

INTERNATIONAL

# [Realtà MAPEI]

ISSUE 98

Year XXIII - No. 98 - August 2023

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## MAPEI SOLUTIONS IN URBAN AREAS

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by **Guido Palmieri**  
*Realtà Mapei International's*  
Editor-in-Chief

## Open spaces, green services: the road ahead for tourism

Tourism is an increasingly important factor not just in relation to the vacation industry but also in the economies of regions such as Western Europe and the United States, where the composition of national GDP is much more nuanced. It is also a kind of wild card to be played during certain phases of the economic cycle. In 2022 - according to the World Travel & Tourism Council - the industry accounted for 7.6 % of the global GDP and secured 2.2 million new jobs compared to 2021. Last year, after a downturn due to the lockdown imposed by the pandemic, tourism played a key role in economic recovery processes in many countries.

Attention to this industry (the travel business is worth around 100 billion Euros in Italy alone) is increasing and competition (domestic and international) has become tougher.

Attracting and holding onto visitors is, therefore, the priority for all tourist facilities and destinations. The appeal of what a holiday destination has to offer is, of course, the main reason for choosing it over others, but certain features that can make a difference should not be overlooked. For example, factors such as environmental impact, urban planning features, the quality of services/amenities and outdoor spaces (from bike lanes to waterfronts) are crucial. So, we have decided to dedicate a large section of this issue of the magazine to this new side of the economy, which encompasses not only tourism but also the quality of life, including a review of projects in open spaces for which Mapei has supplied a wide range of products and materials.

### A REVIEW OF TOWN-PLANNING PROJECTS CARRIED OUT WITH THE HELP OF MAPEI PRODUCTS

Tourism (cruise ships) and much more for Mapei's Marine range, which offers innovative products to meet the new needs of the shipbuilding industry. Solutions to cater for three needs: aesthetics (e.g., the fine looks of synthetic teak), comfort (noise impact reduction) and safety (the inherent risks associated with slipping). In the "Teamwork" section, we once again looked ahead and, after studying Argentina in the previous issue, we tell the story of Mapei Australia, a subsidiary that turns 30 this year and, continuing its process of growth, has set itself some ambitious goals: its target for 2023 is to hit revenue of 80 million Euros on the way towards its goal of 124.5 million Euros over the next five years. A plan backed by investment to boost its manufacturing capacity by opening two new plants.

Once again this year Mapei is rewarding the best building projects its subsidiaries have been involved in around the world. 2022 marks the 20<sup>th</sup> edition of the International Reference Grand Prix: in this issue we present the winning projects. 2023 marks another important landmark for the Group. It is, in fact, 20 years since Mapei took over Sassuolo football team, which has gradually been promoted up through the various divisions of the Italian football leagues (it has now been playing in Serie A for ten years in a row) to become one of the most interesting and innovative sports clubs in terms of corporate management and interaction with the local community.

Enjoy your reading.



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**Printed by**  
Rotolito SpA - Pioltello (Italy)

**Published by**  
Mapei SpA  
Via Cafiero, 22 - 20158 Milan (Italy)  
Tel. +39/02/376731 - Fax +39/02/37673214  
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**Realità Mapei**  
Registered by the Tribunal of Milan n. 363/20.5.1991 Realità Mapei International is published 6 times per year

**Credits**  
Mapei Australia, Mapei Portugal, Mapei Kft. (Hungary), Mapei Spain, Mapei France, Mapei Far East (Singapore), Mapei d.o.o., Mapei Colombia, Mapei Suisse, Mapei Corporation (USA), Unione Sportiva Bormiese, Cervia Città Giardino, Master Group Sport, Sassuolo Calcio, Ambrogio Beccaria, Martin Rein-Cano, Artuso Architetti Associati, Mauro Cuocci, Comitolorosa, Ospedale Buzzi di Milano, Bernardo Zin, Golf Club Villa d'Este.

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# So many solutions for life in the open air

STONE AND CERAMIC COVERINGS, SPORTS SURFACES, WATERPROOFING SOLUTIONS AND SO MUCH MORE: THE MAPEI PORTFOLIO FOR OPEN SPACES

1 Coating sport surfaces

2 Preparing screeds and substrates

3 Installing and grouting stone paving

4 Waterproofing fountains and water basins

5 Finishing surfaces in fountains and water basins

7 Bonding synthetic turf

8 Installing ceramic tiles and stone materials

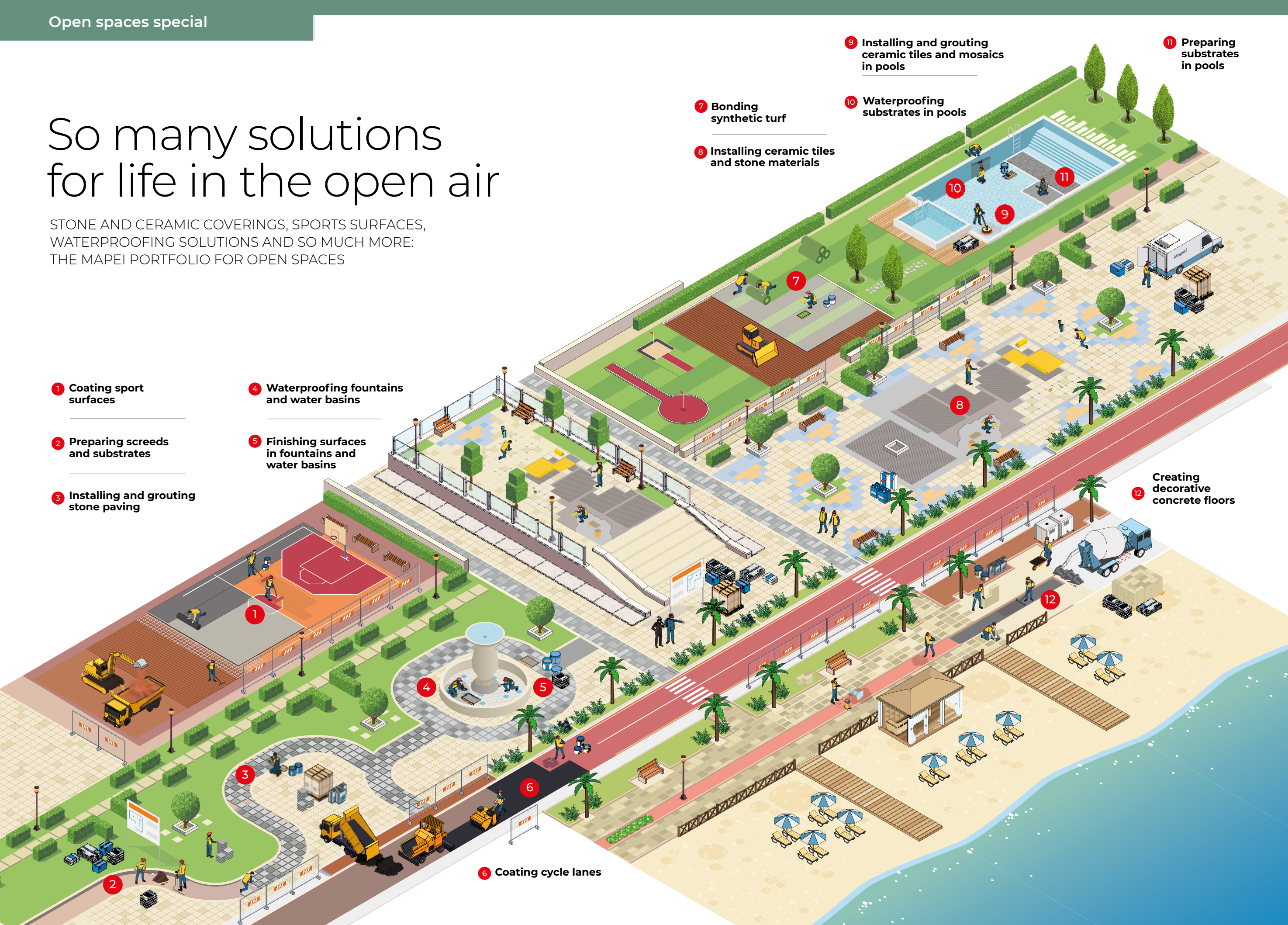
9 Installing and grouting ceramic tiles and mosaics in pools

