused by removal of forms

MAPEI Products

- *Mapelastic® TU System*
- *Mapeproof™ AL NA*

Polyfoamer Eco 100 Plus

Polyfoamer Eco 100 Plus **is a high-performance, biodegradable and nontoxic foaming agent for TBM soil conditioning with minimum environmental impact.**

This innovative foaming agent combines the technical performance of traditional soil conditioners with excellent "green" properties such as rapid biodegradation, and nontoxicity on underground water and in excavated muck. These properties are achieved due to a new formulation that includes new surfactants and natural polymer, and is glycol-free. Thus, *Polyfoamer Eco 100 Plus* ensures optimal TBM production while minimizing the impact of soil conditioning on the environment.

Features and Benefits

- Includes natural polymer
- Rapidly biodegradable
- Nontoxic for soil conditioning and underground water
- Nontoxic for excavated muck
- Generates a highly resilient and very durable foam with excellent lubricating properties
- Suitable for conditioning of every type of soil
- Stable and does not generate any separation inside the IBC or storing tanks
- Made in North America

Uses

- Formulated for preparing stable foams for soil conditioning in mechanized tunneling with TBM (EPB)
- Suitable for excavating in every type of soil

See full product details at www.mapei.com.

TECHNICAL DATA (typical values)	
PRODUCT IDENTITY	
Appearance:	Liquid
Density (ISO 758) (g/cm³):	1.04 ± 0.03
pH (ISO 4316):	8.5 ± 1.5
Soluble in water:	Complete
WGK index according to German normative (water and water organism hazard class):	1

LEAVING BETTER SOIL BEHIND

MAPEI UTT introduces a more environmentally friendly soil conditioner for tunneling

Underground construction projects present unique challenges. Some of the largest and longest tunnels being constructed require the use of tunnel boring machines, known in the tunneling industry as TBMs.

TBMs are elaborate machines, focused around a massive rotating cutterhead that is equivalent in size to the tunnel diameter. The entire cross-sectional diameter of the tunnel is excavated simultaneously as hydraulic pistons slowly thrust the TBM forward at a pace measured in millimeters per minute.

TBMs are used to construct tunnels through nearly any geology with minimal surface disruption. TBMs excavate tunnels, largely unnoticed, under buildings, cities, mountains and rivers, and even under lakes, bays and oceans. The two most common uses of tunnels constructed by TBMs are transportation (subway, train and highway tunnels) and water management (fresh water supply, storm water management and sewage conveyance). Tunnels constructed to reduce combined sewage overflows (CSOs) keep innumerable gallons of sewage out of North American waterways and provide a layer of flood protection to many major cities.

MAPEI UTT's role in tunneling

MAPEI UTT is a leader in supplying essential chemicals to TBMs in North America and around the world, with the products and expertise to keep TBMs running in an efficient, safe and environmentally conscious manner. Options range from a *Mapequick CBS System* (used for two-component annular grouting when combined with cement and water), to the *Polyfoamer* line (used for soil conditioning), to the *Mapeblox* and *Mapeoil* lines of greases and oils. MAPEI UTT also supplies ancillary products used in tunneling, such as bentonite and polymers for excavation slurry, cementitious and chemical grouts for injection, shotcrete products, waterproofing membrane systems, and products for concrete repair.

MAPEI UTT continues to innovate and lead the marketplace with new environmentally friendly solutions for TBMs. Soil conditioning is one area where MAPEI UTT products can make an immediate positive environmental impact. Soil conditioning is a technology used by earth pressure balance (EPB) TBMs. EPB TBMs are commonly used to excavate tunnels in soft ground like clays and sands. In order to maintain stability of the excavation face against collapse and to prevent surface and groundwater disruption, the area where the TBM contacts the soil, called the "face," is pressurized. The pressure of the excavation chamber is equal to the pressure exerted by the soil to be excavated – hence the term "earth pressure balance." Typical operating pressures range from 1 to 5 bar. Special additives (surfactants and polymers) known as soil conditioners are combined with water and injected as foam into the soil to form a paste called "muck" (similar in consistency to toothpaste) that easily passes out of the excavation chamber, onto a conveyer belt and ultimately out of the tunnel.

The question that remains is, now what? The soil conditioner that remains in the soil can pose problems in the downstream handling of excavated material. The excavated material must be disposed of, often as landfill, but remaining chemicals in the muck pose environmental hazards. Handling and final placement issues can vary widely in cost and can contribute to the overall project's level of success.

An environmentally friendly soil conditioner

In response to this problem, MAPEI UTT collaborated with MAPEI R&D to develop a new, more environmentally friendly soil conditioner: ***Polyfoamer Eco 100 Plus***. The technical performance of *Polyfoamer Eco 100 Plus* is comparable to that of a traditional soil conditioner. It produces a stable foam with a long half-life, is compatible with all types of soil, reduces clogging and provides necessary lubrication to the cutterhead.

Unlike traditional soil conditioners, *Polyfoamer Eco 100 Plus* is not classified as dangerous according to OSHA Hazard Communication Standard. In addition, *Polyfoamer Eco 100 Plus* offers faster biodegradability, features lower ecotoxicity and results in less organic material being added to the muck.

Polyfoamer Eco 100 Plus is classified as posing the lowest risk to water per the German Water Hazard Class (WGK). To obtain this classification, a series of validation tests was conducted at the Hygiene-Institut des Ruhrgebiets in Gelsenkirchen, Germany. These studies measured the acute toxicity to various organisms. When compared to traditional soil conditioners, *Polyfoamer Eco 100* Plus required a concentration 12 times higher to trigger an LC_{50} (lethal concentration to 50% of a population) event in Daphnia Magna water fleas and a concentration 15 times higher for an LC_{50} event in Danio Rerio zebrafish.

A more pragmatic example of the benefits of *Polyfoamer Eco 100 Plus* was recently demonstrated at the Riachuelo project in Buenos Aires, Argentina. The project consisted of 12 km of tunnel in sandy soil under water. The EPB TBM was operated at a pressure of 4.5 bar during the project, with an advance at a rate of 600 to 650 meters per month. Muck treated with *Polyfoamer Eco 100 Plus* was used as fill in an area near the jobsite. Just months after the final surface deposition, the area was vegetated and sustaining plant life.

While eco-friendly soil conditioners are required on many jobsites around the world, North America lags behind, with the use of traditional soil conditioners still being commonplace here. But the tide is changing, and the tunneling industry has begun to realize the numerous benefits of using more environmentally friendly products, particularly for soil conditioning. Not only are products like *Polyfoamer Eco 100 Plus* better for the environment, they also improve worker safety and reduce muck handling and disposal costs.

MAPEI UTT looks forward to continuing to innovate by producing better and more environmentally conscious products for TBMs. *Polyfoamer Eco 100 Plus* is just one of the many innovative products in the MAPEI UTT offering of TBM products. When MAPEI UTT supplies a TBM, our goal is to reduce the overall cost, duration and environmental impact of the project. MAPEI UTT welcomes the opportunity to partner with owners, engineers and contractors to develop a plan for safe, successful and sustainable completion of any TBM project.

About the author:
Dr. Cristina Oñate

Cristina is MAPEI UTT's Technical Sales Representative, with a special focus on mechanized tunneling jobs. Cristina has a Ph.D. in Environmental Engineering – Tunneling from Polytechnic University of Turin (Italy), and a BS/MS in Civil Engineering from Central University of Venezuela and from the Polytechnic University of Turin.

MAPECOAT™ TNS

MAPEI's premium acrylic systems for sports surfaces

For more than half a century, MAPEI has dedicated the utmost attention to the world of sports and designing distinctly innovative products to construct championship-worthy projects. From long-lasting adhesives for Olympic-sized athletic tracks to FIFA-approved bonding for synthetic turf, MAPEI now offers the most single-source solutions for the sports flooring sector.

Backed by its many years of success overseas, MAPEI has expanded its sporting division technology with the introduction of the *Mapecoat TNS* premium acrylic systems for sports surfaces to the North American market. "The *Mapecoat TNS* systems have been designed for the installation of brand-new or refurbished sports flooring," said Fabio D'Amato, Business Development Leader for MAPEI's Products for Sports Flooring line. "They are especially focused on re-covering existing flooring with the most common issues (moisture, cracks, potholes) with innovative solutions like the *Mapecoat TNS Reinforced* and *Mapecoat TNS Remove* systems."

Mapecoat TNS covers a full range of system solutions for tennis and pickleball, hockey and skating rinks, multifunctional areas, velodromes and urban areas. These cutting-edge solutions address several challenges associated with multi-sport flooring installations including permanent and temporary applications for indoor and outdoor environments, loose-lay applications, carpet-based applications and crack repair. The resulting surfaces offer excellent performance characteristics to help athletes perform to the best of their ability. All of these sports systems offer high UV resistance and low maintenance.

MAPEI's cutting-edge sports solutions are also certified by the International Tennis Federation (ITF) for tennis courts. And MAPEI is a member of the American Sports Builders Association (ASBA), Professional Tennis Registry (PTR) and Professional Pickleball Registry (PPR).

An integral part of MAPEI's sports flooring is the innumerable possibilities with custom colors and second-life installations by way of resurfacing existing courts, avoiding total demolition to save time and money on the jobsite.

MAPEI acrylic systems for:

Tennis and pickleball courts

Mapecoat TNS Professional is a multilayered, acrylic-based system used to create sports surfaces for playing tennis and pickleball. Suitable for indoor and outdoor courts on existing asphalt, cementitious and acrylic substrates, the system forms a highly resistant and even playing surface for high-speed play with consistent ball bounce.

Mapecoat TNS Cushion is a semi-elastic, multilayered, acrylic-based system used to create sports surfaces for playing tennis and pickleball. Suitable for indoor and outdoor courts on existing asphalt, cementitious and acrylic substrates, the system forms a highly resistant and even playing surface for high-speed play with consistent ball bounce.

Mapecoat TNS Comfort is an elastic, multilayered, acrylic-based system with an underlayment of ***Mapecomfort R*** rubber mat used to create sports surfaces for playing tennis and pickleball. Perfect for senior players with its overall 6-mm thickness, it is suitable for indoor and outdoor courts on existing asphalt, cementitious and acrylic substrates. The system forms a highly resistant and even playing surface for high-speed play with consistent ball bounce.

Mapecoat TNS Reinforced is a multilayered, acrylic-based system applied in combination with ***Mapenet Reinforced*** glass fiber for refurbishing sports surfaces for playing tennis and pickleball. This system is suitable for indoor and outdoor courts thanks to its particularly high tensile strength characteristics. It has been specifically developed for installation over existing damaged asphalt, cementitious surfaces and acrylic substrates with cracks and potholes, without the need to conduct extensive surface repairs such as refurbishing with new asphalt or concrete. In addition to forming a highly resistant and even playing surface for high-speed play with consistent ball bounce, the system extends the life of the substrate.

Mapecoat TNS Binder is a multilayered, 100%-acrylic, concentrated system that is blended with sand and water to create sports surfaces for tennis and multipurpose use. This maintenance-free system is suitable for indoor and outdoor courts on existing acrylic,


Multifunctional Sports Areas
Pickleball Courts
Velodromes
Tennis Courts
Running Tracks
Skating Rinks

bituminous and cementitious conglomerate substrates. It forms a highly resistant and even playing surface for high-speed play with consistent ball bounce.

Mapecoat TNS Remove is a self-laying acrylic coating system designed for pro-grade tennis courts and pickleball whether they are temporary events (tournaments, shows or season applications) or built upon humidity-sensitive substrates. It is suitable for indoor and outdoor installations over concrete, asphalt, old acrylic, metal and wood flooring. *Mapecoat TNS Remove* is installed in combination with a self-laying fiber-reinforced elastic PVC underlayment, ***Mapecoat TNS RP***, that offers enhanced dimensional stability. The system is fade- and wear-resistant, providing a consistent speed of play combined with an adjusted force reduction for players' comfort.

Multifunctional areas

Mapecoat TNS Multisport Professional is a multilayered, acrylic-based system used to create multifunctional games areas for basketball, volleyball, roller hockey, soccer and badminton in public areas such as parks, recreational centers, schools and play areas in general. Suitable for indoor and outdoor areas on existing asphalt, cementitious and acrylic substrates, the system forms a highly resistant and even playing surface suitable for multifunctional sports.

Mapecoat TNS Multisport Comfort is an elastic, multilayered, acrylic-based system with an underlayment of *Mapecomfort R* rubber mat, used to create multifunctional sports areas for playing basketball, volleyball, soccer and badminton in public areas such as parks, recreational centers, schools and play areas in general. Suitable for indoor and outdoor areas on existing asphalt, cementitious and acrylic substrates, the system is optimized for force reduction and forms a highly resistant and even playing surface suitable for multifunctional sports.

Hockey and skating rinks

Mapecoat TNS Roller Professional is a multilayered, acrylic-resin-based system used to create sports surfaces for inline and artistic skating. This system is suitable for indoor and outdoor rinks on bituminous and cementitious conglomerate substrates. It forms a strong surface with excellent performance characteristics, such as high abrasion resistance and an excellent balance of low friction for smoother skating and racing stability.

Velodromes

Mapecoat TNS Cycle Track is a multilayered, acrylic-resin-based system used to create sports surfaces for velodromes. The system is suitable for indoor and outdoor tracks on bituminous and cementitious conglomerate substrates. It forms a strong surface with excellent performance characteristics, such as high abrasion resistance, and an excellent balance of low friction for smoother wheel rotation and racing stability.

MAPEI acrylic system for jogging tracks and urban areas

Mapecoat TNS Urban is a multilayered, acrylic-based system used to create sports surfaces for bicycle, running, hiking and urban tracks. Suitable for indoor and outdoor tracks on existing asphalt, cementitious and acrylic substrates, the system forms a strong surface with excellent abrasion resistance.

Mapecoat TNS systems are available in 29 standard colors, with endless options using MAPEI's color-mapping technology to create customized colors for any project. Colors shown here are indicative only and may vary due to printing limitations.

MAPEI SPORTS SYSTEM TECHNOLOGY

Pink
TNS 27

Lilac
TNS 11

Violet
TNS 12

Miami Purple
TNS 31

Light Gray
TNS 1

Dark Gray
TNS 2

Black
TNS 25

Arena Yellow
TNS 34

Sunshine Yellow
TNS 4

Ochre
TNS 5

Canyon Brown
TNS 26

Brown
TNS 6

Orange
TNS 9

Swiss Red
TNS 24

Light Red
TNS 23

Red
TNS 10

Paris Red
TNS 32

Rio Green
TNS 33

Dark Green
TNS 20

London Green
TNS 30

Forest Green
TNS 21

White
TNS 0

Light Blue
TNS 14

Sea Blue
TNS 15

Melbourne Blue
TNS 28

Dark Blue
TNS 16

Sydney Blue
TNS 35

Night Blue
TNS 22

New York Blue
TNS 29

For more information about *Mapecoat TNS* premium acrylic systems for sports surfaces, visit the Products for Sports Flooring section at www.mapei.us or www.mapei.ca.

ON THE LEVEL

Two new MAPEI self-levelers solve high-flow and deep-pour challenges

In all the years that MAPEI has been in existence, one fundamental constant has always been true: Change is inevitable. From MAPEI's beginnings back in 1937 in Milano, Italy, to the present, materials used in construction have changed significantly to make them safer to use, easier to install and, most importantly, better at performance. The key to success in managing this change is to be on top of the market, to be aware of trends and to respond rapidly in developing new products at the forefront of customer demand.

At MAPEI, the driver behind this success is our extensive R&D group, which works diligently behind the scenes to formulate the next marvel of technology for previously unimagined performance. Two of those innovations can be found in MAPEI's recent introduction of ***Novoplan® HFL*** high-flow self-leveling compound and ***Novoplan DPL*** deep-pour leveler.

Having a perfectly flat and pristine substrate can allow for the most stunning floor projects seen in both residential and commercial applications. The best way to achieve this perfectly flat substrate is invariably through the use of self-leveling compounds.

Self-leveling compounds are remarkable formulations and, in the hands of a skilled professional, can really make the difference in a floor-covering installation. But it is important to note the term "skilled professional." The proper installation of self-leveling compounds may look easy, but it requires a great deal of skill and collaboration to accomplish.

Novoplan HFL, on the other hand, can make just about anyone look like a professional installer thanks to its very high flow and leveling characteristics. After using *Novoplan HFL* on a project, contractors have given such reviews as "super fluid," "places itself," "no need to use a spike roller or even a smoother," and "finished material very flat and defect-free." Anytime you get these kinds of quotes from contractors using your products, you know you have really developed something unique. *Novoplan HFL* is just that: Mixing easily with water, flowing out faster and farther than any other self-leveling compound, drying to a very flat surface and offering a final compression strength in excess of 4,500 psi (31.0 MPa). We believe that *Novoplan HFL* will be a major hit in the subfloor preparation category because of these exciting attributes.

Novoplan DPL deep-pour leveling compound, another new and exciting development from MAPEI, addresses this challenge: How to fill areas up to 4" (10 cm) in depth in a single application. Admittedly, such a situation is not terribly common, but when flooring contractors are faced with this challenge, currently available remedies are not very user-friendly.

Typically, to handle a deep application up to 4" (10 cm) in depth, a typical solution is to extend a self-leveling underlayment (SLU) with pea gravel from 3/8" to 3/4" (10 to 19 mm) in diameter. This aggregate must be brought to the jobsite and placed at up to 50 percent of the anticipated final thickness. (For help in doing so, see MAPEI's online installation guide "Extending SLUs with aggregate".) Once all this aggregate is carried in and placed, the leveling compound is mixed and poured over the gravel. Then, the leveler is "raked" into the aggregate in order to mix everything in together. This can obviously be time-consuming and back-breaking work.

Another traditional option is to place multiple layers of self-leveling compounds to achieve the final depth. Most common self-leveling compounds can be applied in thicknesses ranging from 1/2" to 2" (12 mm to 5 cm). If you used a leveling compound with a maximum application thickness of 1" (2.5 cm) to fill 4" (10 cm) in depth, you would have to prepare, mix and apply that leveling compound four times to achieve the final thickness… and each layer would have to dry to completion before the following layers can be applied.