10 Waterproofing substrates in pools

11 Preparing substrates in pools

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6 Coating cycle lanes







by Martin Rein-Cano

# Spaces designed to act as urban theatres

A WINNING DESIGN MUST BE SUSTAINABLE AND TAKE INTO ACCOUNT ITS SOCIAL AND NATURAL CONTEXT TO GENERATE EMOTIONS, SOCIAL INTERACTIONS AND CONNECTIONS BETWEEN THE PUBLIC AND PRIVATE SPHERE

**You work at the interface between landscape architecture and urban planning. How important do you think it is today for residents to use open spaces, whether in cities or at holiday destinations? Has anything changed about this in recent years?**

The use of public open spaces is an important factor of social interaction and exchange, especially in cities. In times of increased global movement, encounters between different resident groups and cultures have become increasingly important to a functional and harmonious urban coexistence.

The way in which public spaces are used has changed considerably in recent decades. Traditionally, their use is anchored differently depending on the culture.

**“Landscape architecture must excite us intelligently without adopting a solely sentimental or populist approach”**

The social togetherness lived in the squares and parks of southern Europe has also become more strongly established in northern Europe after the Covid-19 pandemic. A “Mediterraneanisation” has taken place as residents grew accustomed to spending more time outdoors: on terraces, restaurant patios, squares, green spaces and parks. Furthermore, open spaces are no longer used exclusively for leisure purposes, but have become an innate aspect of urban life and its diverse occasions. In addition to leisure and sporting activities, the use spectrum of outdoor space has expanded to include, for instance, remote work. There have been shifts and overlaps between public

and private realms, and an increasing appropriation of urban space for traditionally private activities such as gardening. The planning discipline must take this into account and accordingly seek variable programmatic approaches and involve users more strongly in the process. Today more than ever, open space must be understood as cultural space, as an “urban theatre” in which individuals are considered actors that cultivate the public sphere.

**How important is the natural context in which a project is set for you?**

The natural context is as important as all other contextual issues. As a permanent physical aspect, it represents a strong parameter that one has to respond to during concept development. Local conditions such as vegetation, water and weather provide all but immutable factors that cannot be ignored; at the same time, the extent to which the natural context can transcend its parametric role and also function as a concept driver varies from project to project. It is essential for successful design and planning that nature and sustainability issues are not exclusively prioritized above other criteria. In order to prevent one-sided planning approaches - as seen with the very strong focus on automobiles in urban plans of the 1960s and 1970s - all relevant issues must be taken into account and harmonized.

**An open space is like a modern Agorà, where people can meet, observe the world or live their daily lives. When you design such a space, you usually pay attention to the feelings and emotions of the people who pass through it. How do you manage to evoke emotions with your work?**

Like all issues of context, emotional capacity is assessed differently depending on the place and purpose of the project.

In Berlin, for example, where our studio is located, the city's inhabitants are generally so open-minded and extroverted that a conscious introduction of emotionality through spatial planning measures is not really necessary. Existing public spaces are appropriated by residents with a high degree of diversity and use. The willingness to emotionally interact, observe, and perform within a given space is something the users bring with them of their own accord. In more modest settings such as Copenhagen, where our project Superkilen was implemented, we found it appropriate to reinforce emotional experiences with public spaces. This was achieved through targeted provocation, humor, the use of colors, and other sensory elements. For our project in Bergamo, and in the context of a warming climate, afforestation and the idea of planting one's own tree triggers an emotional connection with one another.

The challenge resolved by successful landscape architecture is to emotionalize spaces intelligently without relying solely upon sentimental or populist approaches.

**In an increasingly fluid and dynamic world, how important is the permanence of the materials and the intervention itself for you?**

The durability of an intervention is of great importance, not only for reasons of sustainability, but also for aspects of cultural identity.

It is tragic when a place is stuck in a “correction loop”, the constant renovation and rewriting of its built environment. To establish a higher sense of place value, cultivating what already exists is a key factor - constant care and conservation of public spaces rather than cyclical renewal and change. At the same time, it is also important to encourage progressivism and necessary change.



**IN THESE PAGES.** A few design projects by Topotek 1. Above: ZAC Le Croissant, Paris/Nanterre (France), 2020; below: water picnic, national exhibition of horticulture, Schwerin (Germany), 2009.





© Hanns Joosten

**LEFT.** KAIK park and market, Köpenik/Berlin (Germany), 2007.

**IN THE FACING PAGE.** Wolfsburg castle park, National horticulture exhibition, Wolfsburg (Germany), 2004.

Therefore, established and well-used places should be maintained to preserve their functional qualities whereas modern interventions belong in unoccupied or yet unappropriated places; such contrast better distinguishes the reality of our time instead of projects that merely copy and repeat the old and familiar. This is the only way to create contemporary places that meet current demands for public open spaces.

#### What added value does a partnership with a material supplier bring to a landscape designer?

Close cooperation with manufacturers can be very valuable, as they have very detailed knowledge of current technological innovations and counsel over the properties and unique applications of materials. For this reason, we have maintained fruitful partnerships with some manufacturers for many years.

## 2023 BERGAMO LANDSCAPE FESTIVAL

The «Landscape Festival» is an event of international importance dedicated to the promotion of landscape culture which has been taking place in Bergamo since 2011. Recognized as a unique event at the forefront in Europe for vision, contents and format, the festival is organized by the non-profit association Arketipos with Bergamo City Council's support. The Scientific

Commission of the Landscape Festival is made up of prominent names in the field of architecture and landscape. The theme of this year's edition will be "Grow Together – Growing Together". Several exhibitions and other initiatives within the framework of the festival will also take place in the city of Brescia as both Bergamo and Brescia are Italy's Capital of Culture this year.



© Hanns Joosten

“Close cooperation with manufacturers plays an important role because they are familiar with technological innovations and how materials are used

#### "Grow Together" is the theme of the 2023 Bergamo Landscape Festival. What does this event mean to you?

It was interesting for us to explore a direct translation of the theme with our concept, in the sense that we facilitate increasing greenery across the city. An important aspect and fascination of gardening lies in the fragility of what has been created, which has to be cultivated and cared for. In this sense, we did not want to create a temporary and disposable garden with our project, but to make a contribution to the discussion of sustainability issues beyond the duration of the festival. We would like to invite the visitors to let something permanent emerge from a temporary assembly, to let new green microcosms of the city grow simultaneously and to create additional vegetation for Bergamo over the long term. Plants offer a valuable opportunity to counteract the increasing urban heat island effect, contributing to the reduction of peak temperatures and thus to the climatic resilience of Bergamo.

#### In Bergamo, you will take care of the Piazza Vecchia. What particular themes are you working on?

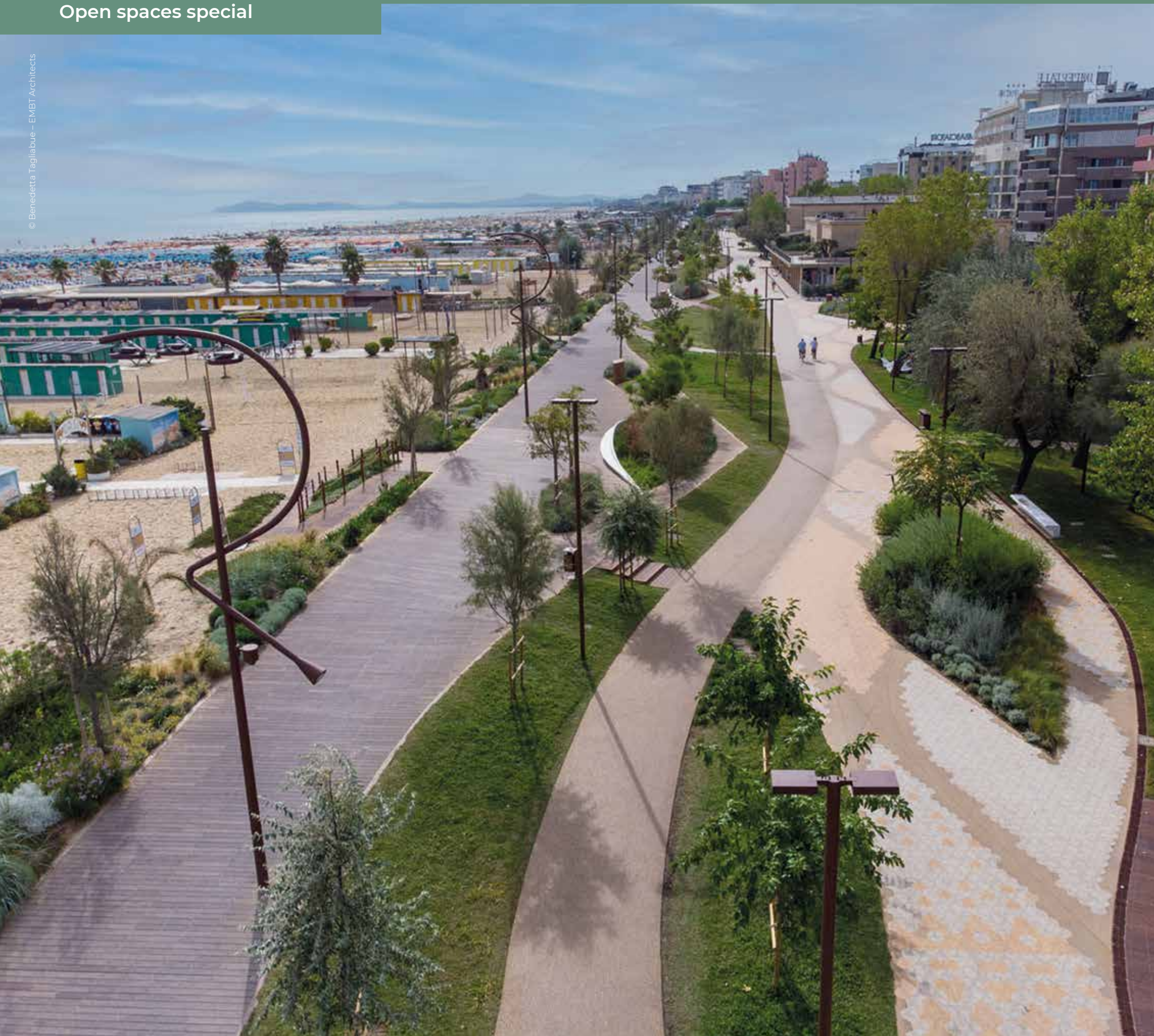
In addition to the greening of the city, we see our project in the Piazza Vecchia as an interactive space that brings people together with a collective sense of social culture, allowing participants to "grow together" on a further level. Our sculpture - a seating

pyramid that functions as "urban sofa" - is shared by residents and tourists alike. With the gradual dispersal of the plants, more and more space is consequently created for visitors to linger and come together. For the duration of the festival, this will create a communal "living room" for Bergamo. Beyond the aspects of climate and sustainability addressed with the greenery, the inhabitable sculpture functions as a healing contribution on a psycho-social level for the city, which was particularly hard-hit by the consequences of the Covid-19 pandemic.

#### MARTIN REIN-CANO

The son of a Spanish mother and a father of Hebrew-Lithuanian descent, both of whom immigrated to Argentina, Martin Rein-Cano was born in 1967 in Buenos Aires where he lived until the age of 12. He then moved to Frankfurt and, at university, studied art history before discovering landscape architecture and moving to Hannover and San Francisco. In 1996, he founded his landscape architecture firm, Topotek 1, in Berlin. Since then, he has won numerous awards, such as 1<sup>st</sup> Prize for German Landscape Architecture in 2015. He regularly teaches courses at European and North American universities and is often a member of the panel of judges for international architecture awards. Next September he will be in Bergamo for the 2023 Landscape Festival with a lectio magistralis and a project designed for Piazza Vecchia.





## Rimini (Italy)

# Parco del Mare waterfront

SPORT COURTS, PROMENADES AND CYCLE LANES: MAPEI TOOK PART IN THIS EXTENSIVE REFURBISHMENT PROJECT WITH THE INSTALLATION OF PORCELAIN TILES AND THE CREATION OF A BASKETBALL COURT

Green spaces, sea, sport and wellbeing: these are the ingredients of the new Parco Del Mare in Rimini (Central Italy), an extensive refurbishment project to transform 16 km of the city's seafront promenade. The project, which got underway in 2019, will transform this stretch of the Romagna Riviera into an area of excellence at European level, enhancing the city's vocation for tourism and enabling the area to be enjoyed all year round rather than just in the summer.

Once completed, the waterfront will stretch from Lungomare Sud (South Promenade) to Lungomare Nord (North Promenade). Refurbishment work started from the two extremities and has already transformed the Belvedere areas in Marina Centro (a central district in Rimini) and the Spadazzi Promenade in the Miramare district. Work in the northern part, at Torre Pedrera and Rivabella, has already been completed.

The promenade has been completely pedestrianised and features gardens, areas for sporting activities, cycle lanes, sand dunes, typical Adriatic Sea vegetation, well-equipped, open-air gyms and various games areas: a new way of interpreting life in the open air that reflects a holistic concept of wellbeing.

### Installation of sardine-shaped porcelain tiles

Parco Del Mare Sud has been divided into nine sections that will be refurbished over the course of several years. Sections 2 and 3, from the Belvedere in Piazzale Kennedy to Piazzale Pascoli, were completed in 2022.



Mapei supplied materials and provided technical support to the contractors working on the project. The client asked for the various works to be completed as quickly as possible to limit their impact on the various commercial activities in the areas being refurbished. The product chosen for the cementitious screeds (an area of around 6,500 m²) was MAPESCREED ADVANCE CR TRACER, a polymer admixture for high-strength cementitious screeds with a semi-dry consistency, and with a very high capacity to reduce cracking. It is recommended for screeds placed in areas subjected to high loads and reduces set to foot traffic times, the time re-

quired to carry out site work and waiting times before installing covering. Installation of the porcelain tiles proved to be an arduous task and the company that carried out the work performed brilliantly to overcome the various problems that inevitably arise when working on such a vast, complex site as this one. Each tile had to be placed in a specific position in order to create the exact combination of colours and shades specified by the client. The thick porcelain tiles were hexagonal in shape and featured a particular pattern in bas-relief depicting images typical of Rimini artwork, specifically created for this project.

RIMINI BEACH COURT PLAYGROUND

There are eight areas dedicated to wellness and health along the new, refurbished Promenade. One of these is Rimini Beach Court, a new, colourful basketball court that combines sport and urban redevelopment. The court is the result of the collaboration between Moab, Red Bull and Rimini City Council and is an original work of the arts collective, Truly Design Crew. The court offers lovers of basketball a truly

unique space to play right in front of the sea. The pattern features various iconic images of Rimini, such as the Tiberio Bridge, the Augusto Arch, the Eye Love Rimini Ferris wheel and, obviously, the sea. The court was created using MAPECOAT TNS MULTISPORT PROFESSIONAL, a multi-layered, acrylic resin-based system in water dispersion with selected fillers, which enables multisport surfaces

to be created with high resistance to wear, UV rays and various weather conditions. The system may be applied on old, painted surfaces, on new cementitious surfaces or, as in this case, on bituminous surfaces that need to be coated. Five layers of product were applied: the first two layers were made of MAPECOAT TNS WHITE BASE COAT HV, a semi-elastic acrylic filler and undercoat, while the third layer was made with the super-fine-textured, coloured coating MAPECOAT TNS COLOR, which was used to mark out the various areas of the court.