Novoplan DPL deep-pour leveling compound changes all that, allowing for thick repairs in a single pour up to 4" (10 cm) in depth. This product gives flooring contractors a single-pour solution, saving them an extraordinary amount of time and labor.

There are, however, some nuances to the installation of *Novoplan DPL* that are important to note. You simply can't place *Novoplan DPL* like you might with a garden hose in a swimming pool, leaving the hose in one corner while the entire pool fills up. *Novoplan DPL* has, beyond its deep-fill characteristic, great flow properties as well, so if you are barrel- or pump-mixing, *Novoplan DPL* is going to spread out evenly over the properly prepared substrate. What you don't want is for *Novoplan DPL* to start setting up while you are trying to fill the repair.

Novoplan DPL has good working properties up to 15 to 20 minutes. However, after that it will start to gel and set up. If you are constantly pouring material into the same area to "fill the pool," that gelling property will start to affect how the leveler flows out. Therefore, we highly recommend restricting the flow of *Novoplan DPL* to areas of 100 to 150 square feet (9.29 to 13.9 m^2) at a time with the use of temporary dams or dikes. This will allow you to control the placement of *Novoplan DPL* and achieve a flat, finished surface.

Once a pour of *Novoplan DPL* has set, you can remove the temporary dams, move them to the next section and pour the next section. This process is repeated until the area is completely filled. The cold joints created can be easily treated using one of MAPEI's many skimcoating or patching compounds.

In summary, *Novoplan HFL* and *Novoplan DPL* represent some of the amazing brainpower in MAPEI's R&D group, as well as the invaluable influence of our sales team and customer base. I encourage you to reach out to your favorite MAPEI contact point to find out more about these two exciting SLUs.

About the author:
Jeffrey B. Johnson

Jeff is the Business Manager for MAPEI's Floor Covering Installation Systems line. Jeff brings to the industry more than 30 years' experience in the development and marketing of floor-covering installation products. Practical experience in the construction industry and as a bench chemist gives Jeff an insightful perspective on surface preparation, moisture mitigation and floor-covering installation.

Novoplan® HFL

High-flow, self-leveling compound

Novoplan HFL is a self-leveling, calcium-aluminate-based underlayment and repair mix for interior concrete and engineer-approved floors with high-flow characteristics.

Features and Benefits

- High-flow properties for easy placement
- Suitable for use under carpet, resilient, wood and ceramic flooring

Uses

- For leveling, smoothing and repairing interior or radiant-heated floors before installation of flooring systems and coverings

See full product details at www.mapei.com.

Product Performance Properties

Laboratory Tests	Results
Compressive strength – ASTM C1709	
7 days	> 2,500 psi (17.2 MPa)
28 days	Up to 4,500 psi (31.0 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
28 days	> 870 psi (6 MPa)
Cured density	128 lbs. per cu. ft. (2.06 kg per L)
VOCs (Rule #1168 of California's SCAQMD)	0 g per L
VOCs (Section 01350 of California's CDPH)	Passes

Application Properties at 73°F (23°C) and 50% relative humidity

Mixing ratio	6 to 6.4 U.S. qts. (5.68 to 6.01 L) of room-temperature water per 50 lbs. (22.7 kg) of *Novoplan HFL* powder
Mixing time	1 to 2 minutes
Profile required	CSP #3
Cured density	128 lbs. per cu. ft. (2.06 kg per L)
pH of mixture	11
Application temperature range	50°F to 85°F (10°C to 29°C)
Flow time	30 to 45 minutes
Time before permitting light foot traffic	2 to 3 hours
Single-lift application thickness	1/8" to 1" (3 mm to 2.5 cm)*
Minimum thickness over highest point in floor	1/8" (3 mm)
Waiting time before secondary applications at 1/2" (12 mm) depths	12 hours
Drying time before installation of tile and stone at 70°F (21°C) at 1/2" (12 mm)	12 hours**
Drying time before installation of moisture-sensitive floor coverings at 70°F (21°C) at 1/2" inch (12 mm) thickness	48 hours**

* Novoplan HFL *is very fluid and as such is difficult to build thickness without the use of dikes to control the flow.*

*** Drying time before installation of all flooring types varies based on thickness of leveler application. Thin applications can result in shorter drying times, while thicker applications will extend drying time.*

Approximate Coverage* ** per 50-lb. (22.7-kg) bag

Thickness	Coverage
1/8" (3 mm)	48 sq. ft. (4.46 m^2)
1/4" (6 mm)	24 sq. ft. (2.23 m^2)
1/2" (12 mm)	12 sq. ft. (1.11 m^2)
1" (2.5 cm)	6 sq. ft. (0.55 m^2)

**** Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions, type of equipment, thickness applied and application methods used.*

Oroville Dam
(Oroville, California, USA)

SOLUTIONS FOR DAMS

Prominent hydropower projects worldwide feature MAPEI technology

This article is reprinted from *Realtà MAPEI International* magazine, Issue #83.

An increase in the world's population and the natural ambition for a better standard of living make the design, construction and management of dams an important subject. Dams allow water to be controlled and managed for irrigation purposes, thereby encouraging the cultivation of vast areas of land. They also create a permanent barrier along natural waterways allowing hydro-electric energy to be generated, which is a major source of renewable energy. A dam may also be used to control the level of a water course to prevent hydro-geological disasters and to promote new ways of transporting goods.

MAPEI follows and supports large hydropower projects from the design throughout every stage of their development. The same care and attention required for the construction of a dam are also necessary when carrying out maintenance operations by adopting appropriate repair procedures. A dam needs constant monitoring throughout its entire life cycle to identify potential defects.

Thanks to targeted research work, MAPEI has developed dedicated systems and technologies for both construction and maintenance work. Our technical support experts work constantly alongside design engineers and building companies, providing technical support of the highest quality.

Products for building dams

MAPEI develops and supplies products and solutions for construction work, and has a complete range of products available for building dams, canals and hydraulic tunnels.

MAPEI can offer the following solutions:

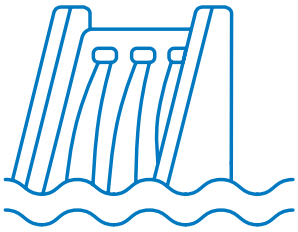
- Admixtures for conventional concrete and roller-compacted concrete (RCC)
- Admixtures and fibers for shotcrete
- Admixtures for high-strength concrete
- Admixtures for injection slurries
- Products for mechanical excavation and conditioning
- Waterproofing mortars and membranes
- Materials for treating facing walls
- Sealants and membranes for joints
- Grouts for anchoring
- Waterstops
- Epoxy resins
- Underwater putties

Products for repairing dams

The long lifespan of a large hydropower project often imposes repair work to be carried out in order to maintain and guarantee the overall efficiency of the structure. Sometimes, improvements are required in order for the structure to withstand variations in working conditions.

Over the years, MAPEI has developed a specific range of products that offer solutions for a wide variety of dam structural and maintenance repairs. These products include:

- Repair mortars
- Structural strengthening systems
- Admixtures for concrete and shotcrete
- Waterproofing membranes and mortars
- Grouts for anchoring
- Sealants and membranes for joints



Types of dams

Dams may be built using rocks and earth (embankment dams) or concrete. Concrete dams may be divided into two categories: Gravity dams, made from roller-compacted concrete (RCC), and arch dams, made from normal concrete.

GERD: Grand Ethiopian Renaissance Dam project
(Blue Nile, Ethiopia)

Research to ensure durability

Design, construction, maintenance: MAPEI supports each stage of large hydropower projects. The company has always been highly committed to Research & Development, continuously and significantly investing in this field. MAPEI's products are the result of our commitment to excellence in research, with the goal of developing innovative formulas that may be integrated into complete application systems, which yield very effective results.

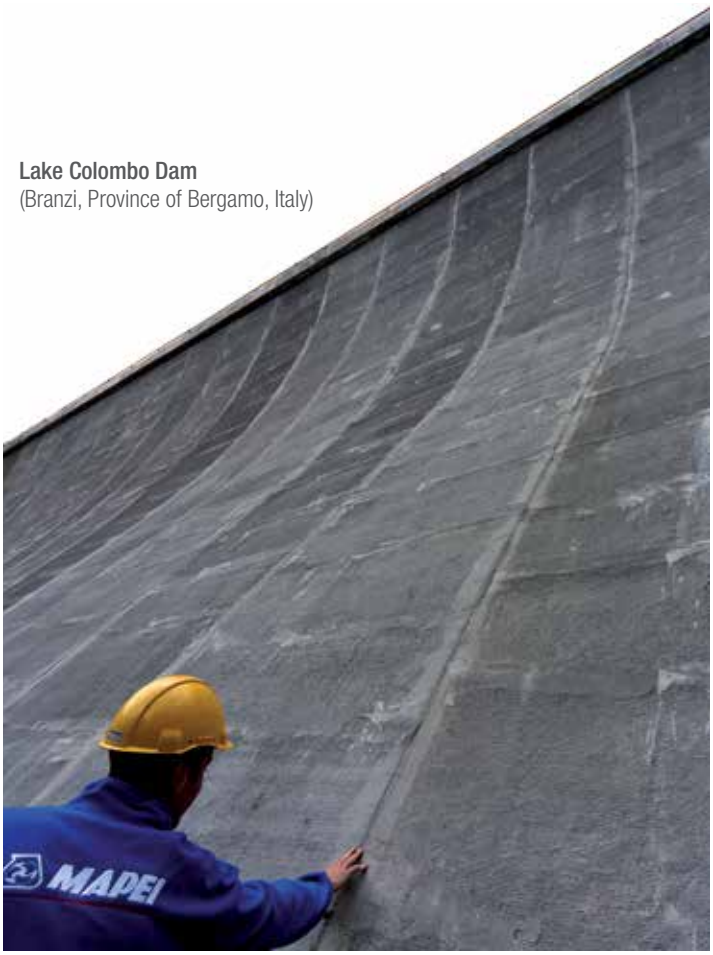
Over the years, MAPEI has made the reliability of its products a key focus point: Ensuring increased durability means preventing, or at least delaying, further maintenance interventions. A further concrete commitment to sustainable development is the minimizing of the waste of resources and time.

Technical services: From design support to site support

MAPEI has always been a favored partner for designers and specifying engineers working on large hydropower projects. Through our global network of technicians, MAPEI is able to provide solutions to problems arising in these works – all over the world.

Indeed, MAPEI has made Technical Services one of its strong points. Each day, the company is present with qualified technicians on sites in more than 128 countries around the world. By working alongside teams from big contracting firms, MAPEI is able to demonstrate our knowledge of correct installation methods and provide our expertise and solutions.

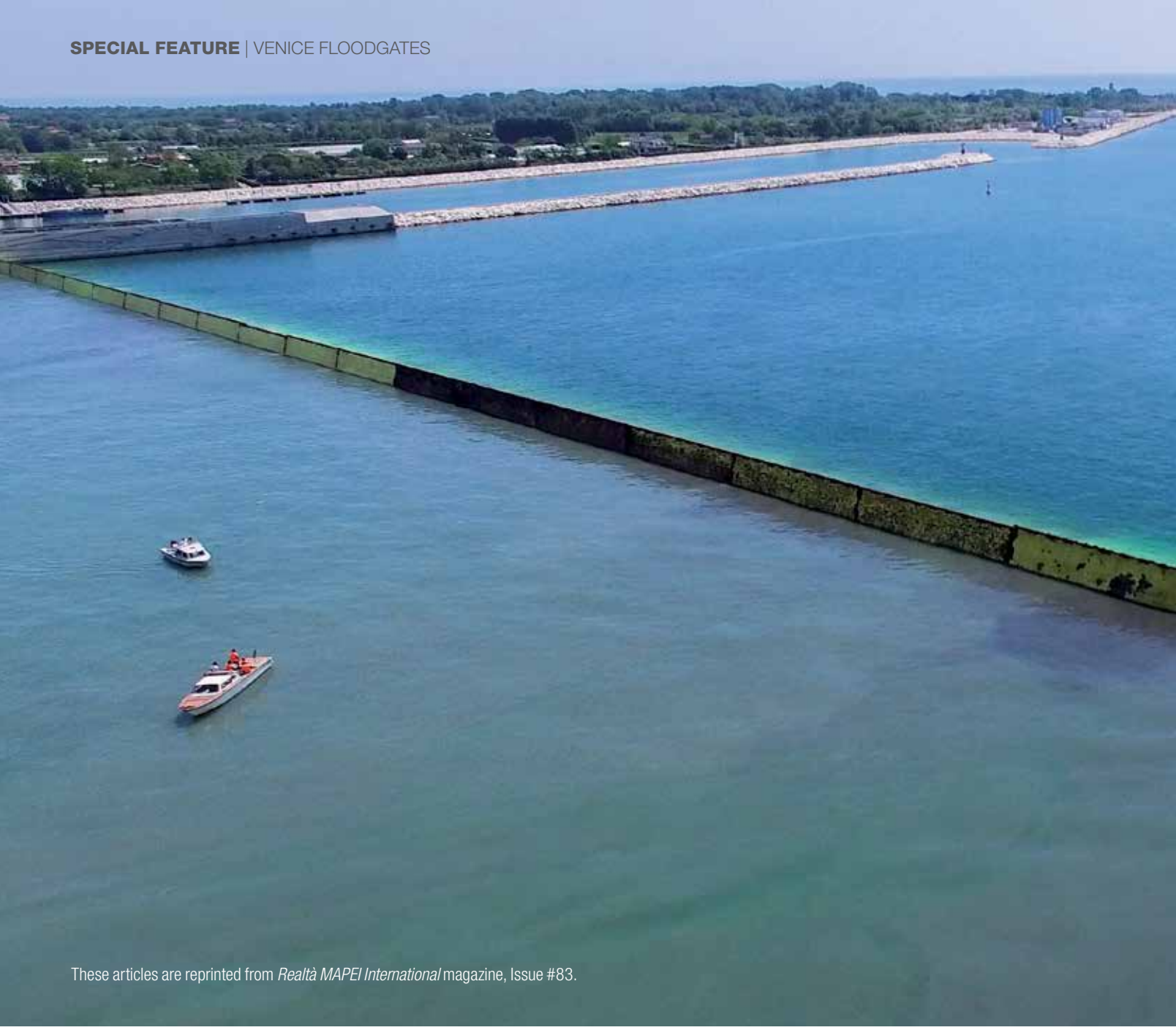
In every corner of the world, starting from the initial design stages of a hydropower project, MAPEI has teams of highly specialized technical staff available, supplying consulting services on the products to be used, as well as technical support when necessary.



Lake Colombo Dam
(Branzi, Province of Bergamo, Italy)

Lake Scandarello Dam
(Amatrice, Italy)

Lake Malga Bissina Dam
(Valdaone, Province of Trento, Italy)



These articles are reprinted from *Realtà MAPEI International* magazine, Issue #83.

The MOSE floodgates in the Venetian lagoon were raised on October 3, 2020. By 10:15 am, all 78 gates were in position, and expectations were high as the system began its first real test under critical conditions. The difference in levels between the sea and the lagoon soon rose to 40 cm. As the world watched, the level of the lagoon did not rise any further and Venice was not flooded.

That was the first official test for a structure that had taken almost two decades to build and that was designed to protect Venice from high tides, events that have become all too common.

A long-awaited project

MOSE (an acronym for MOdulo Sperimentale Elettromeccanico, or Experimental Electromechanical Module) is a hydraulic structure designed to hold back water if it rises above a certain level. The specific MOSE system in the Venetian lagoon is designed to protect Venice and the lagoon from high tides of up to 3 meters and from a 60-cm rise in sea levels over the next 100 years.

The structure is like an automated dam, with 20-meter-wide barriers in various thicknesses that use their own weight and the force of gravity to help them operate. The idea for this kind of system was first suggested 40 years ago. Following numerous delays and public inquiries, construction work commenced 20 years ago and is scheduled to be fully complete by the end of 2021.

The system consists of 78 mobile steel floodgates measuring up to 29 meters in height. Each gate operates independently. The system is able to isolate the lagoon from the sea during high tides. Other works have also been carried out in the area, such as reinforcing stretches of coastline outside the entrances to the port to alleviate the effect of normal tides, and raising quaysides and paving in the lowest areas of the inhabited areas around the lagoon.

MAPEI AND MOSE SAVE VENICE FROM FLOODING

17 years after work started, the system of dams designed to stop high tides made its debut. Several MAPEI products were especially designed to build the system.

The floodgates are housed in concrete caissons positioned on the seabed at the entrances to the three ports of the lagoon – Lido, Malamocco and Chioggia – and are designed to be raised when the tide exceeds a level of 110 cm.

Outlets to the open sea

The MOSE system is made up of four barriers positioned at the three outlets to the open sea. The widest outlet – which is the one closest to Venice – is positioned at the Lido entrance and is made up of two channels, each with a different depth. There are two barriers to protect this outlet: The north barrier, which is made up of 21 floodgate modules, and the south barrier with 20 modules. The two barriers are connected by an artificial island where the equipment used to operate and maneuver the system is located.

The entrance to the port of Malamocco is the deepest in the lagoon. This is the one used by ships heading to the industrial and commercial port, so a navigable basin has been constructed for the ships. The barrier at this entrance is made up of 19 floodgates.

The entrance to the port of Chioggia is used mainly by fishing boats and pleasure craft, and a sheltered port with a double navigable basin has been constructed so that boats can enter and exit the port, even when the barrier is closed. This opening is protected by 18 floodgates.

How the MOSE system works

When the floodgates are in stand-by mode, they are completely invisible, full of water and sitting in caissons on the seabed.

When there is a high tide that could potentially flood the surrounding area, compressed air is pumped into the gates to displace the water. As the water is expelled from the floodgates, they swivel on their hinges, rise out of the caissons and block the entrances to the lagoon. On average, the time required for the floodgates to seal off the port entrances – including the time required to maneuver the floodgates into position – is four to five hours.