**PROJECT INFORMATION**  
**Design:** Truly Design Crew  
**Owner:** Rimini City Council  
**Year of construction:** 2022  
**Year of the intervention:** 2022  
**Contractors:** Waterproofing srl, Truly Design Crew  
**Mapei coordinators:** Francesco Carboni and Andrea Pillepich, Mapei SpA (Italy)

Specific technical solutions were also required for installation work carried out during periods of high temperatures, such as those registered in the summer of 2022. KERAFLEX EXTRA S1 was chosen to install the thick porcelain paving tiles over an area of around 4,000 m², a high-performance cementitious adhesive with extended open time, no vertical slip and very low emission of volatile organic compounds (VOC). The joints were grouted with ULTRACOLOR PLUS quick-setting and drying, polymer-modified mortar so that the various areas of the site could be opened to the public immediately once completed.



Find out more  
KERAFLEX EXTRA S1



**IN THIS PAGE.** The porcelain tiles were installed along the promenades with KERAFLEX EXTRA S1 cementitious adhesive, with extended open time and no vertical slip.

**PROJECT INFORMATION**  
**Parco del mare waterfront, Rimini (Italy)**  
**Year of construction:** 2022  
**Year of the intervention:** 2022  
**Intervention by Mapei:** supplying products for creating screeds and bonding and grouting porcelain tiles  
**Owner:** Rimini City Council  
**Masterplan and design:** Benedetta Tagliabue –

EMBT Architects  
**Design coordination and support:** Silvia Capelli and Elena De Cecco, Rimini City Council  
**Project manager:** Alberto Della Valle, Rimini City Council  
**Works direction:** Rimini City Council: Elena De Cecco (sections 1, 3 and 8); Rosella Santolini (section n. 2); Silvia Capelli (fitness areas and fountains)

**Main contractors:** Lot no.2: Cooperativa Braccianti Riminese, Edil Sagea; Lot no. 3: Pesaresi S.p.a. and Impresa Mattei S.r.l.  
**Ceramic installation contractor:** Lupo Vito F. & C.  
**Creation, executive design and supervision of the manufacturing process of the porcelain tiles:** Benedetta Tagliabue – EMBT Architects  
**Mapei coordinators:** Fabio

Costanzi and Thomas Gessaroli, Mapei SpA (Italy)  
**MAPEI PRODUCTS**  
Creating screeds: Mapescreed Advance CR Tracer  
Installing and grouting tiles: Keraflex Extra S1, Ultracolor Plus  
For further information on products please visit [mapei.com](http://mapei.com)





**Reggio Calabria (Italy)**

# Regium waterfront

MAPEI SOLUTIONS FOR THE PAVING AND FOUNTAIN FLANKING THE MONUMENTAL STEPS AND PIAZZAS DESIGNED BY ZAHA HADID ARCHITECTS

The new Regium waterfront in Reggio Calabria (Southern Italy) was inaugurated in 2021. It was designed by Zaha Hadid Architects and has allowed the city to reclaim a new space and transform the area into a tourist attraction and a place where people can come together, creating a continuum between the port and the Italo Falcomatà promenade. This long, panoramic walk, overlooking the Strait of Messina and Sicily, winds its way between pedestrian areas, cycle lanes and a new sense of urban spatiality.



by **Giovanni Artuso**

## A DESIGN FOLLOWING THE PATH MAPPED OUT IN THE MASTERPLAN BY ZAHA HADID ARCHITECTS

CONTEMPORARY TECHNICAL CHOICES DIALOGUE WITH MATERIALS FROM THE LOCAL TERRITORY SUCH AS “REGGINA” STONE

**Together with Proger Spa, you followed the final and executive design stages for the Regium waterfront. What kind of difficulties did an intervention of such magnitude present?**

The very nature of the various areas provided our design team with precise indications of their complexity that could be used in the concrete definition of the various works required. Examples of the problems are the following:

- Interference caused by the presence of the large, decommissioned area of the railway in which the project had to locate a large carpark to serve the port area,

the bus terminus, and the existing seafront.

- Presence of streams crossing one of the lots transversally and flowing into the sea. This meant a lot of thought had to go into how to cross these streams and into the design of suitable elements at an appropriate height so they would blend in with the pedestrian pathways. This was discussed in great depth with the various bodies involved in the project, and particularly with the local Cultural Heritage and Landscape Authority.

**The area has been designed to act as a hub for social aggregation**

**within the local urban fabric. How did you manage to incorporate this objective into the design?**

To achieve these objectives, an in-depth study of the flow patterns for different types of mobility dictated how the masterplan was defined. It was clear that it was absolutely essential to eliminate elements creating interruptions or that were so particularly rundown that they would have prevented local residents being able to make full use of significant stretches near the coastline. The design focused on eliminating these interruptions by modifying the lines of the existing flows, reconnecting the seafront

with the area around the port and generating new linking elements, such as the monumental steps that unite the system of piazzas set at different heights, and the new bridge in weathered steel over the Annunziata Stream. Overcoming the various problems regarding accessibility and creating links enabled new spaces to be configured where people can take a pause, observe their surroundings, practice sport or where different age groups can simply play and enjoy themselves. At the same time, the compositional flexibility of these spaces means the local administration and local

organisations are now able to organise events and constantly “reinvent” how to use these spaces that have been handed back to the local community.

**The masterplan was drafted by Zaha Hadid Architects. What remains of the original design and of the style of Zaha Hadid in terms of form, light and colour?**

The design team operated within the path mapped out in the masterplan by Zaha Hadid Architects, remaining faithful to the conception of this important stretch of coast as a complementary element to what we hope will

soon become the Museum of the Mediterranean, also designed by Zaha Hadid Architects. Within the framework of the definitive/executive design, a similarly high equivalence of form as the original masterplan has been maintained for the system of pathways merging into the two droplet-shaped piazzas set at different heights. In the same fashion, in order to guarantee the vertical link, the monumental steps between the two open spaces become the element of friction originally conceived when drafting the masterplan, balancing out the compositional tensions dictated



### The history of Regium waterfront

In 2006 Reggio Calabria City Council launched an international competition for the design of the new Regium waterfront project.

The winning design was announced in 2007 and was awarded to London-based Zaha Hadid Architects. The project included construction of the Museum of the Mediterranean, with a special section dedicated to the Italian fashion designer Gianni Versace, display spaces, an aquarium and a library. The aim of the project was to regenerate an abandoned part of the city – the Candeloro neighbourhood – and rejuvenate the area around the port.

The new waterfront extends over an area of 50,000 m² and will bring in tourists and provide areas where people can come together, offering new ways of making use of spaces in a previously run-down part of the city.

Work was carried out in the area around the port and the Zerbi pine forest and along the northern part of the Italo Falcomatà promenade. The main focus of the intervention hinges around the creation of two piazzas situated in the Zerbi pine forest area. These two spaces are connected by a series of access steps flanked by an evoc-

ative water feature, with its flow alternating along and through three steps and three pools. An unmistakable stylistic approach of projects by Zaha Hadid Architects is, in fact, the use of smooth, white, resin-bound concrete to create statue-like architectural forms.

### Paving, waterproofing and other works

For the paving in the area around the Zerbi pine forest and on the steps connecting the paved areas, it was recommended to use Mapei solutions to create architectural concrete paving with an exposed aggregate effect finish.

To waterproof the pools for the fountain flanking the steps, the solution recommended by Mapei experts was, firstly, to prepare the substrates using PLANITOP FAST 330, a quick-setting, fibre-reinforced levelling cementitious mortar, which is applied on internal and external floors at thicknesses from 3 to 30 mm.

The next step was to apply MAPECOAT I 600 W two-component, transparent epoxy primer in water dispersion, followed by a coat of TRIBLOCK FINISH epoxy-cementitious mortar which is used for protecting and smoothing out vertical and horizontal concrete surfaces subject to

by the fluidity of the designed pathways.