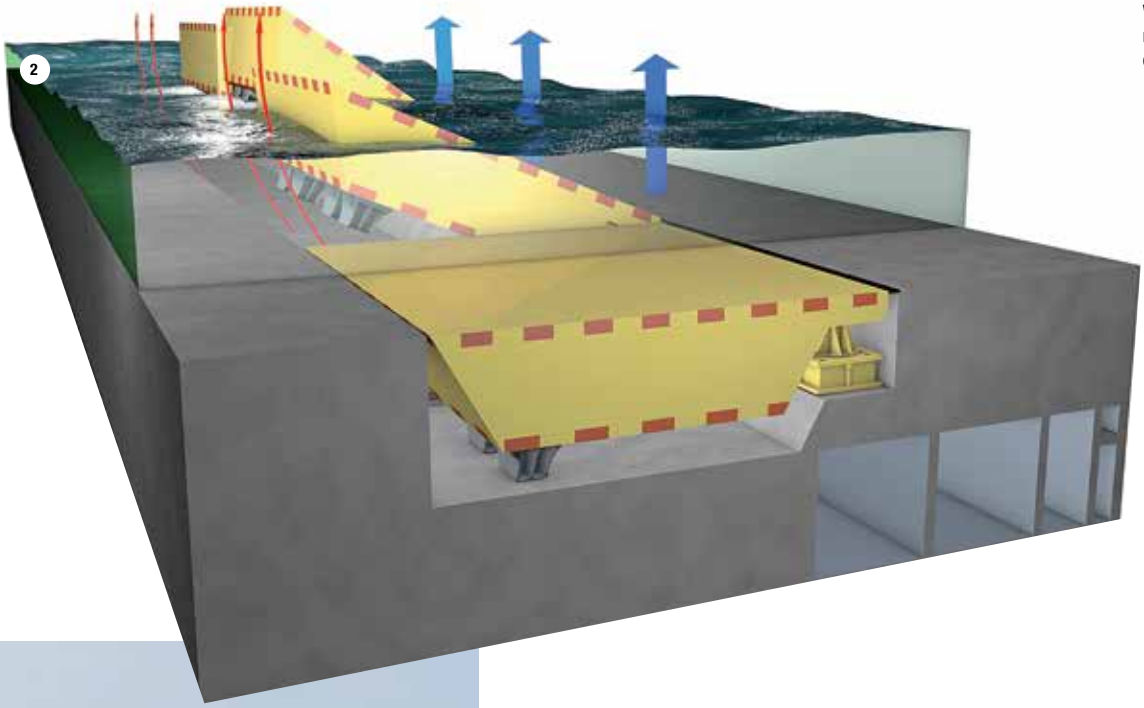
The gates only remain in this position during high tide. When the tide ebbs and when the lagoon and the sea reach the same level, the floodgates fill with water and then retract into their housing.

Each floodgate is made up of a hollow metal structure that is attached to the caisson housing with two hinges. Each is 20 meters wide, while their height depends on the depth of the port entrance channel where they are positioned, and their thickness also varies.

The caissons housing the floodgates and the mechanisms used to maneuver them form the base of the barrier and are connected to each other by an inspection tunnel.

The structure that connects the barriers to dry land is made up of large support housings that contain all the equipment required to make the gates operate correctly.

1. The floodgates being maneuvered into position at the entrance to the port of Chioggia



2. The floodgates are housed in caissons sitting on the seabed. When there is a high tide, they rise up and block the sea at the entrance to the lagoon.

MAPEI SOLUTIONS FOR THE MOSE PROJECT

MAPEI took part in the MOSE project as a technical partner, and a dedicated team of MAPEI specialists regularly interfaced with design engineers, works directors and contractors. The company's Technical Services, working in tandem with the Research & Development laboratories, proposed several special, innovative, high-performance products.

Grouting the joints

Mapefill MF 610*** was specifically developed for this project. It was used for grouting the joints and creating the watertight seal required in order to connect them with their matching fittings on the caissons housing the floodgates.

The caisson housings were positioned in sequence in a trench and were connected together with a special jointing system made up of two separate elements to form a watertight seal. The first element of the system is the so-called "Gina ring-joint," which keeps the external part watertight and forms a temporary watertight seal between one caisson and the next one while they are being installed. The second element is the "Omega seal," which is installed inside the Gina joint during construction of the caissons and guarantees that the entire caisson remains watertight.

A grout with high compressive strength to withstand the rigors of the joints was required for this job. The grout would be required to maintain a high level of workability at high temperatures (around 3 hours at +35°C). The Gina collar used to house the joint was made from super-duplex stainless steel, an extremely expensive material that left no margin for error during installation. After many tests and working closely with MAPEI's R&D and Technical Services teams, the Gina joint was connected to the concrete caisson by pumping *Mapefill MF 610* into formwork.

Mapefill MF 610 is a fiber-reinforced powdered grout made from high-strength cement, select aggregates, special admixtures and polyacrylonitrile synthetic fibers. When mixed with water, it forms a fluid grout that does not segregate and is able to flow even into oddly shaped

spaces. The product has low capillary absorption (complying with EN 13057), is highly impermeable to water, adheres very strongly to iron and concrete, and is highly resistant to mechanical stress, including dynamic stress.

Thanks to its performance characteristics, *Mapefill MF 610* fulfilled all the client's requirements during both the application phase and the qualification tests.

Anchoring the hinges and waterproofing the caissons

The metal floodgates are anchored to the reinforced concrete caissons with a hinge mechanism, which allows them to be raised and lowered depending on the dangerously high tides. As Enrico Pellegrini, former site manager for Grandi Lavori Fincosit SpA, explains in the accompanying interview, anchoring the hinges to the caissons required a great deal of design work and testing to identify the most appropriate products and technology in order to fasten a metal component, in this case the hinge, to concrete.

MAPEI specifically developed ***Mapefill MF**** for this application. *Mapefill MF* is an expansive, fluid mortar that was used for anchoring the hinges onto the concrete caissons in specific positions with great precision. The mortar was applied by injecting it into one side of the hinge, and then it flowed to perfectly saturate all the gaps and free spaces to form a single, solid body with the caisson onto which it was anchored.

The waterproofing system for the caissons, which are then placed on the seabed, also had to be carefully designed and thoroughly tested in order to identify products that would guarantee excellent, long-lasting results. After tests were performed on site and in the lab, the external surface of the caissons was treated with MAPEI's ***Mapelastic Foundation****. This is a two-component, flexible, cementitious mortar for waterproofing concrete surfaces subjected to both negative and positive hydraulic pressure.

The product chosen for the inside of the caissons, on the other hand, was ***Mapelastic*** two-component, flexible cementitious mortar. It was applied after treating the substrates with a specially designed version of ***Primer 3296****.

HOW WE SOLVED THE PROBLEM OF THE HINGES

The hinges for the barriers are the technological heart of the mobile barriers

An interview with Enrico Pellegrini, former site manager for Grandi Lavori Fincosit SpA

Q: ***Mr. Pellegrini, what role did you have in the MOSE project?***

A: From 2005 to 2015 I was the manager of the site where the precast concrete caissons were manufactured for the inlets to the ports of Lido San Nicolò and Malamocco. The site was located on a 13-hectare artificial embankment created specifically for the project on the island of Pellestrina.

Q: ***Which part of the work on the MOSE project proved to be the most challenging with regards to its design and the materials to be applied?***

A: The structure of the MOSE barriers is made up of two main elements: The reinforced concrete caissons, which anchor the barrier to the seabed, and the metal floodgates, which are those big, yellow boxes that we can see rising up out of the sea to stop high tides. The two elements are joined together by a highly sophisticated device: The hinge. The caissons are fixed permanently to the seabed, whereas the metal floodgates can be periodically removed to carry out scheduled maintenance work. This means that the hinge element must allow the floodgates to be disconnected from the caissons, which is why it is made out of two parts: The female part, which is permanently fastened to the caisson, and the male part, which is an integral part of the floodgate. To anchor the steel female part to such an enormous reinforced concrete structure (the largest caissons are as big as a three-story apartment block) with pinpoint precision was a really challenging design and construction matter, which we managed to overcome by applying materials of the very highest quality and by planning the application procedures down to the minutest details.

Q: ***What problems did you have to overcome to anchor the hinges in place?***

A: It was extremely important that the female hinges can be replaced and maintained at regular intervals; this won't be possible for the concrete caissons. The difference of the two materials (reinforced concrete and steel), in terms of thermal and elastic behavior, the difference in the design codes and construction methods applied, as well as the need to create a seal that would remain perfectly watertight at a great depth, required a very careful, in-depth study of the behavior of the two elements when joined in one single element. This is why *Mapefill MF* was chosen: A product that would be able to guarantee the maximum level of adhesion between the two elements, with high mechanical properties, while maintaining sufficient elasticity and the ability to be distributed into any tiny gaps in the spaces left to connect the two elements together.

Q: ***Any structure immersed in water must be fully waterproof. What were the most significant characteristics of this part of the work?***

A: As I mentioned previously, while the floodgates will have to be extracted so their protective waterproofing system can be replaced and maintained at regular intervals, this won't be possible for the concrete caissons.

1. Reinforced concrete caissons used in the MOSE project during their manufacture. The joint housings for the caissons were connected together with a jointing system made up with *Mapefill MF 610*.
2. Preparing and positioning formwork on the caissons before pumping *Mapefill MF 610*.

This part of the work, as with the challenge of anchoring the hinges, was closely followed by the MAPEI Research & Development Laboratory in Milan, which carried out testing on the application of the products for the entire duration of construction.

Source of information in the article: Italian Ministry of Infrastructures and Transport - Interregional Department of Public Works for Veneto - Trentino Alto Adige - Friuli Venezia Giulia, former Magistracy for the Waters of the Province of Venice

* Although *Mapefill MF 610*, *Mapefill MF*, *Primer 3296* and *Mapelastic Foundation* are not currently available in the North American market, this article highlights MAPEI's system-solution approach to jobsites and our ability to develop products to meet specific needs. How may we help you? For more information, please contact our Customer Service Department at 1-800-42-MAPEI.

This made it extremely important to design one or several systems that would completely waterproof the structure. This is why, for the construction joints, three waterstop systems were provided, with the external one coated with a cementitious waterproofing membrane. In spite of all these precautions, after carrying out a thorough analysis of the costs and benefits, the contractor decided on site to integrate these safety systems even further by treating the entire surface of the caissons, from top to bottom, with a specially designed formula of *Mapelastic Foundation* mortar, which was further integrated by applying a coat of a primer specifically designed by the MAPEI R&D laboratories.

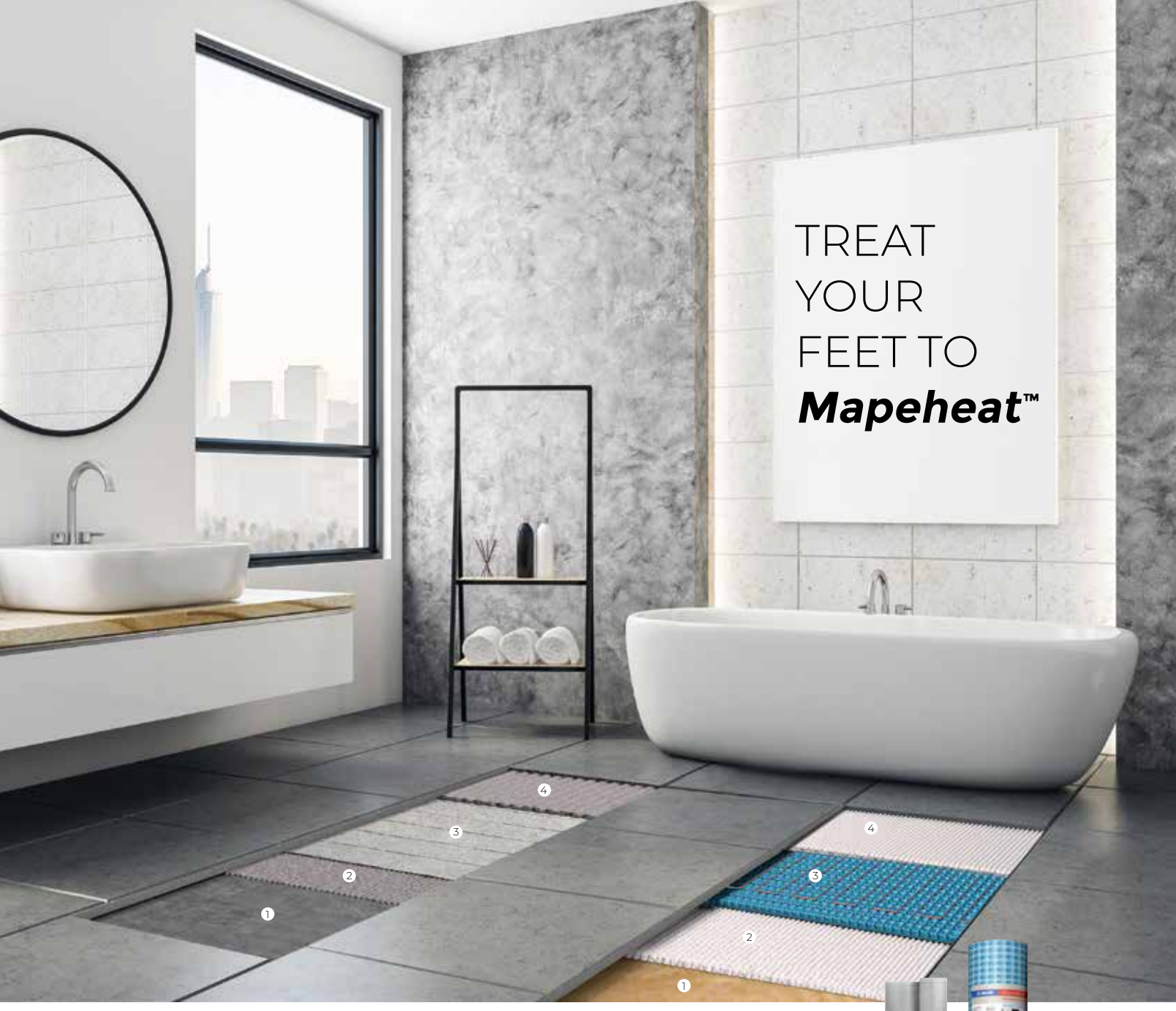
Q: ***Because of the new materials and technologies adopted, do you think the MOSE site can be considered a pilot project for other sites of this type?***

A: Obviously, I can only speak for the work carried out on the site, with which I was involved, but I would say that, more than anything else, it was the way the project was managed from a technical point of view that could be used as an example of how to set up a major works site. One such example is the care taken in choosing the right materials, which was dictated not only by the principles of affordability, but also by means of a long series of tests and cost/benefit evaluations.

Q: ***You worked very closely with MAPEI Technical Services and the company's R&D laboratories in Milan. How did this team approach work exactly?***

A: I was in no doubt about *Mapelastic*'s waterproofing capacity and elasticity, but I was still concerned about two factors: How strongly it would bond to the substrate and its durability. That's why I personally wrote out a procedure that included an extensive range of tests to be performed on site to demonstrate which would be the best technology to prepare the base, but also which was the best primer to apply in order to guarantee the highest level of adhesion for the membrane. The MAPEI product performed better than those of the competitors, thanks also to the direct and prompt interest shown by the company's R&D lab, which made some slight modifications that greatly improved its final performance properties. Besides, it was really comforting to be able to rely on an experiment carried out by the laboratory at the Polytechnic of Milan, which demonstrated that *Mapelastic* maintains its performance properties even after a series of extended immersion cycles in seawater.

Also, worth highlighting is how the MAPEI lab followed our progress throughout the entire construction, which lasted around one year, by coming to monitor and test the application of the product on a regular basis. We found this to be very reassuring, and it provided us with a further guarantee of the final quality of the work we carried out on site.



HASSLE-FREE SYSTEM

4 *Keraflex™ RS*
3 ***Mapeheat Mat***
2 *Keraflex RS*
1 Plywood or concrete

Mapeheat Mat is a pre-built and pre-wired floor-heating fabric designed for easy installation under many types of flooring. It is available in over 70 sizes and can be ordered custom-sized to fit any space.

FLEXIBLE SYSTEM

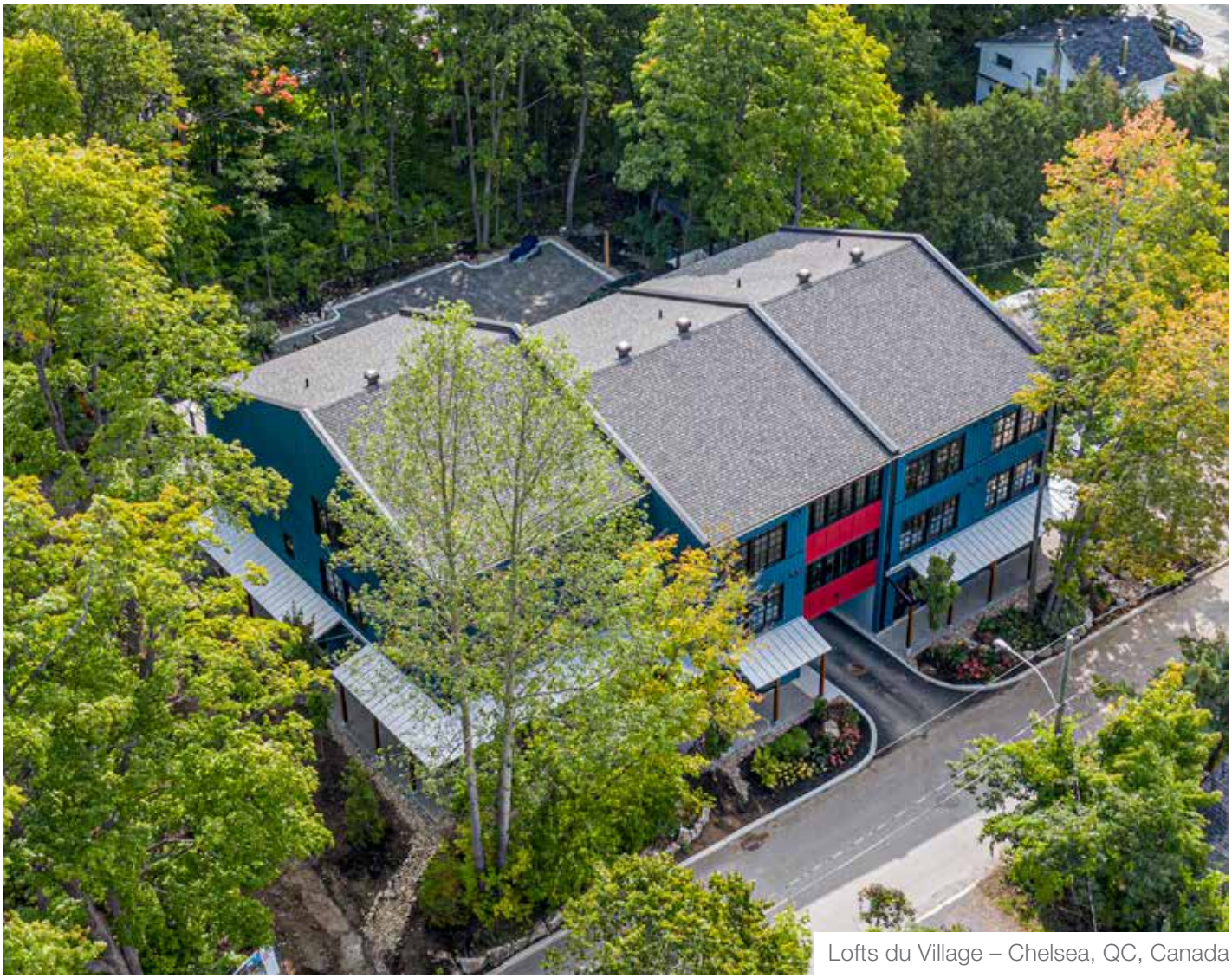
4 *Keraflex Super* (White)
3 ***Mapeheat Cable*** and ***Membrane***
2 *Keraflex Super*
1 Plywood or concrete

The *Mapeheat Cable* & *Membrane* floor-heating system offers integrated waterproofing and crack-isolation for interior residential spaces. It is available in 33 lengths to accommodate areas both large and small.

Both systems are available in 120 V and 240 V, and are compatible with the *Mapeheat* thermostat of your choice.

Our easy-to-install, versatile and advanced **electric floor-heating solutions** are suitable for tile, stone, laminate, engineered wood and luxury vinyl tile/plank floors. No matter the shape or size of your room, there is a *Mapeheat* solution to heat your space from the floor up. For details, visit www.mapei.com.

MAPEI®
ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING



Lofts du Village – Chelsea, QC, Canada

HEAT RETREAT

MAPEI provides single-source solution for luxury spa's heated floors

Overview: When the people of Canada's capital region seek relief from city life, they often retreat to the serene, natural beauty found in Quebec's Gatineau hills. Here, where temperatures can drop to -38°F (-39°C) and snow falls seven months out of the year, heated flooring is a practical luxury. To help recreate a Scandanavian-style getaway for the Groupe Nordik's Lofts du Village project, specifiers chose one of MAPEI's *Mapeheat* floor-heating systems.

The new Lofts du Village ("Village Lofts") are located at the entrance of Gatineau Park and offer luxurious short-term and long-term luxurious accommodations for visitors. Since 2005, Groupe Nordik has offered the winning formula of luxury resort getaways with a rustic Scandinavian flavor. Their growing business led them to plan a new construction project consisting of luxury lofts and studios.

Design plans called for an open space concept featuring spacious kitchens, as well as modern bathrooms with separate water closets. For a final touch, the designer wanted to incorporate ultra modern heated floors to combat the frigid temperatures. Products from MAPEI's Tile & Stone Installation Systems were specified for the tiling job, but MAPEI had the solution for evenly heated floors as well.

MAPEI products on the jobsite

MAPEI Coordinator Justin Lafontaine was happy to point out to the Groupe Nordik that MAPEI had recently added its *Mapeheat* line of products, providing a single-source solution with unbeatable quality. *Mapeheat* offers easy-to-install, floor-heating solutions that combine installation versatility with advanced new technology. "Nordik-Spa Nature is a well-known luxury resort with an international reputation that has helped them grow quickly in the region," he noted. "They planned an entirely new building in the picturesque Outaouais, expanding the capacity of their main resort. It's full of top-of-the-line features – something that's always been our specialty."

The installation of that new project – Lofts du Village – required a high-end waterproofing and crack-isolation underlayment for 2,200 sq. ft. (204 m²) of various types of ceramic tile flooring, some of which was large-format. In addition to the bathrooms of all the lofts and studios, the heated-floor solution was to be added throughout the premium suite. With that in mind, the flexibility of ***Mapeheat Membrane*** uncoupling crack-isolation underlayment interlaced with ***Mapeheat Cable*** fit the bill perfectly, along with added assurance from ***Mapeguard WP 200*** waterproofing sheet membrane. They also chose the programmable thermostat option ***Mapeheat Thermo Touch***, which offers 7-day programmability, floor-sensing and ambient-air sensing.

That set the stage for the large-format tile to be installed with ***Keraflex Plus*** professional, extra smooth, non-sag/nonslump, large-and-heavy-tile mortar and (where needed) ***Ultraflex LFT*** premium, large-and-heavy-tile mortar with polymer. ***Ultracolor Plus FA*** rapid-setting grout was selected for its exceptional aesthetic quality, its stain-resistance properties and its ease of maintenance. In select areas, they went with ***Kerapoxy*** premium epoxy grout instead, for extra chemical resistance.

In just a few weeks, they had installed some 2,200 square feet (204 m²) of heated flooring – overlaid with ceramic tile – to meet the high standards for modern luxury that Groupe Nordik is known for.

Product Focus

MAPEI's *Mapeheat* floor-heating systems offer the industry's most comprehensive line of UL-classified, radiant floor-heating products on the market. Here's a look at some of the heavy hitters.

Mapeheat Membrane
Mapeheat Membrane is a lightweight uncoupling, crack-isolation and waterproofing membrane that is also designed to accommodate the installation of MAPEI's *Mapeheat Cable*. The membrane's thin profile – less than 1/4" (6 mm) – works well with remodeling projects in which a new floor is installed directly over a preexisting one.

Mapeheat Cable
Mapeheat Cable is a free-form, twisted-pair, floor-heating cable for use in any residential interior room. The cable can be spaced on site to provide 10, 12 or 15 W per sq. ft. based on the desired wattage output requirements of the installation. *Mapeheat Cable* is available in 33 lengths to accommodate areas as small as 6 sq. ft. (0.56 m²) and up to 293 sq. ft. (27.2 m²).

Mapeheat Thermo Touch
Mapeheat Thermo Touch thermostat is a 7-day programmable, electric floor-heating thermostat that features a 3.5" (9 cm) color touchscreen display for accessing the super-intuitive user interface and energy use monitor. The thermostat features dual-voltage compatibility (120 V and 240 V), a physical on/off switch and built-in GFCI protection (Class A).

TECHNICAL DATA

Lofts du Village – Chelsea, QC, Canada

Years of construction: 2019-2020

Year of MAPEI involvement: 2020

Where MAPEI products were used: Some of MAPEI's *Mapeheat* family of products were installed under 2,200 sq. ft. (204 m²) of tile throughout loft and studio bathrooms. These included *Mapeheat Membrane*, *Mapeheat Cable* and programmable thermostat *Mapeheat Thermo Touch*.

Project owner: Groupe Nordik

Contractor: Robertson Construction

Main Architect: Moon-Matz Ltd.

MAPEI coordinator: Justin Lafontaine

MAPEI distributor: Prosol Ottawa

Photographer: Olivier Gariépy

Challenges: Lofts du Village luxury lofts and studios required state-of-the-art heated flooring.

MAPEI Products

- *Keraflex™ Plus*
- *Kerapoxy®*
- *Mapeguard® WP 200*
- *Mapeheat™ Cable*
- *Mapeheat Membrane*
- *Mapeheat Thermo Touch*
- *Topcem™ Premix*
- *Ultracolor® Plus FA*
- *Ultraflex® LFT™*

READY FOR A CLOSE-UP

MAPEI helps historic movie theater return to limelight

Overview: One of California's more famed theaters, the Oroville State Theatre was built in 1928 utilizing pour-in-place construction. The building's facade had worn away in places over the years and corroding steel was being exposed. The theater's owner and contractor knew that they needed a solution that was not just a temporary measure, but a permanent, long-lasting fix. The contractor had worked with MAPEI before and knew just who to call for a system solution.

The Oroville State Theatre in Oroville, CA, is listed on the National Register of Historic Places. And, if you are given to believe in ghosts, it would be easy to believe that this place is surely haunted – if not by one or two of the many actors and actresses who have graced her silver screens, then by the theater's own dramatic past. After all, her steel bones were exposed for all to see, with rust stains bleeding down the ornate concrete facade.

Oroville State Theatre – Oroville, CA, USA

Designed by famed California Art Deco architect Timothy Pflueger and built by T&D Jr. Enterprises at the tail end of the roaring '20s, the Oroville State Theatre sprang to life in a charmed time when movies reigned supreme and California fed the world – both figuratively and literally.

The area was rich in agriculture; in fact, it was the agricultural industry that supported Oroville through the early days of the Great Depression when nearby communities did not fare as well. That richness was reflected in the nearly 1,600-seat Oroville State Theatre, which even boasted a Wurlitzer pipe organ. Unfortunately, the economic downturn of the Great Depression hit the area all too soon.

The theater was sold to United Artists (UA), and the company "modernized" the interior by adding a wall to divide the auditorium into two 600-seat spaces to show more films. UA also, unfortunately, allowed both the interior and the exterior to lose the grandeur of the theater's golden-era past. By the time UA sold the theater to the City of Oroville in 1983, it was a ghost of its former self.

It was not until 2014 that the Oroville City Council stepped in and voted to allow the State Theatre Arts Guild (STAGE), a non-profit organization, to operate and manage the theater as an all-volunteer venue.

STAGE knew that the Oroville Stage Theatre deserved to be returned to the showplace status of its glory days. Thus, the organization embarked on a community effort to restore the theater by beginning an initiative called "One Pipe at a Time" in homage to the beloved Wurlitzer organ that was reinstalled and once again plays out over the auditorium on special occasions.

(Editor's note: The organ was in storage near the Oroville dam and was reinstalled after the dam's spillway was repaired, thanks to another successful MAPEI intervention. See the "Oroville Dam"

case study in *Realtà MAPEI North America*, No. 30, for details on that project.)

To restore the theater's exterior, STAGE contacted Pullman Construction. Pullman, in turn, reached out to MAPEI.

MAPEI products on the jobsite

"It was one of those calls you love to get," said Rob Dyer, MAPEI's Western Regional Sales Manager and the company's representative on this project. "Not only was it an interesting project on a well-known building in the local area, but the GC knew our products and knew that we were the right fit to restore this important structure."

A specification was not needed: MAPEI had the best system solution in hand. Dyer, along with MAPEI's Northern California Concrete Restoration Specialist, Lemay Mitchell, produced and implemented a MAPEI system solution to repair and protect the theater. In theater terms, it is Mitchell who gets the "director's credit" due to training the installers to ensure the proper placement of products – from the beginning to the end of the "production."

"A four-man crew handled this project," Dyer explained. First, the exposed and corroded steel rebar was cleaned using a rotary hammer, and the surrounding concrete was profiled to a minimum of concrete surface profile (CSP) #5 (medium-to-heavy shotblasting). Then, the rebar was coated with ***Mapefer 1K*** corrosion-inhibiting coating.

Cracks were sealed with ***Mapeflex EMC-1*** patching compound. ***Planitop XS*** repair mortar was then trowel-applied to the surface of the facade; the mortar filled in voids, repaired damage and helped to recreate decorative elements that had been lost to time and wear.

"We had sent a paint chip from the facade to our lab," Dyer continued. "They matched the historic color exactly, creating a shade of ***Elastocolor Coat*** that is a perfect shade and tone twin to the Oroville State Theatre."

Before *Elastocolor Coat* waterproof coating could be spray-applied, however, the crew had to apply ***Elastocolor Primer WB*** to the substrate. Once the surface was primed, the theater was given a fresh coat of custom-colored *Elastocolor Coat*.

"In all, it was 2,000 square feet [186 m^2] of vertical concrete restoration, corrosion-inhibitor application, concrete repair, crack repair, as well as the application of elastomeric coating," Dyer said. "We started in June and we finished in August. This was a quick restoration."

With her exterior restored to its former glory, the Oroville State Theatre now provides us with a glimpse of the past – and an invitation to step inside history. Who knows? Maybe she also offers the chance to walk among a few ghosts.

TECHNICAL DATA

Oroville State Theatre – Oroville, CA, USA

Year of renovation construction: 2020

Year of MAPEI involvement: 2020

Architect: Timothy Pflueger

MAPEI coordinators: Rob Dyer and Lemay Mitchell

Project owner: Oroville State Theatre

MAPEI distributor: Spec-West

General contractor: Pullman Construction

Project manager: Nancy Weston

Photographer: Rob Dyer

Project size: 2,000 sq. ft. (186 m^2)

Where MAPEI products were used: All work was on the building's exterior. Exposed rebar was coated with *Mapefer 1K* corrosion-inhibiting coating. Cracks were sealed with *Mapeflex EMC-1* patching compound. *Planitop XS* repair mortar was trowel-applied onto cracks and voids in the surface of the facade and molded to recreate decorative elements. *Elastocolor Primer WB* was spray-applied onto the substrate and then a custom color of *Elastocolor Coat* was applied over the repairs.

Challenges: Matching the color of the existing paint on the historic theater. By using a paint chip, MAPEI's R&D color specialists were able to create the exact shade.

MAPEI Products

- *Mapefer™ 1K*
- *Mapeflex® EMC-1*
- *Planitop® XS*
- *Elastocolor® Primer WB*
- *Elastocolor Coat* (custom color)

HONORING MAPEI ICONS

The new Assolombarda Auditorium has been named after Giorgio Squinzi

The hall's naming ceremony was held at the association's headquarters in Milan on Oct. 2

These articles are reprinted from *Realtà MAPEI International* magazine, Issue #83.

On October 2, one year after the passing of Giorgio Squinzi, former CEO of the MAPEI Group, Assolombarda (the association of the companies located in Milan and in the provinces of Lodi, Pavia, Monza and Brianza) decided to pay tribute to his memory by naming the auditorium of its Milan headquarters after him and even including one of his most favorite mottos, "Never stop pedaling."

This is a tribute to a businessman who always believed in the power of associations, holding various positions both in Italy (he was President of the Italian Federation of the Chemical Industry from 1997 to 2003 and from 2005 to 2011, and also President of Confindustria, the Confederation of the Italian manufacturing and service companies, from 2012 to 2016) and abroad (he was President of CEFIC, the European Chemical Industry Council, from 2010 to 2012).

The naming ceremony was attended by his children, Veronica Squinzi and Marco Squinzi, both MAPEI's CEOs, and his sister Laura Squinzi, President of MAPEI's Board of Directors, accompanied by her daughter Simona Giorgetta, a member of MAPEI's Board of Directors. "We are genuinely proud and excited about Assolombarda's wonderful tribute to our father and his deep involvement in promoting entrepreneurship and associations, something he truly believed in and was fully committed to. This kind of recognition of his work encourages us to continue along the same path with just as much passion, enthusiasm and dedication," Veronica Squinzi and Marco Squinzi commented.

A number of officials and delegates from the business world in Lombardy also attended the ceremony, including Carlo Bonomi, President of Confindustria, and Alessandro Spada, President of Assolombarda, who remembered Dr. Squinzi as being "one of the greatest businessmen in Italian history. A perfect example of courage and vision, a man who was equally committed to his family, business, entrepreneurial associationism, sport, culture and social work. We hope he will continue to be a shining example inspiring us as we set about our own projects and ideas."

Spada and members of Assolombarda hoped that the hall dedicated to Giorgio Squinzi would gradually develop into a congregation and meeting place for "planning for the future together" based around successful "teamwork," something Giorgio Squinzi believed in so strongly.

FROM LEFT: Alessandro Spada, Simona Giorgetta, Marco Squinzi, Veronica Squinzi, Laura Squinzi and Carlo Bonomi in the Assolombarda Auditorium named after Giorgio Squinzi

Giorgio Squinzi and Adriana Spazzoli inscribed in the Memorial Chapel of Milan

On November 2, Giorgio Squinzi, former CEO of the MAPEI Group, and Adriana Spazzoli, the Group's former Director of Operational Marketing and Communication, who passed away at the end of 2019, were both inscribed in the Memorial Chapel of the Monumental Cemetery in Milan, a shrine devoted to the memory of Milan's most illustrious citizens. Along with 16 other famous figures from Milan, who have helped raise the status and reputation of this city, the two entrepreneurs were unanimously chosen by a committee chaired by Lamberto Bertolé, Milan City Councilor.

During the ceremony attended by the Mayor of Milan, Giuseppe Sala, and the Squinzi family, Giorgio Squinzi and Adriana Spazzoli's names were inscribed in the Memorial Chapel, a pantheon for citizens of Milan, along with the following sentiments: "Giorgio Squinzi and Adriana Spazzoli, a couple in everyday life and at work, symbolize Milan's great tradition for family industry. Thanks to their inventiveness, MAPEI is now a leading global player in chemical products for the building industry. They were also firmly committed to sponsoring Italian football and cycling at the very highest levels, as well as keen supporters of culture in our city. MAPEI is, in fact, one of the Founding Partners of La Scala Opera House."