A high degree of equivalence has also been maintained in how the minimalist street furniture has been conceived, from both a materic perspective, such as concrete with different types of coatings, and a colour perspective, which has been maintained by using white for the seats, in line with the minimalist language of Zaha Hadid and in harmony with the figurative experience of Mediterranean architecture, as well as from a formal perspective, with seats created so as to flow seamlessly with the joints and kerbs for the paving, in line with the furniture foreseen in the original masterplan.

### Mapei supplied products to create the exposed aggregate-effect concrete paving. What design choices were taken regarding surfaces and paving?

Design choices were driven by taking into consideration the sheer beauty of the landscape along this stretch of the coast. The choice of materials and finishes was the result of constructive discussions with the Archaeology, Fine Arts and Landscape Authority of the city of Reggio Calabria. There was also the need to provide materic continuity with the solutions already in place along the existing Italo Falcomatà promenade. Contemporary technical choices dialogue with materials from the local territory,

such as the widely used “Reggina” stone which was also used for the aggregate in the decorative concrete paving on the treads of the monumental steps. In light of all this, wanting to combine these aspects with the materic choices proposed in the first masterplan, the decorative concrete paving plays a part in guaranteeing the vibrant effects of the stone paving, while maintaining a high level of uniformity. It was also decided to create the paving in refined colours that would highlight specific lines of the design to make it easier to identify the various itineraries.

**Giovanni Artuso.** Artuso Architetti Associati

**IN THIS PAGE.** Mapei solutions for exposed aggregate concrete surfaces were used to create the paving on the monumental steps and piazzas in the area around the Zerbi pine forest.







**ABOVE.** The surfaces of the shelter at the bus terminus in the port were waterproofed with MAPELASTIC flexible, two-component cementitious mortar.

damp, where good chemical resistance and high resistance to abrasion is required. The pool surfaces requiring a coloured finish were then finished and painted with ELASTOCOLOR WATERPROOF, which is especially suitable for surfaces in permanent contact with water. This easy-to-clean, flexible acrylic paint provides sufficient protection against the sun, acid rain and atmospheric agents in general.

The surfaces of the shelter at the bus terminus in the port, which is completely open on the sides facing the sea and the city, were waterproofed with MAPELASTIC flexible, two-component cementitious mortar. While the first layer of MAPELASTIC was still fresh, MAPENET 150 alkali-resistant, fibre glass mesh was applied to reinforce the protective, waterproof mortar. These surfaces were also painted and protected with ELASTOCOLOR WATERPROOF.

The walls below the pine forest and alongside the fountain were skimmed with PLANITOP 210 one-component,

fine-textured, water-repellent cementitious skimming mortar or with PLANITOP 217 coarse-textured, water-repellent cementitious skimming mortar according to the texture required in the different areas.

Once the skim coats had dried, the surfaces were finished off with QUARZOLITE BASE COAT coloured, acrylic undercoat which is used to level the substrates and improve adhesion of the following coating layer. The final step was to apply QUARZOLITE TONACHINO acrylic plaster, which is suitable for coating internal and external surfaces. It forms a layer that is resistant to all weather conditions in general, including aggression from smog, saltwater and sunlight.



Find out more  
MAPELASTIC

#### PROJECT INFORMATION

##### Regium waterfront,

Reggio Calabria (Italy)

##### Period of construction:

2017-2021

##### Period of the intervention:

2020-2021

##### Intervention by Mapei:

supplying products for paving, waterproofing and preparing substrates in the water tanks, levelling and

coating walls

**Design:** Zaha Hadid

Architect; Filippo Innocenti;

Proger SpA, Artuso

Architetti Associati

**Owner:** Reggio Calabria

City Council

##### Works direction:

Domenico Richichi, Mauro Cuocci

**Main contractor:** Cobar Spa

##### Mapei coordinators:

Giovanni Rinaldi, Giovanni

Villani, Antonio Daniele

D'Ippolito, Mirco Malvasi,

Fabio Laricchia, Giuseppe

David, and Alessandro

Addia, Mapei SpA (Italy)

##### MAPEI PRODUCTS

##### Preparing substrates:

Mapecoat I 600 W, Planitop Fast 330,

Planitop 210, Planitop 217,

Triblock Finish

##### Waterproofing substrates:

Mapelastic, Mapenet 150

##### Coatings:

Quarzolite Base

Coat, Quarzolite Tonachino,

Elastocolor Waterproof

For further information on products: [mapei.com](https://www.mapei.com)

# High performance materials with low environmental impact



by **Mauro Cuocci**

CHOOSING THE RIGHT PRODUCTS HAS ENABLED HIGH PERFORMANCE TO BE ACHIEVED IN SURROUNDINGS WITH HIGH SALINE AGGRESSION

#### What is the current status of the regeneration work along the seafront?

Work has been suspended for the time being until the local authority completes a new substation near the port, and this will then allow us to finish the redevelopment work in Via Florio, the only portion of the site that hasn't been completed. In spite of the delay, this wonderful part of the coast was "handed back" to the residents of the city back in May 2021, once enough of the redevelopment work had been completed.

#### What were the biggest technical and urbanistic problems you encountered on this important site?

It is inevitable to come across numerous problems when working on such a complex project extending over such a vast, rundown area: the amount of red-tape before the local authorities could repossess some of the areas to be worked on, the presence of numerous underground service networks built abusively over the years, operating while being closely controlled by the local archaeology authority, the need to organise work so that it would reduce its impact on the daily life of local residents to a minimum and the impact of the pandemic.

I must acknowledge, however, that from the moment we started working on site, we saw at first hand the will and effort of everyone to complete the work quickly and to a high standard: from the administration departments of the local council to the designers, from the residents passing through the areas around the site on almost a daily basis to see how work was progressing to the workforce that gave their full availability to work whenever necessary. I am proud of the role played by Cobar, which constantly ensured their presence and availability to oversee and review the schedule of works and site management activities in general, always ready to adapt the schedule as and when any technical or administrative issues arose. When all stakeholders have a common objective, difficulties can be overcome more quickly.

#### The masterplan was drafted by Zaha Hadid Architects. How was the relationship between the main contractor, the public administration and the architects?

Overall, the relationship with the executive designers, representatives on site from Studio Artuso Architetti

Associati and with the client, represented by staff from various departments of the local council, was completely symbiotic and collaborative. Obviously, there were the occasional moments of tension, but in these moments there was always mutual respect for everyone's expertise and professionalism, so not only did they never have a damaging effect on how work progressed, they just highlighted the incredible will of everyone to achieve the objective.

#### What criteria did you use when choosing the products and materials required?

All too often, and too hastily in my opinion, in these cases there is a cliché whereby the only criteria for a construction company when choosing materials and products is to go for those with the lowest price. For the site we are talking about the opposite was true. We opted for materials with high performance properties which have a low impact on the environment, are easy to maintain over the years and which had a consolidated background regarding their use and application. This choice was determined by Cobar's consolidated business policy and this enabled the executive phases to be optimised and standardised and to be certain, from the outset, that the high performance expected, indispensable when creating structures and elements for public use in surroundings exposed to high levels of saline aggression, would be achieved.

#### How much did it help to be able to rely on cutting-edge, consolidated products such as those proposed by Mapei?

Using products that have been tested and certified, backed up with years of experimentation and research such as those proposed by Mapei, is undoubtedly a guarantee of reliability and safety for the entire production chain.

Not only do they guarantee the performance of an element or structure over time, they also enable the executive phases to be carried out more quickly, bypassing the on-site testing phase to evaluate their suitability, which is usually a slow, complex process.

**Mauro Cuocci.** Construction Manager, Cobar SpA



# Hajdúszoboszló (Hungary) Hungarospa

A COMPLETE AND SAFE SYSTEM TO INSTALL CERAMIC TILES AND MOSAICS  
IN THE NEW PREMIUM ZONE OF THE LARGEST THERMAL CENTER IN EUROPE



The city of Hajdúszoboszló in Hungary has a long tradition of thermal spa treatments: in 1927 a team of workmen looking for hydrocarbons discovered water at a temperature of 73 °C rising up from a depth of 1091 m. Their value in the medical field was acknowledged shortly afterwards, thanks also to the contribution of the renowned geologist, Ferenc Pávai Vajna. In the same year a wellbeing centre was constructed in the town, initially with mud baths and, soon after, more specific thermal treatments and aquatic attractions for the wider public were added.

Over the years, the structures dedicated to thermal treatments, the reception centre for guests and aquatic attractions were extended and renovated and, today, Hungarospa is the largest thermal centre in Europe with the capacity to host 1000 visitors. Over an area of 2.5 hectares, there is a structure dedicated to thermal treatments, an open-air spa with swimming pools and sports pitches and an indoor aquatic park with swimming pools, saunas, a solarium and a fitness centre. The most recent addition to the park is the Premium Zone, an open-air area with four theme pools: the "Plitvice" with rocks and a large waterfall; the "Tahiti" with simulated waves and a tropical style bar; the "Amazonas" with Jacuzzis and tortuous water courses; a children's pool with water features.

**LEFT.** In this large thermal centre with such a long tradition, a new area called the Premium Zone has been built featuring four theme areas with swimming pools and water features.

**RIGHT.** In the eight swimming pools and nine new hydro-massage pools in the Premium Zone, Mapei products were used to prepare substrates on the bottom of the pools, as well as to bond and grout ceramic tiles and mosaics.



## Sound, long-lasting solutions for swimming pools and Jacuzzis

During the most recent extension and renovation work at Hungarospa, which was carried out between 2020 and 2021, Mapei products from the building line and solutions for the installation of ceramic tiles and stone were used in eight swimming pools and nine Jacuzzis in the new Premium Zone, for a total surface area of 15.000 m².

Once the concrete shells for the swimming pools had been completed, the deteriorated areas were repaired with MAPEGROUT 430, a fine-grained, fibre-reinforced, normal-setting thixotropic mortar, which is now available on the international market as MAPEGROUT 430 ZERO. Then, to make sure the concrete surfaces were sufficiently flat and even before installing the ceramic tiles, the side walls in the pools were levelled off with PLANITOP FAST 330 rapid-setting, fibre-reinforced levelling cementitious mortar, a product applied in layers 3 to 30 mm in interiors and exteriors.

The flatness of the bottom of the pools, on the other hand, was guaranteed by creating screeds made from TOPCEM hydraulic binder, which were bonded to the bottom with a bonding slurry made from PLANICRETE latex, TOPCEM and water.

To guarantee the surfaces were well waterproofed they were treated with MAPELASTIC flexible membrane, which was also chosen for its resistance to UV rays and durability. MAPEBAND TPE tape was then bonded with ADESILEX PG1 epoxy adhesive in correspondence with the expansion joints. MAPEBAND EASY rubber tape, which is used to create elastic joints in waterproofing systems, was applied in the corners between the walls and bottom of the pool, between adjacent walls and around areas where pipework passes through.

The 12.5 x 25 cm ceramic tiles and the 5x5 cm and 2.5 x 2.5 cm mosaic tiles were bonded to the walls with KERAFLEX S1, an adhesive produced and distributed on the Hungarian market by Mapei Kft., and to the bottom of the pools with KERAFLEX EASY S1, a deformable, cementitious ad-





hesive with extended open time.

To guarantee an aesthetic impact in line with the exclusivity of the new Premium Zone, it was decided to grout joints in the pools with KERAPOXY CQ epoxy mortar which, thanks to its particular chemical formulation, has the capacity to guarantee low water absorption, high durability and high resistance to the various temperatures of the water. In fact, this mortar with a bacteriostatic agent and BioBlock® technology, is particularly suitable for "difficult" surroundings, where ceramic tiles and joints are put to the test by bacteria and aggressive substances. And lastly, the expansion joints in the pools were sealed with MAPESIL AC, mould-resistant, acetic-crosslinking silicone sealant after applying PRIMER FD as a bonding enhancer.

Ceramic tiles and mosaics were installed on the walls of the swimming pools and hydro-massage pools with KERAFLEX S1, and on the bottom of the pools with KERAFLEX EASY S1. KERAPOXY CQ epoxy mortar was used to grout the joints.



Find out more  
KERAFLEX EASY S1

#### PROJECT INFORMATION

**Premium Zone, HungaroSpa,**  
Hajdúszoboszló (Hungary)  
**Period of construction:**  
2020–2021  
**Period of the Mapei intervention:** 2020–2021  
**Owner:** HungaroSpa Hajdúszoboszló  
**Design:** Sándor Varga, Cella Media Kft.  
**Main contractor:** Magyar Mélyépítő Kft.  
**Ceramic installation**

**company:** CZP 2006 Kft., Pegazso 2010 Kft.  
**Intervention by Mapei:**  
supplying products for repairing concrete, creating screeds, levelling and waterproofing substrates, installing ceramic tiles and mosaics in the pools  
**Mapei distributor:** GSV Kft.  
**Mapei coordinators:** Krisztián Szénás and Péter Kis, Mapei Kft. (Hungary)

#### MAPEI PRODUCTS

Concrete repair:  
Mapegrout 430 (now available as Mapegrout 430 Zero)  
Preparing screeds and substrates: Topcem, Planitop Fast 330  
Waterproofing substrates, corners and joints:  
Mapeband TPE, Mapeband Easy, Mapelastic, Adesilex PGI  
Installing ceramic tiles and mosaics: Keraflex S1\*,

Keraflex Easy S1  
Grouting joints:  
Kerapoxy CQ  
Sealing expansion joints:  
Mapesil AC

\*This product is manufactured and distributed on the Hungarian market by Mapei Kft. (Hungary)

For further information on products, visit [mapei.com](http://mapei.com) and [mapei.com/hu](http://mapei.com/hu)

# Installing ceramic tiles in pools: application guidelines



by Zoltán Fábán

KNOWING THE BASIC RULES FOR THIS TYPE OF APPLICATION ENSURES LONG-LASTING AND QUALITY RESULTS

Many installers of ceramic tiles are afraid of working in pools, but if you know the basic guidelines, the key cornerstones, this is a good opportunity to ensure sound installation and grow your business by doing a wider range of works. Let's take a look at the basic rules you need to know about installation in pools, even for the smallest family home jobs.

#### The right substrate

The most important thing is the area of work that can be used for the job, i.e. the body of the pool itself. Only and exclusively watertight reinforced concrete pool shells are suitable for receiving tiles. A pool made of hollow formwork blocks, on the other hand, can, in most cases, be covered with a PVC waterproofing membrane specific for swimming pools. It is very important that the pool deck is successfully tested for watertightness beforehand. In fact, installation works can only be started if the structure has passed the watertightness test and the substrate has proved to be sufficiently solid, compact, free of cracks and has an adequate layer of concrete over the reinforcing rods. The watertightness test and the pool test are specified in the requirements of several national and international standards, i.e. these requirements are not optional or a manufacturer's recommendations only.

#### Correct flatness for the sides and bottom

The surfaces of reinforced concrete pools are typically not flat enough to receive ceramic coverings. These surfaces can be levelled off correctly with PLANITOP FAST 330 quick-setting, fibre-reinforced levelling mortar, which is suitable for both internal and external floor and wall substrates. On the bottom of the pool, in addition to PLANITOP FAST 330, TOPCEM PRONTO ready-to-use, normal-setting, controlled-shrinkage mortar can be used to create quick-drying (4 days) screeds, which can be bonded with a bonding slurry made from PLANICRETE latex and TOPCEM.