Giorgio Squinzi and Adriana Spazzoli indeed had a great passion for business, culture, sport and the city of Milan, where MAPEI was originally founded and with which it has always maintained very close ties. The close bonds with the city were also emphasized by Veronica Squinzi and Marco Squinzi, MAPEI's current CEOs, who noted: "Our parents always took part in city life with great enthusiasm and devotion. Everything they did for Milan came from their hearts, unhesitatingly and with great passion. They helped promote some of Milan's important landmarks, as well as promoting many solidarity projects for the city."

CasArché: The community for mothers and their children has been named after Adriana Spazzoli

On Saturday, October 3, during Arché Live, CasArché was officially named after Adriana Spazzoli, MAPEI Group's Director of Operational Marketing and Communication until 2019 and a great supporter of the Arché Onlus Foundation.

Veronica Squinzi and Marco Squinzi, who are both MAPEI's CEOs, thanked Father Bettoni – who first established Arché in 1991 in response to the HIV healthcare emergency among children – for this honor and stated: "We firmly believe that our mother would have been delighted. She was a very keen supporter of all Arché Foundation events and was committed to community projects in the realm of social support. Knowing that several mothers and their children will be taken in at Casa Adriana seems to us to be a wonderful way of remembering that our mother's support for the Arché cause is still very much ongoing."

CasArché, now called Casa Adriana, provides a home for nine mothers and their children with problems related to maltreatment, immigration, social alienation and mental health issues, who receive assistance in finding their own home and work, so that they can recover both physically and mentally. The building, formerly a nursery school, was set up in 2016 with the help of products and technical assistance donated by MAPEI (see *Realtà MAPEI International*, Issue #79).

Innovation Lounge: MAPEI collaborates on marine Innovation Lounge

MAPEI Corporation and interior designer and furniture supplier Shores Global are collaborating on Innovation Lounge, a space designed to enable vendors across the marine interiors industry to showcase their products to cruise executives.

Located in Miami, FL, and curated by marine interior design firm Tillberg Design of Sweden, the Innovation Lounge includes a range of rooms replicating those typically found onboard a cruise ship. They include a suite, stateroom, bathroom, balcony, spa, bar and restaurant, reception area, pool and open deck, retail area and more.

MAPEI's Products for the Marine Industry are featured extensively throughout the rooms.

"The Innovation Lounge will support breakthrough technologies, sustainability and creativity through several environments that can be seen on both land and sea," said Susan Sadolin, CEO of Shores Global. "Essentially, we're creating a long-term convention where leading vendors can showcase their products, and cruise and hotel decision makers have a single access point to all necessary interior solutions."

"In recreating a ship board experience, the Innovation Lounge presents a unique opportunity to actually see MAPEI's products in use," said Guido Sardi, MAPEI Corporation's Marine Line's Business Development Manager. "The Lounge allows people to interact with our products in a variety of settings, to actually step on the terrazzo, to see how durable and beautiful they are. Looking at pictures online or in a catalog is nice, but there is no substitute for actually seeing the products in use."

The Innovation Lounge will be open from January 2021 until December 2022.

Squinzi VP: Marco Squinzi is named VP of Italian Chemical Association

MAPEI Group's Corporate CEO and Research and Development Director, Marco Squinzi, has been named the Vice President of the Federchimica Confindustria. Federchimica is the abbreviated name of the Italian Federation of the chemical industry. Founded in 1916 as the Italian Association of chemical-pharmaceutical entrepreneurs, it became the Federchimica in 1984.

The primary objectives of the Federchimica are the coordination and the protection of the role of the Italian chemical industry, as well as the following:

- To establish guidelines in economic, industrial and trade union matters and also in the areas of environment, innovation and energy policies.
- To promote these policies with public authorities, national economic organizations, other entrepreneurial organizations, international organizations to whom the Federation belongs, trade union leaders, and environmental and consumer organizations.
- To contribute to the establishment of an accurate image of the chemical industry in the public's opinion.
- To carry out studies and projects that inspire and legitimize entrepreneurial choice.
- To contribute to the constant promotion of the level of quality of the companies associated, with a particular attention to the organization of initiatives in the field of innovation.

Currently, there are 1,400 member companies, with a total of 90,000 employees, as part of the Federchimica. They are grouped into 17 associations, which are articulated into 38 product groups. Federchimica is a member of Confindustria (General Confederation of the Italian Industry) and CEFIC (European Chemical Industry Council).

Sassuolo: MAPEI Stadium hosts Italian national team and Super Cup final

On November 15, the Italian national football team beat Poland 2-0 to ascend to the top of its Nations League qualifying group. The Italian team had a definite Team Sassuolo flavor: Manuel Locatelli (Sassuolo's midfielder) played the match with great energy and accuracy; Domenico Berardi (Sassuolo's winger and forward) scored two goals; and Gian Marco Ferrari (Sassuolo's defender) was sitting on the bench. On January 20, MAPEI Stadium in the Italian city of Reggio Emilia hosted the Italian Super Cup final between Juventus and Napoli. Team Sassuolo is MAPEI's football (soccer) team based in the Italian town of Sassuolo.

Domenico Berardi advances the ball.

TOOLS FOR TRANSPARENCY

MAPEI's EPDs and Manufacturer's Inventories

The term "transparency" has quickly grown in importance among owners, architects, designers and contractors based on the industry's growing health and environmental concerns. Simply put, transparency requires manufacturers to disclose:

- The life cycle of a product's environmental impacts – from material extraction through production, shipping, use and disposal.
- Materials ingredients in building products, in hopes of creating more sustainable and healthy indoor environments.

Green building standards and certifications

Green building standards and certification programs started the industry down a path of material ingredient disclosure. These include the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Version 4, the International Living Future Institute's (ILFI) Living Building Challenge (LBC) and the International WELL Building Institute's (IWBI) WELL Building Standard. The material credit categories for these standards and certification programs focus on better understanding what materials are made of and the effect that those components have on human health and the environment.

The oldest and most widely known standard in the industry, LEED, recently increased its Material and Resources credit category by adding three credits that deal directly with materials transparency.

- Environmental Product Declarations (EPDs)
- Raw Materials Sourcing
- Material Ingredients

In each credit, there is one point available for disclosure and another point available for optimization of product selection. This article will focus on the the credit Material Ingredients. (Note: For more information about MAPEI's EPDs, see the article "Why, We Do Declare" in *Realtà MAPEI North America*, Issue #30.)

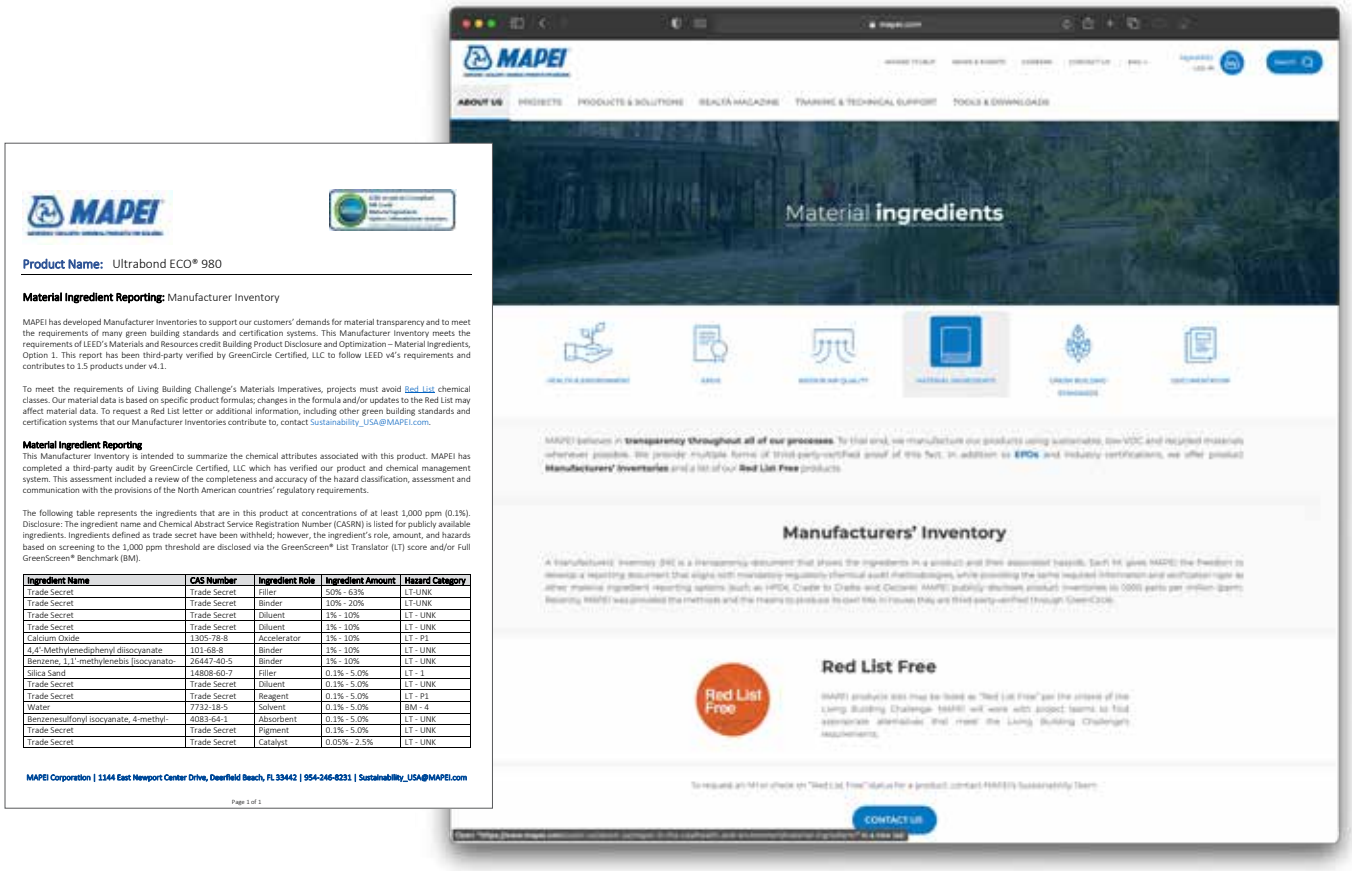
The Material Ingredients credit is focused on the negative effects that building materials have on human health. A better understanding of what goes into what we build is a critical first step in minimizing or preventing potentially harmful exposure. The one point for disclosure is earned through identifying 20 products from at least five manufacturers with material ingredient documentation.

A number of acceptable material ingredient documents cover health impacts, as is shown below. Customers are most familiar with Health Product Declarations (HPDs), Declare product labels and Cradle to Cradle certifications.

- Manufacturer's Inventory (MI)
- Health Product Declaration (HPD)
- Cradle to Cradle, where a product has Material Health Certificate or is Cradle to Cradle Certified under the standard Version 2 (Basic level) or Version 3 (Bronze level)
- Declare product label
- Product Lens Certification
- Facts Sustainability Certification – NSF/ANSI 336: Sustainability Assessment for Commercial Furnishings Fabric
- ANSI/BIFMA e3 Furniture Sustainability Standard[1]

MAPEI's use of the Manufacturer's Inventory

Subsequent to the creation of these standards, sustainable project teams demanded manufacturer transparency. In order to answer customers' needs, as well as show our commitment to transparency, MAPEI discloses material ingredients. In considering the requirements of various material ingredient reports related to MAPEI's 1,500+ products, MAPEI chose to pursue the Manufacturer's Inventory



(MI) pathway. An MI is a transparency document that shows the ingredients in a product, as well as any associated hazards. Manufacturer's Inventories give MAPEI the freedom to develop a reporting document that aligns with mandatory, regulatory chemical audit methodologies, while providing the same required information and verification rigor as other material ingredient reporting options such as HPDs, Cradle to Cradle certifications and Declare labels.

MAPEI is required to publicly disclose product inventories to 1,000 parts per million (ppm). Recently, MAPEI was provided with the methods and means to produce its own MIs in-house; this process required collaboration among several internal departments including Technical Services, Sustainability, R&D and Purchasing, as well as our suppliers and several third-party organizations.

MAPEI has also taken the extra step of having our MIs third-party-verified to prevent greenwashing (the process of conveying a false impression or providing misleading information about how a company's products are more sustainable). GreenCircle Certified helps MAPEI to ensure integrity of our sustainability claims by verifying that our documents follow applicable standards and guidelines. Choosing MAPEI's GreenCircle Certified products helps our customers to make educated product selection decisions to meet rigorous green building standards.

As a bonus, under the newest version of LEED (Version 4.1), our MIs are worth 1.5 products because they are third-party-verified. We now offer more than 60 MIs and will continue to grow this program in 2021.

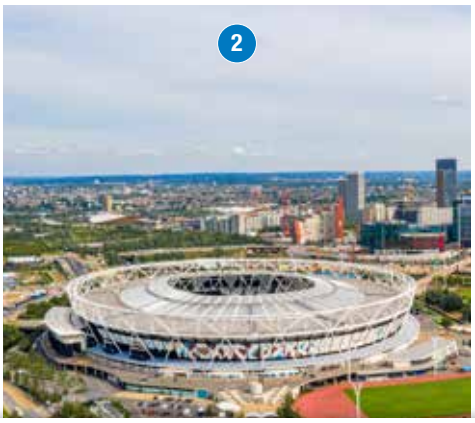
For project teams working on sustainable buildings, an MI is just one of many green attributes or certifications that our products may have. When combined with our other green product certifications – such as EPDs, SCS Indoor Advantage Gold certification for low VOC emissions, recycled content and more – our products can contribute to multiple credits in various green building standards and certification programs. To simplify our contributions, MAPEI has created Sustainability Product Reports to clearly show how each product contributes to various green product standards and certification programs.

For more information about our MIs or Sustainability Product Reports, visit each product page or the Product Information Library on our Website. You can also discover our growing list of products by visiting us on the Website for mindful MATERIALS, or by contacting us directly at sustainability_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).

[1]Source: https://www.usgbc.org/credits/new-construction-core-and-shell-schools-new-construction-retail-new-construction-healthca-24

About the author:
Brittany Storm

Brittany is the Sustainability Manager for MAPEI Corporation. Her background as a sustainable building consultant and background in construction allow her to speak to audiences about both the big picture and technical aspects of a project. Brittany is a LEED Accredited Professional (AP) with BD+C and ID+C specialties as well as a WELL AP and Fitwel Ambassador. In addition, she is active on many sustainability committees.



MAPEI'S OLYMPIC VENUES AROUND THE WORLD

MAPEI has been the industry's top choice for outfitting the multiple sports venues in the Olympic Games worldwide. From Tianjin, China, to Rio de Janeiro, Brazil – MAPEI's most recognizable products and single-source solutions have been used to install the tracks, bond the turf and help build the world's biggest stage that celebrates the highest athletic achievements.

Since the Montreal Olympic Games in 1976, MAPEI has continued to supply products to complete multi-million-dollar Olympic venues. Installations over the years have included high-performance sports surfaces, athletic tracks, public arenas, tennis courts, swimming pools, multifunctional synthetic turf areas, hockey rinks and skating rinks.

For every major project featured here, MAPEI took a front seat with premium adhesives, waterproofing, products for sports flooring and more. And these projects are just some of the many to which MAPEI has contributed.

To view in detail how each winning project was accomplished, visit the "Global Projects" page at www.mapei.us and www.mapei.ca.

1 Tianjin Olympic Center Stadium – Tianjin, China
2 London Olympic Stadium – London, England
3 FIFA Women's World Cup soccer field – Montreal, Canada
4 UNIFA (University of the Brazilian Airforce) athletic track – Rio de Janeiro, Brazil
5 Ski Jump Judges Tower – Salt Lake City, Utah, USA
6 Oquirrh Park Olympic Speed Skating Oval – Salt Lake City, Utah, USA
7 Oaka Olympic Stadium – Athens, Greece
8 Vancouver Olympic Paralympic Centre – Vancouver, British Columbia, Canada

MAPEI® TECHNICAL INSTITUTE

The MAPEI Technical Institute (MTI) provides the highest-quality, basic product knowledge with online trainings (including weekly Webinars and MTI-TV Tech Tips) as well as demonstrations and socially distanced hands-on education to architects, contractors, installers and distributors in 9 locations: Deerfield Beach (FL), San Bernardino (CA), Garland (TX), Dalton (GA), West Chicago (IL) and Swedesboro (NJ), all in the USA; and Laval (Quebec), Brampton (Ontario) and Delta (British Columbia), all in Canada.

MTI-TV, Tech Tips and Webinars

Our MTI-TV video series highlighting problem-solving products features new episodes on our Website and YouTube channel. The new episodes of MTI-TV include:

- MAPEI's National Presenter, Sam Biondo, interviewing MAPEI's Sustainability Manager, Brittany Storm (Episode #18, "Sustainability is built into MAPEI").
- "***MAPEI Flexcolor® 3D*** and ***MAPEI Flexcolor CQ***".

These episodes, as well as past episodes, can be found online at https://www.mapei.com/us/en-us/ training-and-technical-service/ video-library?category=mti-tv&searchType=2.

Also, be sure to check out our video series of Tech Tips hosted by Logan Reavis, our Technical Services Manager. Designed to be quick and helpful, the series includes such topics as:

- Keying in thin-sets.
- Working with primers for self-leveling underlayments.
- Using ***Ultrabond® Urethane Cleaner*** for wood.

To watch these Tech Tips and others like them, simply visit the Tech Tips page of the MAPEI Website's video library at https:// www.mapei.com/us/en-us/training-and-technical-service/ video-library?category=tech-tips&searchType=2.

Our online series of Webinars is ongoing in 2021. Topics include:

- An Introduction to MAPEI's Marine Line.
- MAPEI's Sheet Membrane Systems.
- Health and the Environment: Low-Emitting Materials.

These Webinars cover all of our product lines and are housed on our Website at https://www.mapei.com/us/en-us/ training-and-technical-service/webinars.

For more information, to schedule a training or to attend a Webinar, please contact us at MapeiDigital@mapei.com.