#### Waterproofing solutions

Once the surfaces had been levelled off, they need to be waterproofed. MAPELASTIC two-component, flexible cementitious membrane is a good choice for this purpose, as well as other solutions from the MAPELASTIC range (MAPELASTIC AQUADEFENSE,

MAPELASTIC SMART and MAPELASTIC TURBO). Products from the MAPELASTIC line of membranes should be applied in two coats for a total thickness of at least 2 mm. It is possible, and rather advisable, to embed MAPENET 150 fibre glass mesh or MAPETEX SEL polypropylene fabric between two coats of MAPELASTIC for reinforcing the waterproofing layer, especially if the pool is subjected to high loads or deformations. To ensure sound waterproofing at the corners between walls, between the bottom and the walls and around pipe penetration points, MAPEBAND EASY elastic rubber tape and other accessories should be used in conjunction with MAPELASTIC.

“ The adhesive chosen to install ceramic tiles or mosaics in pools depends primarily on the type of coverings and the location of the pool

#### Which adhesive to bond tiles?

The adhesive chosen to install ceramic tiles in pools depends primarily on the type of tiles and the location of the pool. For example, glass mosaics can be bonded with a suitable mix of white KERABOND T cementitious adhesive and ISOLASTIC latex additive. When installing ceramic tiles KERAFLEX S1 may be a good choice, even outdoors. ADESILEX P9 may also be a suitable solution for an indoor pool with ceramic tiles under less stressful conditions.

#### Grouting joints

When grouting joints in swimming pools, it is possible to choose cementitious grouts, such as ULTRACOLOR PLUS, or epoxy grouts, such as those from the KERAPOXY range, thereby ensuring higher chemical resistance. Expansion joints in the surface of walls and the bottom of a pool can be sealed with MAPESIL AC, mould-resistant, acetic-crosslinking silicone sealant after applying PRIMER FD as a bonding enhancer.

Zoltán Fábán. Technical Services, Mapei Kft. (Hungary Kft.)





© Géraldine Bruneel

## Libourne (France)

# La Calinésie aquatic park

OVER A SURFACE AREA OF 35,000 M<sup>2</sup>, WATERPROOFING AND INSTALLATION OF TILES USING BESPOKE PRODUCTS ACCORDING TO THE VARIOUS AREAS

Opened in May 2021, La Calinésie is a new aquatic park in Libourne, a town near Bordeaux, in France. Over an area of 35,000 m<sup>2</sup> the park provides visitors with areas for educational activities, well-being and fun and games for young and old alike. The park, with its original and eco-sustainable architectural lines, was designed by the French firm AP-MA Architecture.

There are four different areas at La Calinésie: the lagoon dedicated to sports with a 25 m, 8-lane swimming pool and stands for 485 spectators for national competitions; the pool also has a mobile bottom so that the depth of the water can be varied. The play area has water features with beaches, water cannons and a brightly-lit, 75 m waterslide for the more daring visitors. The relaxation area is an invitation to wellbeing thanks to its saunas, Turkish

baths and Nordic baths. The external summer lagoon offers 500 m<sup>2</sup> of fun and powerful emotions: waterslides, water features and a sports area complete this space, all enclosed within a unique, natural setting on the shores of Lake Dagueys.

### Ceramic tiles play a leading role

Similarly to many sites, La Calinésie also had setbacks because of the Covid-19 pandemic. "Organisation was really important. The site opened shortly before the lockdown in March 2020. Luckily, we only had to suspend work for one month and we were able to start up again pretty quickly despite the stringent health measures", explained Quentin Belloncle, Director of the main contractor CMB. Specialised in swimming pools and technical sites with ceramic tiles and natural stone, the company cre-ated va-

rious systems to prepare and waterproof the substrates before bonding and grouting 6,900 m<sup>2</sup> of tiles. Bonding slurries admixed with fibres (made from PLANICRETE LATEX and MAPEPLUS FIBRE, which are manufactured and distributed on the French market by Mapei France) enabled the screeds and micro concrete slabs for the slopes on the bottom of the swimming pools, the children's pools, the footbaths and showers to be created. The product chosen to level off the surfaces was PLANITOP 400F rapid-set, low-dust mortar which is also manufactured and distributed on the French market by Mapei France.

"On this site, waterproofing was a crucial issue, particularly because of the specific conditions in various points and the elements that needed to be sealed. And our technicians have all the experience required to choose the

most appropriate products, whatever the circumstances", continued Quentin Belloncle. In fact, different solutions were chosen for the swimming pool, the beaches, the showers and the changing rooms.

All the swimming pools and areas immersed in water were treated with MAPELASTIC cementitious waterproofing mortar combined with MAPENET 150 glass fibre strengthening mesh. The expansion joints were waterproofed with MAPEBAND TPE 170 tape.

Some cracks were sealed with EPORIP epoxy adhesive with added quartz sand, while the product chosen to waterproof the gaps and spaces between the elements was MAPEPROOF SWELL hydro-expanding sealant.

All the damp areas in the beaches around the pools, changing rooms, showers and bathrooms were waterproofed with MAPELASTIC AQUADEFENSE ready-to-use,



© Géraldine Bruneel



© Anaël Barrière

**ABOVE.** MAPELASTIC membrane, MAPENET 150 mesh and MAPEBAND TPE 170 tape were used to waterproof the substrates of the pools.





KERAPOXY CQ was used to install the mosaics in the pools and grout the joints.

ultra-quick drying, flexible liquid membrane and MAPE-BAND PE 120 PVC tape, which is suitable for waterproofing systems made using liquid membranes.

KERAFLEX improved cementitious adhesive with extended open time was chosen to install the porcelain tiles, while to install the mosaic and grout the joints in the damp areas (including saunas and Turkish baths), the product chosen was KERAPOXY CQ adhesive and grout because of its acid-resistant and bacteriostatic properties. For the dry areas, grouting was carried out using ULTRA-COLOR PLUS high-performance cementitious mortar. The expansion joints were sealed with MAPESIL AC silicone sealant combined with PRIMER FD, primer specifically developed for use with silicone sealants.

#### A close bond with Lake Dagueys

"The natural context was very important in the design and construction of the aquatic park" so Priscilla Rivaud, Director of Communication at La Cali told us. "We wanted it to be built near the lake because our aim was to use water from Lake Dagueys to feed the storage tanks. This strategy enabled us to save 50,000 m<sup>3</sup> of water per year. The main challenge when creating this kind of complex is how to manage energy consumption. We are now able to optimize the various sources of energy, such as electricity and gas, by carefully using a number of different sources (such as biomass, solar energy and LED lighting) and, above all, by managing the water thanks to our various filter systems. There is no doubt that tourism in the area has benefited enormously thanks to the presence of a centre like La Calinesie."

*This article was taken from issue N° 51 of Mapei&Vous, the magazine published by our subsidiary Mapei France, whom we kindly thank.*



Find out more  
KERAFLEX

#### PROJECT INFORMATION La Calinesie waterpark, Libourne (France)

**Period of construction:**  
2020-2021

**Period of the Mapei  
intervention:** March  
2020-March 2021

**Intervention by Mapei:**  
supplying products  
for preparing and  
waterproofing substrates,  
installing ceramic tiles,  
grouting tile joints, sealing  
expansion joints

**Owner:** La Cali

(Communauté  
d'Agglomération du  
Libournais)

**Design:** AP-MA

Architecture, Action Archi  
**Engineering and design  
department:** Sebat, Soja

Ingenierie

**Works direction:** Dekra  
Industrial

**Installation company:**  
CMB

**Mapei coordinator:**  
Laurie Saintenac, Mapei  
France

**Photos:** Anaël Barrière,

Géraldine Bruneel,  
Quentin Belloncle

#### MAPEI PRODUCTS

Creating screeds:

Planicrete Latex\*,

Mapeplus Fibre\*

Preparing substrates:

Planitop 400 F\*, Eporip,  
Primer FD\*

Waterproofing substrates:

Mapeproof Swell,

Mapelastix, Mapenet 150,

Mapelastix AquaDefense,

Mapeband PE 120,

Mapeband TPE

Installing ceramic tiles:  
Keraflex

Grouting joints: Kerapoxy

CQ, Ultracolor Plus

Sealing expansion joints:

Mapesil AC

\*These products are  
manufactured and  
distributed on the French  
market by Mapei France.