LIKE, SHARE, COMMENT

facebook.com/mapeiusa
facebook.com/mapeicanada

DO YOU FOLLOW US?

twitter.com/mapeiusa
twitter.com/mapeicanada

LIKE, COMMENT, CONNECT

linkedin.com/company/mapeiusa
linkedin.com/company/mapei-canada

WATCH ONLINE ANYTIME

youtube.com/mapeiusa
Search for “MAPEI Canada” on YouTube

CHECK OUR LATEST BLOG

mapei.com/US-EN/tech-talk.asp
mapei.com/CA-EN/tech-talk.asp

SEE THE COMPLETE PICTURE

instagram.com/mapeiusa
instagram.com/mapeicanada

THE WORLD OF

TILE & STONE INSTALLATION SYSTEMS

FLOOR COVERING INSTALLATION SYSTEMS

PRODUCTS FOR **SPORTS FLOORING**

PRODUCTS FOR **WOOD FLOORING**

CONCRETE RESTORATION SYSTEMS

PRODUCTS FOR **STRUCTURAL STRENGTHENING**

PRODUCTS FOR **UNDERGROUND CONSTRUCTION**

ADMIXTURES FOR **CONCRETE**

WATERPROOFING SYSTEMS

CEMENT ADDITIVES

PRODUCTS FOR THE **MARINE INDUSTRY***

CEMENTITIOUS AND RESIN FLOORING SYSTEMS**

** USA & Puerto Rico only*
*** Canada & Puerto Rico only*

Headquarters of North America
1144 East Newport Center Drive
Deerfield Beach, FL 33442

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

Technical Services
1-800-992-6273 (U.S. and Puerto Rico)
1-800-361-9309 (Canada)

NORTH AMERICA

United States
- Arizona
- California
- Florida
- Georgia
- Illinois
- Minnesota
- New Jersey
- Texas
- Virginia

Canada
- British Columbia
- Ontario
- Quebec

Mexico

SOUTH AMERICA / CARIBBEAN / CENTRAL AMERICA

- Argentina
- Brazil
- Colombia
- Costa Rica
- Dominican Republic
- Panama
- Peru
- Puerto Rico
- Venezuela

EUROPE

- Austria
- Belgium
- Bulgaria
- Croatia
- Czech Republic
- Denmark
- Finland
- France
- Germany
- Greece
- Hungary
- **Italy (global headquarters)**
- Norway
- Poland
- Portugal
- Romania
- Russian Federation
- Serbia
- Slovak Republic
- Slovenia
- Spain
- Sweden
- Switzerland
- The Netherlands
- Turkey
- Ukraine
- United Kingdom

ASIA / OCEANIA

- Australia
- China
- Hong Kong
- India
- Indonesia
- Malaysia
- New Zealand
- Philippines
- Qatar
- Saudi Arabia
- Singapore
- South Korea
- United Arab Emirates
- Vietnam

AFRICA

- Egypt
- Kenya
- South Africa

Your **single-source provider** for restoration, strengthening and corrosion protection

MAPEI offers a full range of products for concrete restoration, waterproofing and structural strengthening. Globally, MAPEI's system solutions have been utilized for such structures as bridges, highways, parking garages, stadiums and high-rises.

Visit **www.mapei.com** for details on all MAPEI products.

MAPEI USA
MAPEI Canada

MKT : 21-1516 PR : 9596

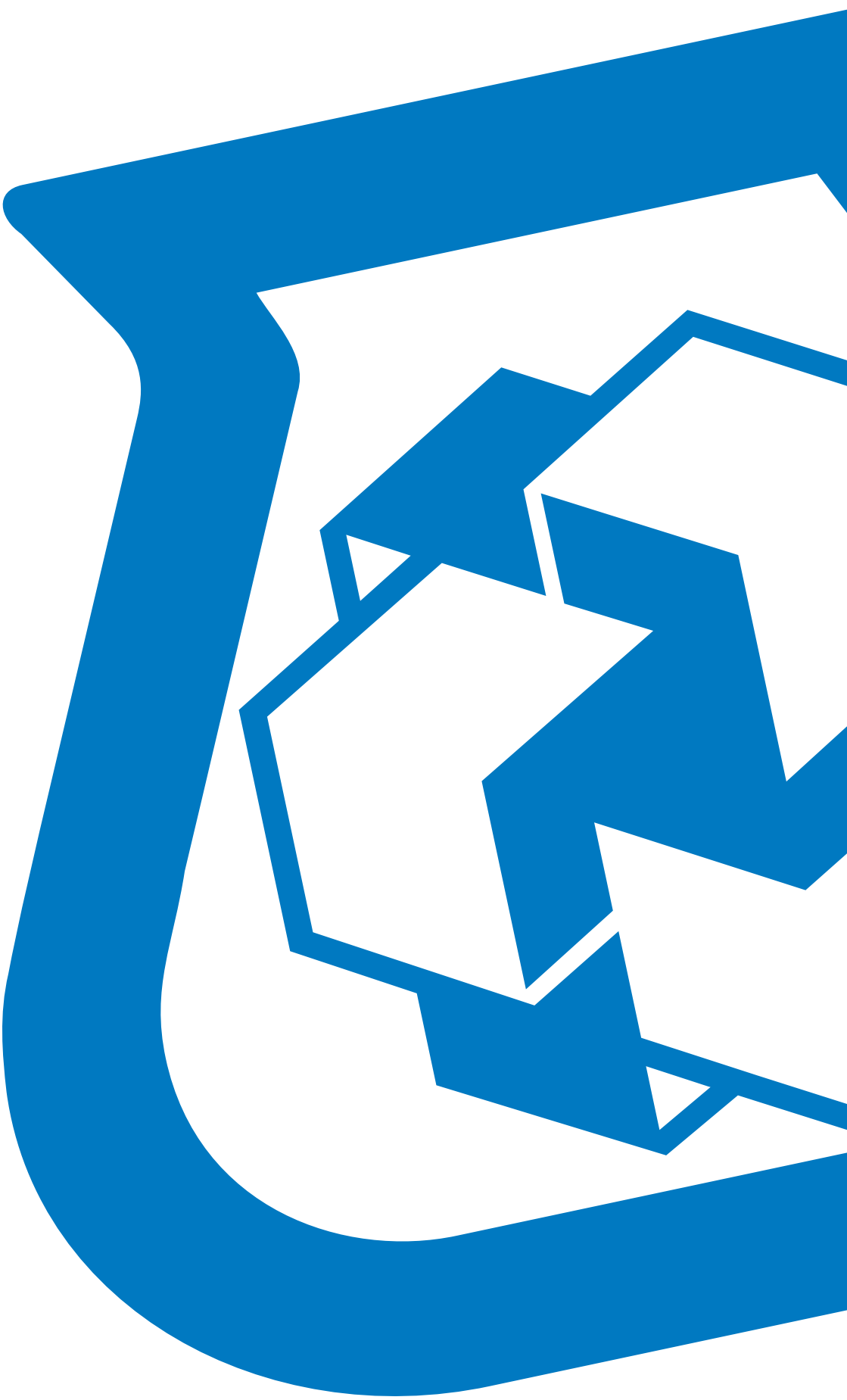
MAPEI®
ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING

Realtà MAPEI

NORTH AMERICA

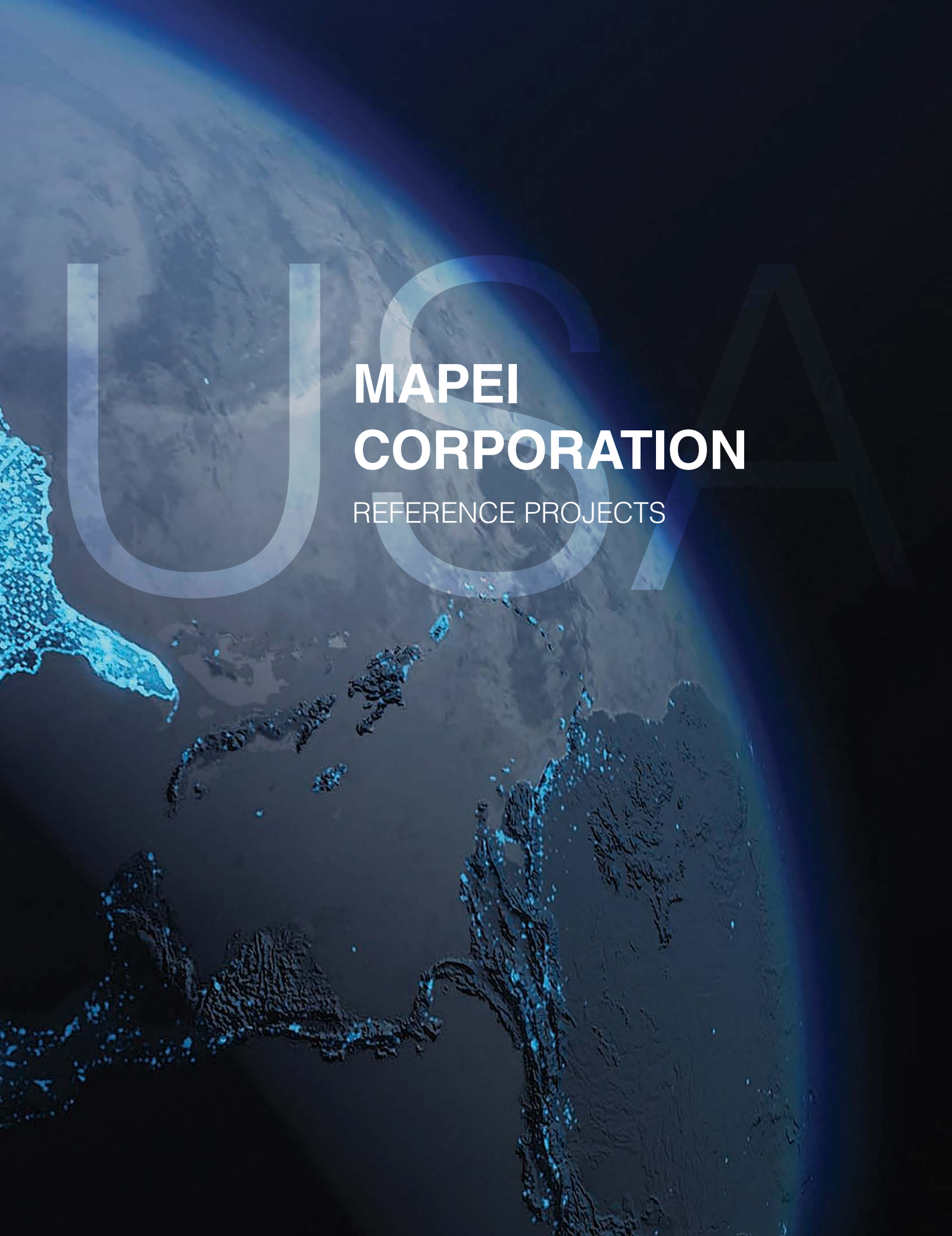
Special Edition

NOTABLE PROJECTS 2019 - 2020



The reference projects on the following pages are some of the best that have been submitted to us for the 2019-2020 calendar year. In spite of the challenges faced due to the global pandemic, the crews featured on the following pages have utilized the innovation of MAPEI to continue to build – and we salute them.

Regardless of shortened work hours, restricted crew sizes, or cut project scopes, these crews have completed notable projects in a wide variety of categories, including commercial facilities; infrastructure works; production facilities; public building and urban design; residential buildings, sports facilities; and tourism and wellness. We at MAPEI Corporation and MAPEI Inc. are proud to have played a role in their efforts.

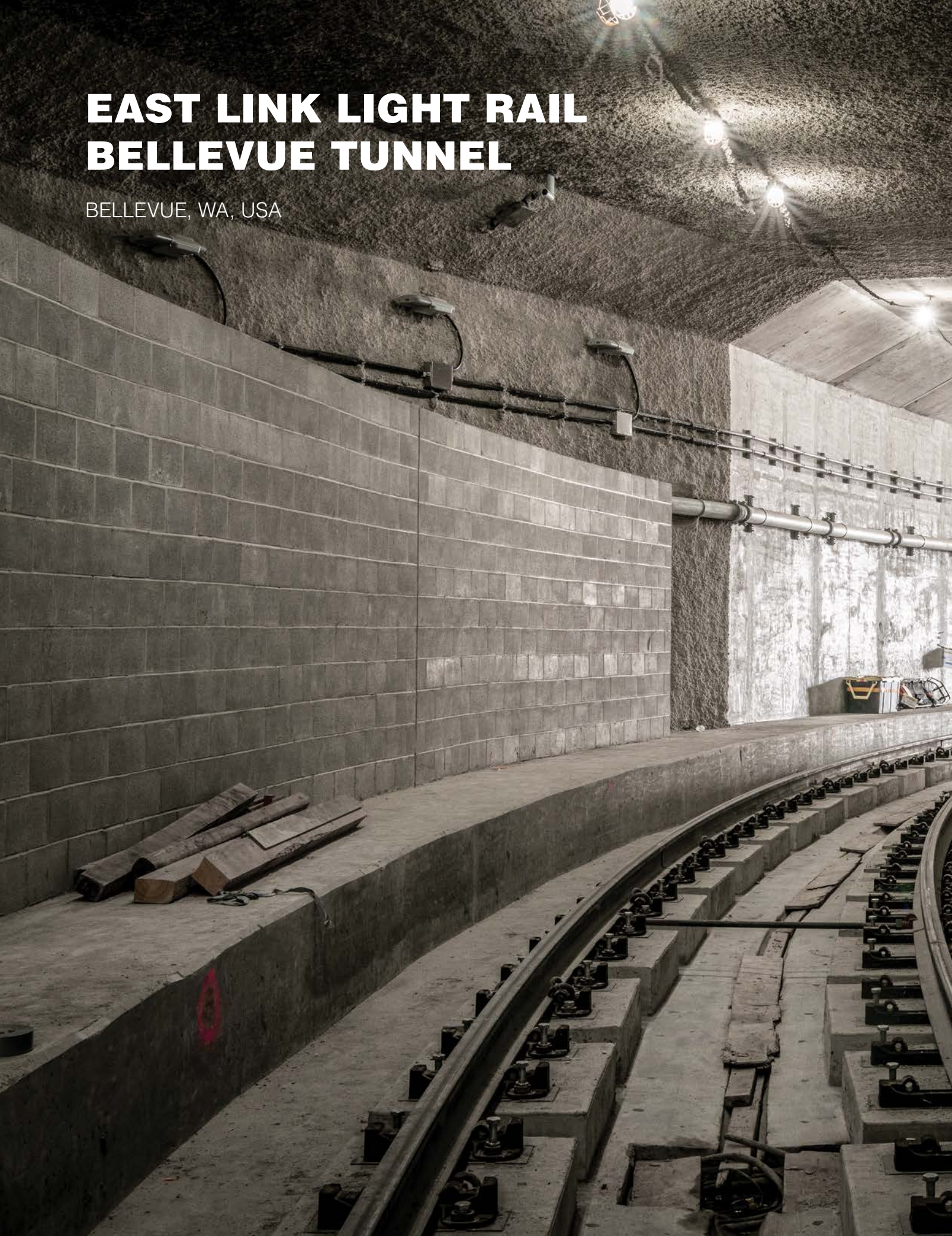


MAPEI CORPORATION

REFERENCE PROJECTS

EAST LINK LIGHT RAIL BELLEVUE TUNNEL

BELLEVUE, WA, USA



PROJECT OVERVIEW

This project was the first ***Mapelastic TU*** tunnel application in the United States, on a significant major new construction of a transportation tunnel in the Seattle area in Washington state.

PROJECT INFORMATION

Project category: Infrastructure

Years of construction: 2017-2020

Years of MAPEI involvement: 2019-2020

MAPEI coordinators: Bill Allen (in memorium), Monica Rourke and Enrico Pavese

Project owner: Sound Transit

General contractor: Guy Atkinson Construction

Installer Company: F.D. Thomas Inc.

Project manager: Bill Packs

Photographers: Monica Rourke and Stuart Isett

Project size: 1,985 linear feet (605 m) of SEM tunnel construction

MAPEI PRODUCTS USED

- ***Mapelastic® TU***
- ***Mapeproof™ AL NA***

DENVER INTERNATIONAL AIRPORT, CONCOURSE B-WEST EXPANSION

DENVER, CO, USA

PROJECT OVERVIEW

Working at Denver International Airport (DIA) presents distinct challenges. Every employee must go through a thorough training and security process to be allowed to work at the airport. In addition, the crew members who worked on DIA's Concourse B-West expansion project not only had to go through the airport's training and security process, they also had to be trained to handle and install the large porcelain panels that were specified as part of the project. The jobsite was rife with unusual challenges – and then COVID-19 hit…

PROJECT INFORMATION

Project category: Infrastucture

Year of construction: 2020

Year of MAPEI involvement: 2020

Architect: HNTB

MAPEI coordinator: Bart Wilde

Project owner: Denver International Airport

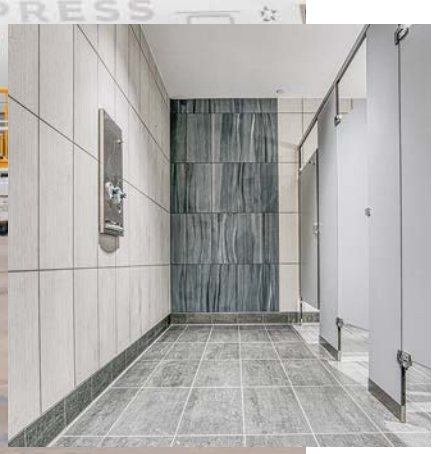
General contractor: Turner-Flatiron, Joint Venture

Installer: Brekhus Tile & Stone, Inc.

Project size: 12,507 square feet (1 162 m2)

MAPEI PRODUCTS USED

- ***ECO Prim Grip***™
- ***Kerapoxy*® *CQ***
- ***MAPEI Ultralite*® *Mortar Pro***
- ***MAPEI Ultralite S2***
- ***Mapelastic*® *AquaDefense***
- ***Mapesil*® *T***
- ***Reinforcing Fabric***
- ***Ultrabond ECO*® *GPT***
- ***Ultracolor*® *Plus FA***
- ***Ultraflex*® *LFT***™



EMPIRE STATE BUILDING

OBSERVATION DECK (102nd FLOOR)

NEW YORK CITY, NY, USA

PROJECT OVERVIEW

The Empire State Building is one of the most iconic building gracing the landscape of New York's internationally recognized skyline. Through a floor-to-ceiling glass window on the newly renovated, 102nd-floor observation deck, visitors have an unobstructed, 360-degree view of Manhattan, New York, New Jersey, Connecticut, Massachusetts and beyond. MAPEI waterproofing, grout, mortar and sealant products helped to complete the deck renovation.

PROJECT INFORMATION

Project category: Tourism/Wellness

Year of construction: 2019

Year of MAPEI involvement: 2019

MAPEI coordinator: Darin Shocker

Project owner: Empire State Realty Trust

General contractor: Navillus

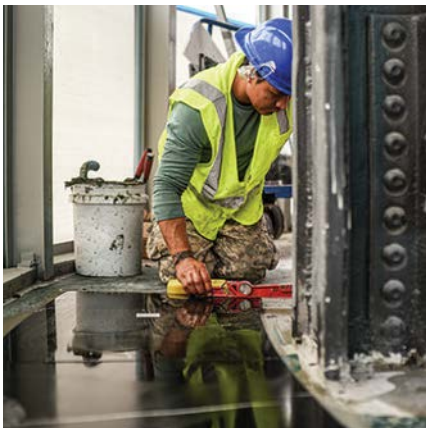
Installer Company: Navillus

Project manager: Kate Clancy

Photographer: Virtual360NY

MAPEI PRODUCTS USED

- ***Mapesil® T***
- ***Modified Mortar Bed***
- ***Ultracolor® Plus FA***
- ***Ultraflex® LFT™***



LAGUARDIA AIRPORT
MOSAIC MURAL

QUEENS, NY, USA

PROJECT OVERVIEW

New York City's LaGuardia Airport now features one of the largest, continuous pieces of mosaic artwork ever created. Composed solely of tile, the massive 25,000-square-foot (2 323-m^2) mural stretches across the entirety of the airport's recently revitalized Terminal B. MAPEI products were chosen to complete the installation.

PROJECT INFORMATION

Project category: Infrastructure

Years of construction: 2019-2020

Years of MAPEI involvement: 2019-2020

MAPEI coordinator: Darin Shocker

Project owner: Port Authority of New York and New Jersey

General contractor: BRB Ceramic Tile, Marble & Stone Inc.

Installer company: BRB Ceramic Tile, Marble & Stone Inc.

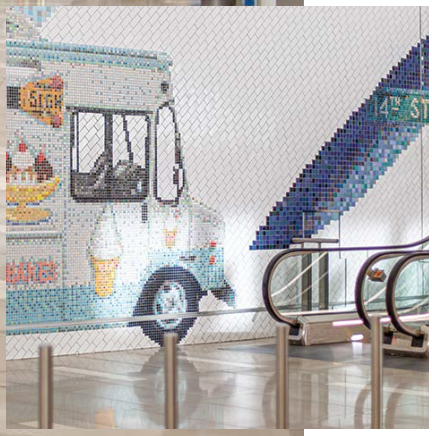
Project manager: Ed Connors

Photographer: Virtual360NY

Project size: 25,000 sq. ft. (2 323 m^2)

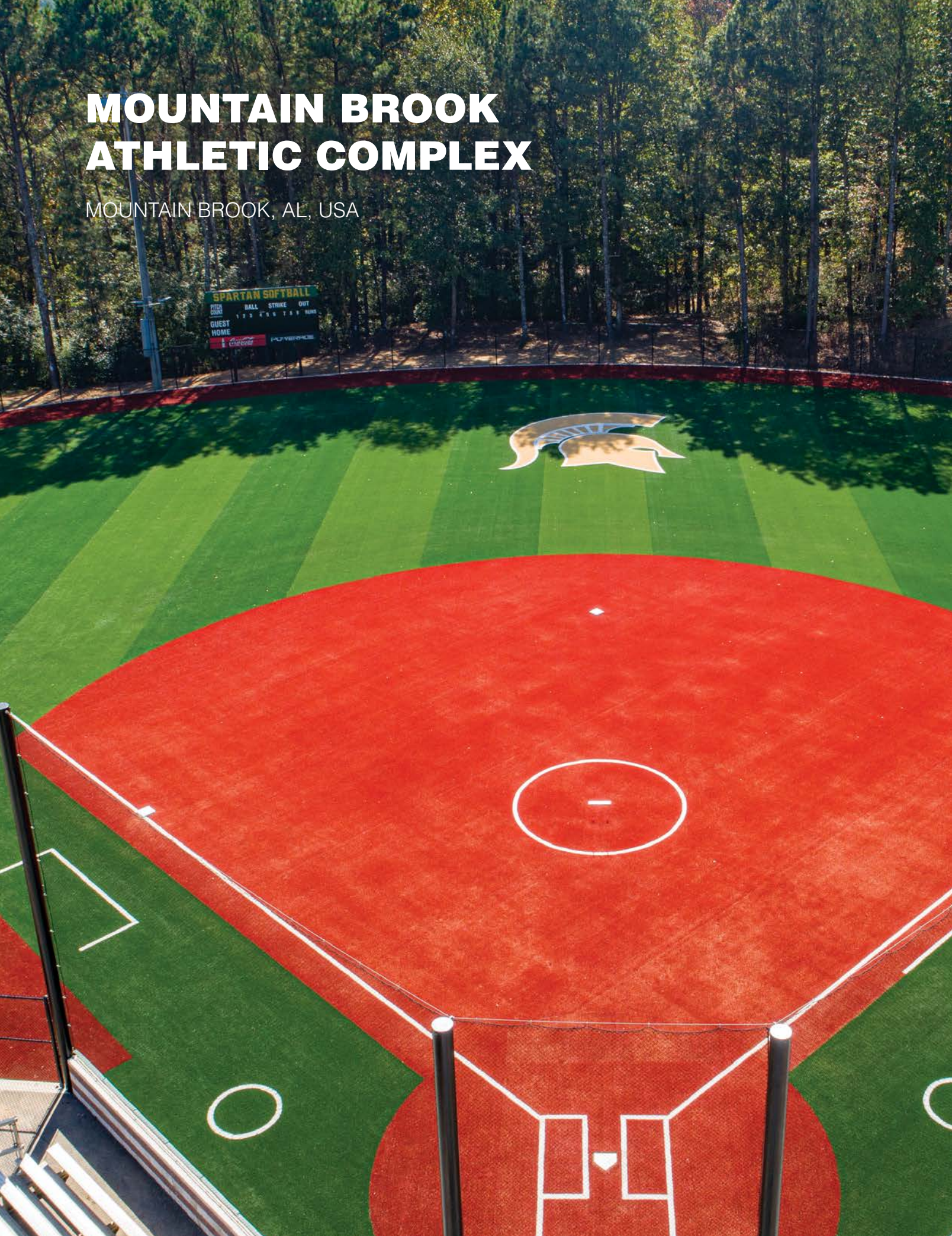
MAPEI PRODUCTS USED

- ***Keracolor® S***
- ***Mapesil® T***
- ***Planitop® 330 Fast***
- ***Type 1™***
- ***UltraCare® Grout Refresh™***



MOUNTAIN BROOK ATHLETIC COMPLEX

MOUNTAIN BROOK, AL, USA



PROJECT OVERVIEW

MAPEI's Sports Team hit a home run with the installation of artificial turf in this popular sports complex. The installation not only promoted safety and savings, it also capitalized on the downtime afforded by the COVID-19 virus and the closure of public parks. When the teams returned to the field, they did so in comfort and safety, thanks to their city and to MAPEI.

PROJECT INFORMATION

Project category: Sports Facilities

Year of construction: 2020

Year of MAPEI involvement: 2020

MAPEI coordinator: Lee Hefner

Project owner: City of Mountain Brook, AL

MAPEI distributor: FieldTurf

General contractor: FieldTurf

Project manager: Eric Rice

Photographers: Lee Hefner and Andrew Keithly

Project size: 166,863 sq. ft. (15 502 m²)

MAPEI PRODUCTS USED

- ***Ultrabond® Turf PU 1K***
- ***Ultrabond Turf Tape***
- ***Ultrabond Turf Glue Box***

OROVILLE STATE THEATRE

OROVILLE, CA, USA

PROJECT OVERVIEW

Built in 1928 utilizing pour-in-place construction, the building included a facade that had worn away in places with corroding steel being exposed. The theater's owner and contractor knew that they needed a solution that was not just a temporary measure but a permanent, long-lasting fix. The contractor had worked with MAPEI before and knew just who to call for a system solution.

PROJECT INFORMATION

Project category: Commercial Facilities

Year of renovation construction: 2020

Year of MAPEI involvement: 2020

Architect: Timothy Pflueger

MAPEI coordinators: Rob Dyer and Lemay Mitchell

Project owner: Oroville State Theatre

MAPEI distributor: Spec-West

General contractor: Pullman Construction

Project manager: Nancy Weston

Photographer: Rob Dyer

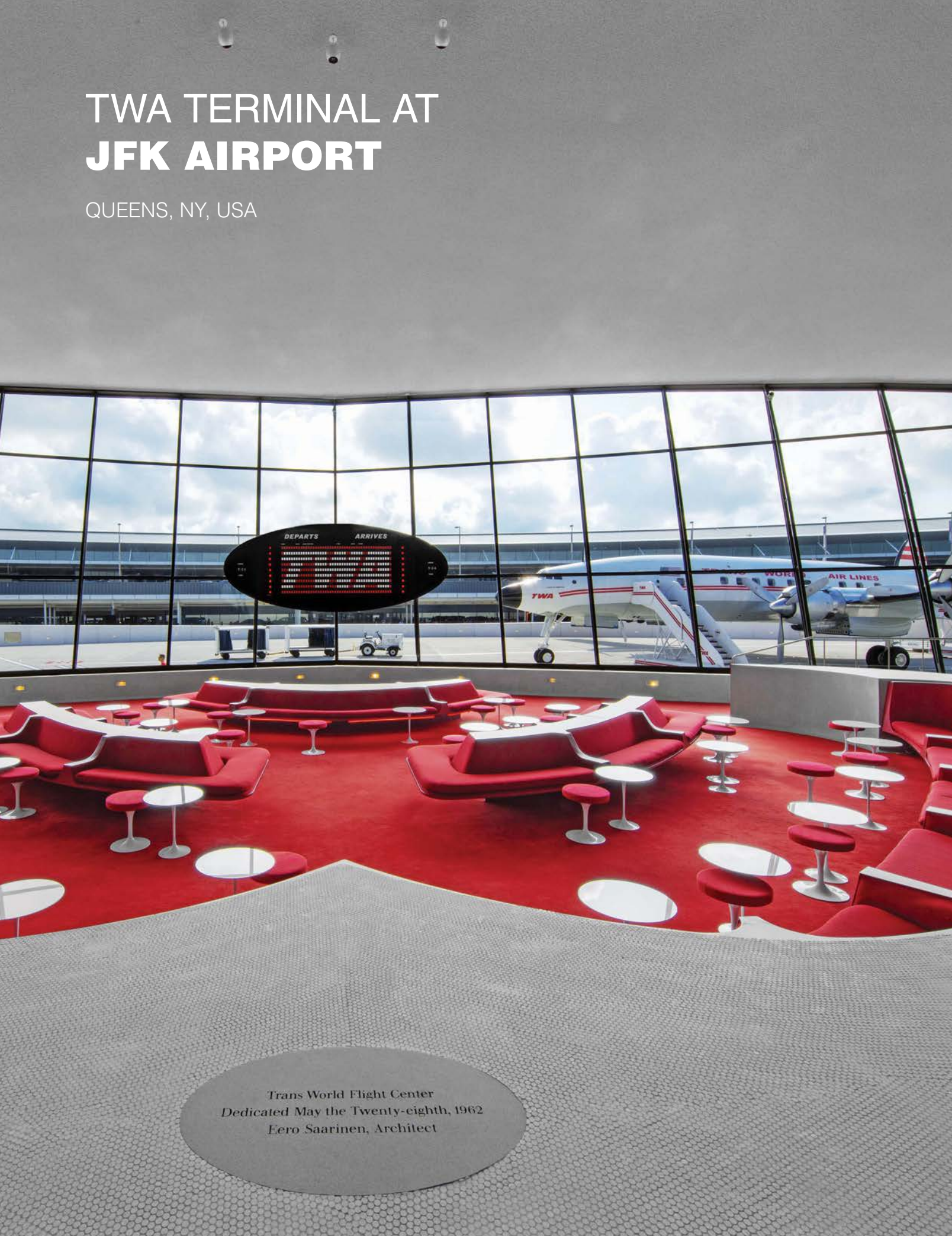
Project size: 2,000 sq. ft. (186 m^2)

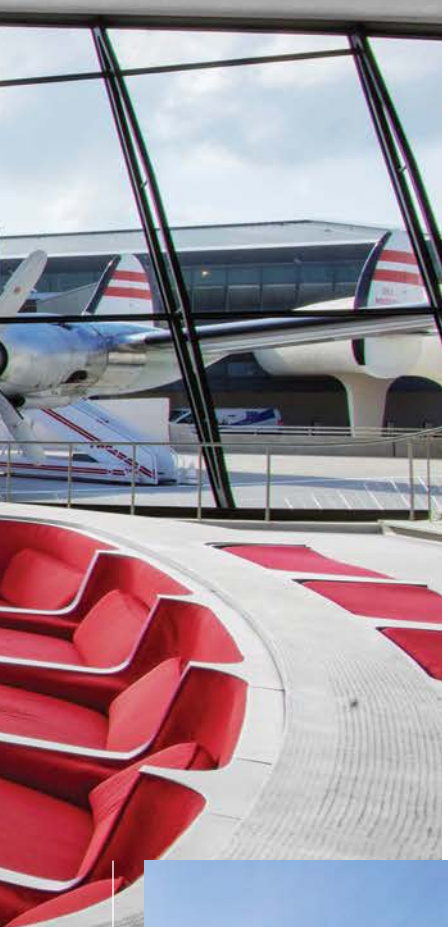
MAPEI PRODUCTS USED

- ***Elastocolor® Coat*** (custom color)
- ***Elastocolor Primer WB***
- ***Mapefer™ 1K***
- ***Mapeflex® EMC-1***
- ***Planitop® XS***

TWA TERMINAL AT **JFK AIRPORT**

QUEENS, NY, USA





PROJECT OVERVIEW

The Trans World Airlines (TWA) Terminal at the John F. Kennedy International Airport (JFK) was built in 1962 and is an internationally known landmark. Before the $230 million renovation, the TWA Terminal stood vacant for 18 years. MAPEI's tile and stone installation systems were used to complete the restoration and included MAPEI's custom color-designing technology to create the "TWA Gray" grout color.

PROJECT INFORMATION

Project category: Infrastructure

Years of renovation construction: 2010-2019

Years of MAPEI involvement: 2010-2019

MAPEI coordinators: Brian Cook and Darin Shocker

Project owner: City of New York

General contractor: Turner Construction

Installer Company: Continental Marble

Project manager: Robert McConnel

Photographer: Eric Laignel LLC

Project size: 200,000 sq. ft. (18 581 m^2)

MAPEI PRODUCTS USED

- ***Keracolor® S*** ("TWA Gray")
- ***Mapecem® Quickpatch***
- ***Mapelastic® AquaDefense***
- ***Mapeguard® 2***
- ***MAPEI SM Primer™***
- ***UltraCare®*** Penetrating Plus Stone, Tile & Grout Sealer

WILBUR O. AND ANN POWERS COLLEGE OF BUSINESS, CLEMSON UNIVERSITY

CLEMSON, SC, USA

PROJECT OVERVIEW

Installing products at America's top universities requires smart scheduling, and not only because of working around class schedules. In the case of the crew members working at the Wilbur O. and Ann Powers College of Business at Clemson University, they were playing catchup after a three-year lag. It would take MAPEI products as consistent and dependable as the Clemson Tigers football team's running game to turn this job into a win.

PROJECT INFORMATION

Project category: Public Buildings

Year of construction: 2020

Year of MAPEI involvement: 2020

Architect: LMN Architects

MAPEI coordinators: Brian Levering and Mike Glass

Project owner: Clemson University

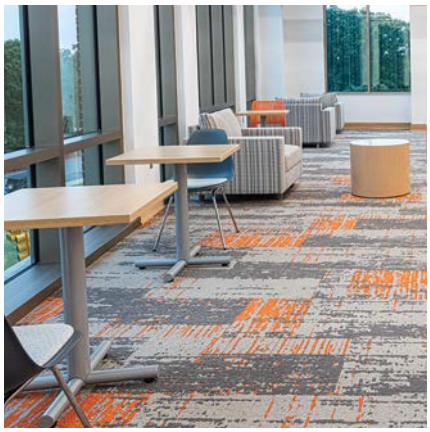
General contractor: DPR Construction

Installer: Harris Carpet and Floors

Project size: 11,447 sq. yds. (9 571 m^2) of carpet tile; 9,054 sq. ft. (841 m^2) of luxury vinyl tile (LVT); 16,434 sq. ft. (1 527 m^2) of hard tile; and 12,460 linear ft. (3 798 m) of rubber base

MAPEI PRODUCTS USED

- ***MAPEI Flexcolor® CQ***
- ***Planiprep® SC***
- ***Ultrabond ECO® 373***
- ***Ultrabond ECO 575***
- ***Ultrabond ECO 811***
- ***Ultracolor® Plus FA***
- ***Ultraflex LHT®***

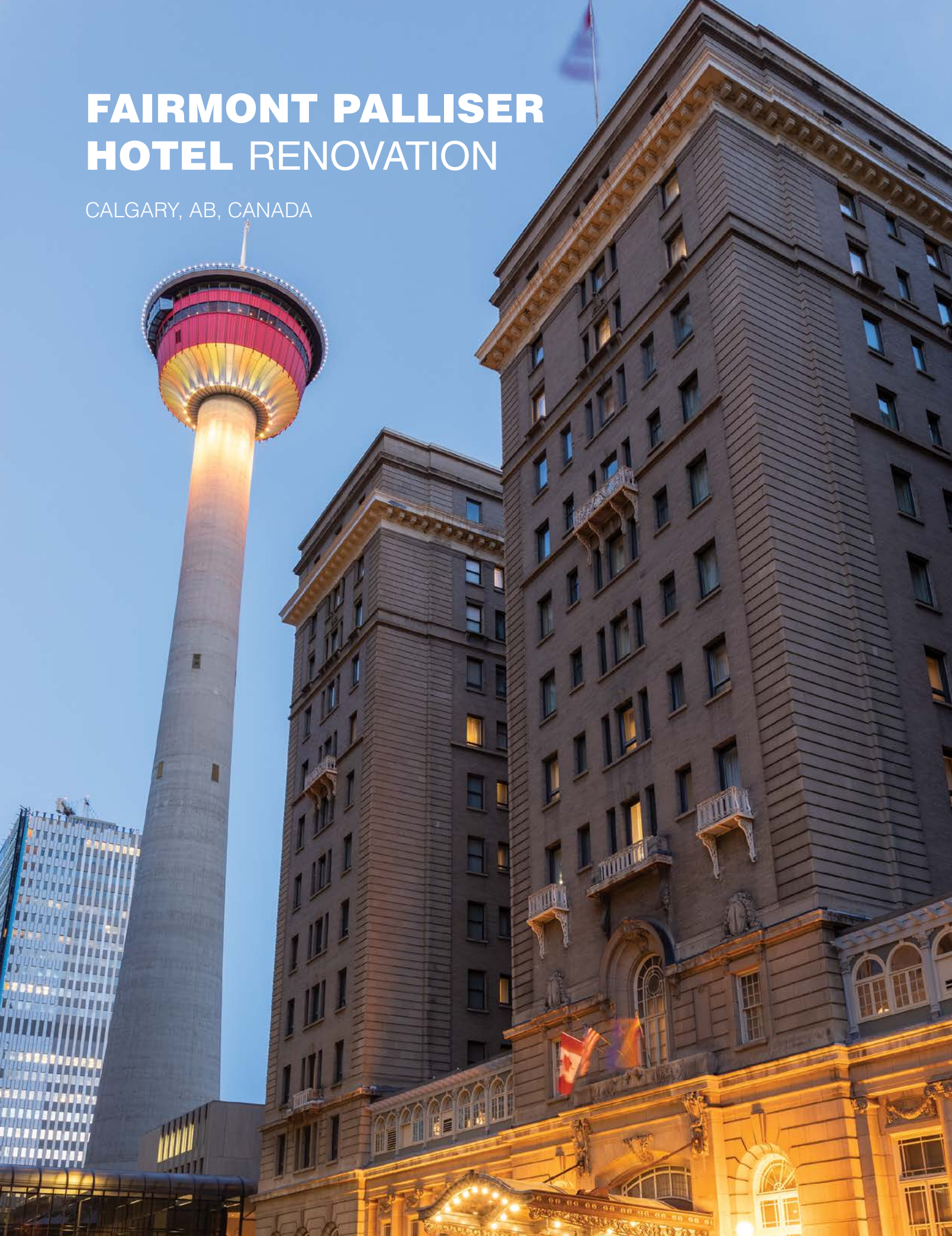


MAPEI INC.

REFERENCE PROJECTS

FAIRMONT PALLISER HOTEL RENOVATION

CALGARY, AB, CANADA



PROJECT OVERVIEW

Originally built in 1914 as part of the Canadian Pacific Railway's historic continent-spanning luxury hotel chain, the Fairmont Palliser Hotel in Calgary needed an upgrade to its floors and walls in certain showcase areas. MAPEI products were key to providing a high aesthetic finish, while respecting the main structure, in a brief timeframe.

PROJECT INFORMATION

Project category: Tourism/Wellness

Year of original construction: 1914

Year of MAPEI involvement: 2019

MAPEI coordinator: Leszek Rybak

MAPEI distributor: Prosol South Calgary

Project owner: Canwest Calgary

Project manager: Doug Middleditch

Contractor: Ellis Don

Photographer: Latitude Photography

MAPEI PRODUCTS USED

- ***ECO Prim Grip***™
- ***Mapeguard***® ***UM***
- ***Novoplan***® ***2 Plus***
- ***Primer T***™
- ***Ultrabond ECO***® ***995***
- ***Ultracolor***® ***Plus FA***
- ***Ultraflex***® ***LFT***™

GRANDE PRAIRIE HOSPITAL

GRANDE PRAIRIE, AB, CANADA

PROJECT OVERVIEW

MAPEI's innovative products and unmatched professionalism helped turn a new-build hospital project from a boondoggle to a grand success for Grande Prairie.

PROJECT INFORMATION

Project category: Tourism/Wellness

Years of construction: 2011-20

Years of MAPEI involvement: 2019-20

MAPEI coordinators: Brent Johnsen and Trevor Vermeulen

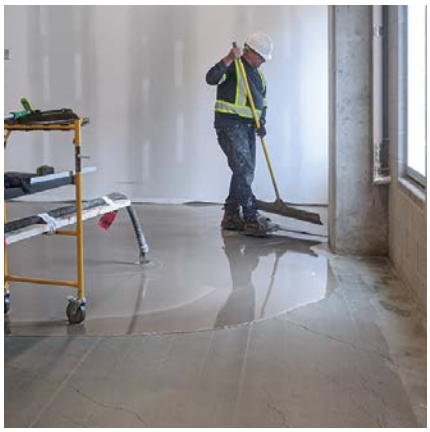
Project owner: Alberta Health Services

Contractor: Clark Builders

Architect: Dialog

MAPEI PRODUCTS USED

- ***Kerapoxy® CQ***
- ***Mapecem® Quickpatch***
- ***MAPEI Ultralite® Mortar***
- ***MAPEI Ultralite Mortar Pro***
- ***Mapefloor™ Finish 450***
- ***Mapefloor Finish 54 W/S***
- ***Mapefloor I 302 SL***
- ***Mapefloor PU 400***
- ***Mapelastic® AquaDefense***
- ***Novoplan® 2 Plus***
- ***Planibond® EBA***
- ***Primer L™***
- ***Primer SN™***
- ***Ultrabond ECO® 360***
- ***Ultrabond® G21***
- ***Ultraflex® LFT™***
- ***Ultraplan® M20 Plus***



LOFTS DU VILLAGE

CHELSEA, QC, CANADA

PROJECT OVERVIEW

When the people of Canada's capital region seek relief from city life, they often retreat to the serene, natural beauty found in Quebec's Gatineau hills. And to help recreate a Scandinavian-style getaway for the Nordik Group's Lofts du Village project, specifiers went with the luxury afforded by MAPEI's Mapeheat floor-heating systems.

PROJECT INFORMATION

Project category: Tourism/Wellness

Years of construction: 2019-2020

Year of MAPEI involvement: 2020

MAPEI coordinator: Justin Lafontaine

MAPEI distributor: Prosol Ottawa

Project owner: Nordik-Spa Nature

Contractor: Robertson Construction

Photographer: Olivier Gariépy

MAPEI PRODUCTS USED

- ***Keraflex™ Plus***
- ***Kerapoxy®***
- ***Mapeguard® WP 200***
- ***Mapeheat™ Cable***
- ***Mapeheat Membrane***
- ***Mapeheat Thermo Touch***
- ***Topcem™ Premix***
- ***Ultracolor® Plus FA***
- ***Ultraflex® LFT™***

JAGUAR/LAND ROVER CAR DEALERSHIP
TILE INSTALLATION

CALGARY, AB, CANADA

PROJECT OVERVIEW

A luxury car dealership located in an auto mall area of Calgary wanted a stand-out solution with a look to match their products' worldwide reputation for quality and style. MAPEI products helped make it happen.

PROJECT INFORMATION

Project category: Commercial Facilities

Years of construction: 2019-20

Years of MAPEI involvement: 2019-20

MAPEI coordinator: Leszek Rybak

MAPEI distributors: Primco Calgary / Prosol Calgary

Project owner: JLR Partnership

Project manager: Grant Lutz

Architect: KSA Group Architecture

Contractor: Barjac Construction / Contempa Floors Calgary

Photographer: Latitude Photography

MAPEI PRODUCTS USED

- ***Mapelastic® CI***
- ***Mapesil® T***
- ***Novoplan® 2 Plus***
- ***Primer L™***
- ***Ultracolor ECO® 373***
- ***Ultracolor® Plus FA***
- ***Ultraflex® LFT™***

SHAW CENTRE
CORRIDOR RENOVATION

OTTAWA, ON, CANADA

PROJECT OVERVIEW

In the previous decade, when products from MAPEI's Concrete Restoration,Tile & Stone, and Floor Covering Installation systems contributed to the re-construction of the original Ottawa Convention Centre, MAPEI's Cementitious and Resin Flooring Systems were still in development. Knowing well the quality of MAPEI's tested solutions, the province of Ontario reached out to MAPEI again in 2019, to renovate and upgrade their service corridors' flooring.

PROJECT INFORMATION

Project category: Public Buildings/Urban Design

Years of construction: 2009-2011

Year of MAPEI involvement: 2020

MAPEI coordinator: Justin Lafontaine

MAPEI distributor: Bellai Brothers

Project owner: The Province of Ontario

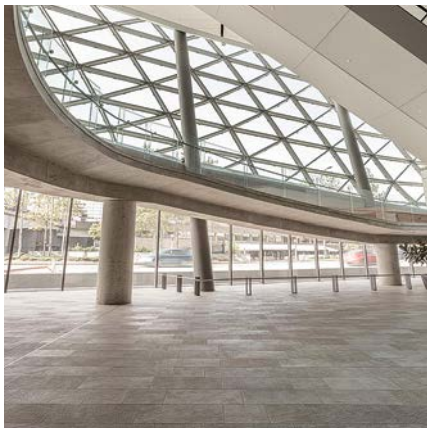
Contractor: Lamont Ltd.

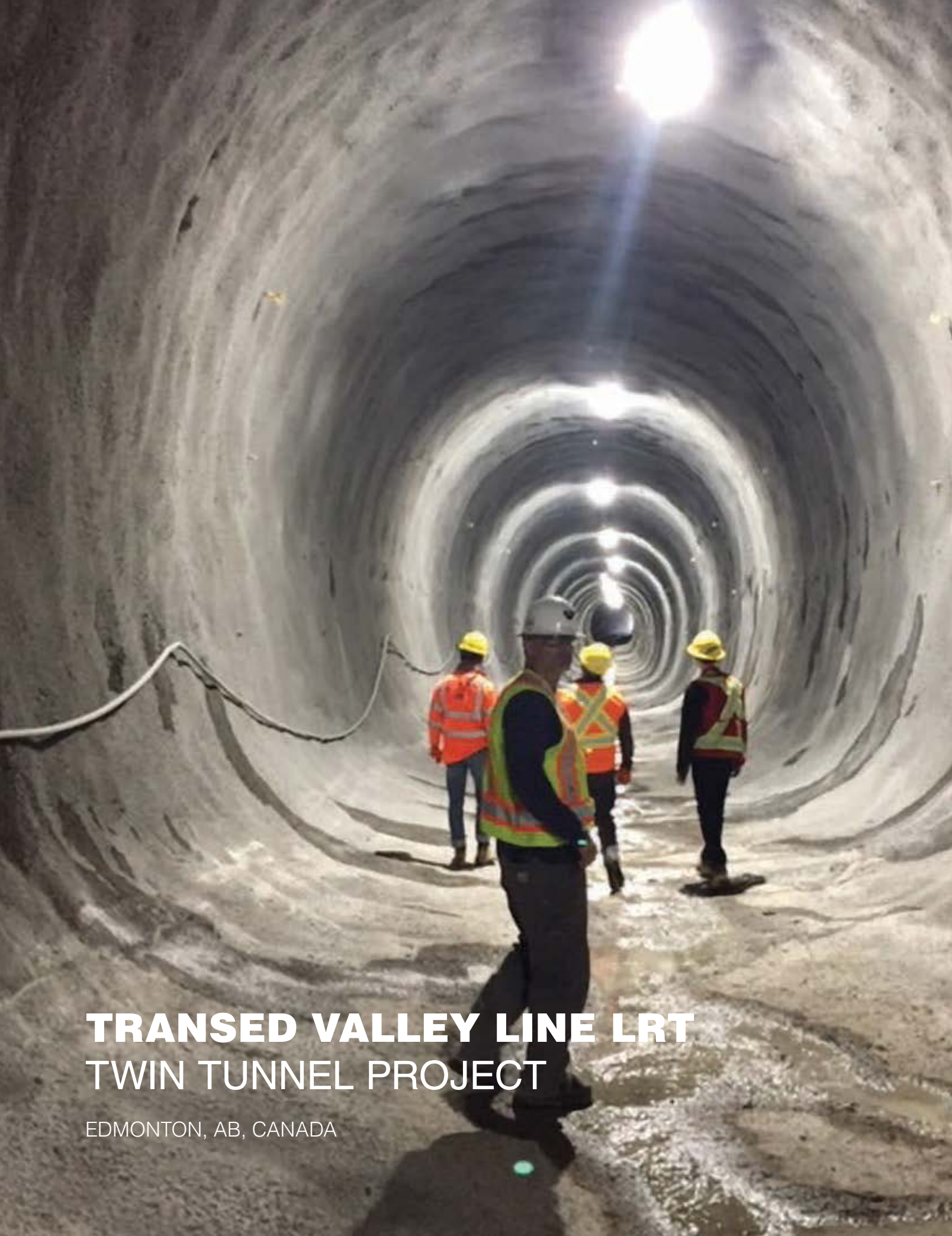
Architect: Brisbin Brook Beynon (BBB) Architects

Photographer: Olivier Gariépy

MAPEI PRODUCTS USED

- ***Mapecem® Quickpatch***
- ***Mapefloor™ EP 20***
- ***Mapefloor Finish 54 W/S***
- ***Mapefloor I 302 SL***
- ***Mapefloor I 900***
- ***Planitop® 18 ES***
- ***Primer SN™***





TRANSED VALLEY LINE LRT
TWIN TUNNEL PROJECT

EDMONTON, AB, CANADA

PROJECT OVERVIEW

When the city of Edmonton undertook its first foray into underground mass transit with a $1.8 billion project, it turned to MAPEI's UTT team for waterproofing and concrete expertise.

PROJECT INFORMATION

Project category: Infrastructure

Years of construction: 2017-20

Years of MAPEI involvement: 2018-20

MAPEI coordinators: Enrico Pavese and Monica Rourke

Project owner: City of Edmonton

Project manager: Ken Sullivan

Installer: Carpi Tech – Davide Chitotti and John Wilkes

Main engineers: Arup and Luis Corgo, Sr. (tunnel engineer, Bechtel)

Contractors: Bechtel, Arup and EllisDon

Photographer: Latitude Photography

MAPEI PRODUCTS USED

- ***Idrostop™ Multi 11***
- ***Mapeband™ PVC Tape 500***
- ***Mapeplan Collar 60 mm***
- ***Mapeplan Disk***
- ***Mapeplan Injection Valve***
- ***Mapeplan TU S 25***
- ***Mapeplan Waterstop 410***
- ***Mapeplan Waterstop 420 T Joints***
- ***Mapeplan Waterstop 420 X Joints***
- ***MapeWrap® 11***
- ***MapeWrap 12***
- ***Polydren PP HT 800 Geotextile***

70 GLOUCESTER STREET PARKING GARAGE

OTTAWA, ON, CANADA

PROJECT OVERVIEW

Designed to withstand abrasion, rolling loads, impact, thermal shock and aggressive chemical agents, MAPEI's *Mapefloor*™ Parking Deck Systems meet the unique challenges of Canadian winters – which is precisely why this new-build project in the heart of Canada's capital city used MAPEI products.

PROJECT INFORMATION

Project category: Infrastructures

Year of construction: 2020

Year of MAPEI involvement: 2020

MAPEI coordinator: Justin Lafontaine

Project owner: Claridge

Contractor: Bellai Brothers

Photographer: Olivier Gariépy

MAPEI PRODUCTS USED

- ***Mapefloor*™ *Finish 415 NA***
- ***Mapefloor PU 400 FC***
- ***Primer SN*™**

UNISOYA

SAINT-ISIDORE-DE-LAPRAIRIE, QC, CANADA

PROJECT OVERVIEW

When a family-owned tofu business needed to expand its operations with a new, modernized production plant, it was so impressed by MAPEI's Cementitious and Resin Flooring Systems, it went a step further: It opted for a new decorative resinous floor for its offices and cafeteria to go with the thermal-shock resistant industrial flooring for the new factory.

PROJECT INFORMATION

Project category: Production Facilities

Year of construction: 2019

Year of MAPEI involvement: 2019

MAPEI coordinator: Alain Pomerleau

Project owner: Unisoya 1986 Inc.

Contractors: Precision Restauration and Protecsol

Project Manager: Tony Barone

Photographer: Olivier Gariépy

MAPEI PRODUCTS USED

- ***Mapecoat™ Universal***
- ***Mapeflakes™***
- ***Mapefloor™ CPU/COVE***
- ***Mapefloor CPU/SB***
- ***Mapefloor CPU/TC***
- ***Mapefloor I 302 SL***
- ***Primer SN™***

PR: 9593 MKT: 21-1288 03/21

MAPEI USA • MAPEI Canada

MAPEI Headquarters of North America
1144 East Newport Center Drive
Deerfield Beach, Florida 33442
1-888-US-MAPEI (1-888-876-2734) /
(954) 246-8888

Technical Services
1-800-992-6273 (U.S. and Puerto Rico)
1-800-361-9309 (Canada)

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

Services in Mexico
0-1-800-MX-MAPEI (0-1-800-696-2734)

Printed in the USA.

MAPEI®