For further information  
on products, please visit  
[mapei.com](http://mapei.com) and  
[mapei.com.fr](http://mapei.com.fr)

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## Giulianova (Teramo, Italy)

# Cycle lane along the Monumental Promenade

MAPECOAT TNS URBAN ACRYLIC RESIN-BASED COLOURED COATING WAS USED TO CREATE THE NEW PEDESTRIAN AND CYCLE PATH

The pedestrian and cycle lane in Giulianova was financed by the Abruzzo Regional Government as part of the "Bike to Coast" initiative, a 131 km cycle lane that stretches in the Abruzzo Region in Central Italy between the towns of Martinsicuro and San Salvo. The original project was modified to create a wider trail and close it to traffic in the southern section. The Giulianova town council, in fact, preferred freeing the road of cars to make that stretch of the Monumental Promenade only accessible to pedestrians and cycles to make the area livelier and promote local tourism. An eco-sustainable solution that enhances the area around the Monumental Promenade which was built in the 1930s and, with its travertine exedras and columns, characterises the centre of Giulianova Lido.

The trail is two-way to make it easier for cyclists to travel in both directions, while the space for pedestrians has been enriched with trees, flowerbeds and other street furnishing features.

### Creating a cycle and pedestrian lane

To create the lane Mapei Technical Services recommended using MAPECOAT TNS URBAN, a multi-layered system designed for coating pedestrian and cycle lanes and urban areas. This system is made from acrylic resin

in water dispersion with selected fillers with high resistance to wear, UV rays and all weather conditions and may be applied over existing surfaces that has already been painted or on new bitumen or cementitious substrates. The system is used to coat both asphalt and cementitious surfaces and protects sublayers to stop them deteriorating. It leaves the surfaces with a non-slip finish resistant to oil, fuel and de-icing salts. Not only do coatings made using this system have a very attractive finish, but they can also be renovated and repaired easily and quickly.

MAPECOAT TNS URBAN was used to create the new 3,000 m<sup>2</sup> cycle and pedestrian lane in Giulianova. The product, chosen in its white colour shade, was applied in two coats 12 to 24 hours apart.

MAPECOAT TNS EXTREME SF two-component, rapid-drying, coloured epoxy-acrylic top coating was then applied to create the markings of the vehicle crossings along the lane.



Find out more  
**MAPECOAT TNS EXTREME SF**

### PROJECT INFORMATION

**Cycle and pedestrian lane, Monumental Promenade, Giulianova**

(Province of Teramo, Italy)

**Year of construction:** 2022

**Year of the Mapei**

**intervention:** 2022

**Intervention by Mapei:**

supplying products for coating the cycle lane and marking the vehicle crossings

**Design and works**

**direction:** Area 77

(Alessandro Ciutti and Antonello D'Emidio)

**Owner:** Giulianova Town

Council (Project Manager: Fabrizio Iacovoni)

**Main contractor:** Cisa Appalti

**Contractor for coating:** Tennis Service srl

**Mapei coordinators:**

Francesco Carboni and Luca Consorti, Mapei SpA (Italy)

### MAPEI PRODUCTS

Coating the cycle lane:

Mapecoat TNS Urban

Marking the vehicle crossings:

Mapecoat TNS Extreme SF

For further information on products please visit [mapei.com](https://mapei.com)



The cycle lane was created by applying two coats of MAPECOAT TNS URBAN coloured acrylic resin-based coating.



## Yerevan (Armenia) Skate Park

A NEW, MODERN SKATE PARK  
IN THE CAPITAL OF ARMENIA,  
A NEW DESTINATION FOR  
INTERNATIONAL TOURISM

Be it for its enchanting views that form a backdrop to the city, with the Ararat and Ara mountains on one side and the River Hrazdan to the south, its museums (the National Gallery of Armenia, the Erebuni Museum of Archaeology, The Museum of Armenian History and the Genocide Museum), the legacy of its past (the Erebuni military fortress, the Cathedral of Saint Gregory the Illuminator or the Church of John the Baptist), or its multicultural population, the saying goes that anyone who visits Yerevan will always try to return.

The city was recently transformed into a new destination for international tourism and an increasing number of visitors are enjoying its multicultural atmosphere and the cultural offer of its theatres, as well as its beautiful piazzas (such as the Republic Square where, in the evening, visitors can enjoy the extraordinary spectacle of the Musical Fountains) and its numerous city parks.

One of these parks is the brand-new Skate Park, inaugurated with an official ceremony and a grand gala concert featuring famous Armenian stars on 15 November, 2022.

### High-performance and resistant surfaces

Located near the cathedral of Saint Gregory the Illuminator and extending over an area of more than 5,000 m<sup>2</sup>, the Yerevan Skate Park is the first modern skate park in Armenia. There is also a large amphitheatre open to both residents of the city and tourists where they can admire the spectacular moves performed by the skaters, as well as a first aid area. The park is lit up at night thanks to a series of solar panels installed in the area.

Construction work on the park had to guarantee the creation of slip-resistant surfaces which are also resistant to wear, the effect of UV rays, all weather conditions and chemical substances.

Which is why the contractor commissioned to carry out the work decided to choose MAPECOAT TNS URBAN, a multi-layered system made from acrylic resin ideal for

coating cycle lanes, outdoor surfaces and urban features. Work started with the application of MAPECOAT TNS BASE COAT, a semi-flexible, waterborne, acrylic resin-based basecoat, which is applied on indoor and outdoor asphalt and pre-treated concrete surfaces before applying finishing products from the MAPECOAT TNS range. It may be used on pre-treated existing acrylic or urethane surfaces or over rough substrates to compensate for an uneven substrate before applying additional MAPECOAT TNS products. Thanks to its specific filling and smoothing properties, the product allows to remove small irregularities and obtain even surfaces. The next step was to apply MAPECOAT TNS URBAN, a coloured, acrylic resin-based coating product in water dispersion with selected fillers, used to coat and protect cementitious and bituminous surfaces against deterioration and the aggressive action of atmospheric conditions such as moisture, carbon dioxide and exposure to UV rays. This product forms a highly slip-resistant surface finish which is also resistant to abrasion and guarantees a long service life for surfaces, a very important requirement of the owner.

To complete the cycle the surfaces were then treated with MAPECOAT TNS PROTECTION, a transparent finish ensuring excellent resistance to wear and long-lasting durability, even in the case of surfaces frequently used or exposed to various weather conditions (smog, sunlight). Thanks to this complete system, visitors and residents of Yerevan can now enjoy a skate park to rival the most modern ones around the world.



Find out more  
MAPECOAT TNS URBAN

### PROJECT INFORMATION

**Skate Park, Yerevan**  
(Armenia)

**Owner:** Yerevan City Council

**Period of construction:**  
2021

**Period of the Mapei**

**Intervention:** 2021

**Owner:** Armenian Diaspora of Ukraine

**Design:** Armen Shatvoryan

**Main contractor:** Bedeck LLC

**Installation company:** LLC Aquatus

**Mapei distributor:** LLC Aquatus

**Mapei coordinator:** Elina Polumiskova, AO Mapei

### MAPEI PRODUCTS

**Coating skating surfaces:**  
Mapecoat TNS White Base

Coat, Mapecoat TNS Urban, Mapecoat TNS Protection

For further information on products please visit [mapei.com](https://mapei.com)







by Elisa Portigliatti

## Fiuggi (Province of Frosinone, Italy)

# Fiuggi Golf Club 1928

IMPORTANT UPGRADING WORK AT FIUGGI GOLF CLUB AS PART OF AN AMBITIOUS PROJECT INVOLVING THE SPA, TOURISM AND SPORT SECTORS

Since ancient times man has studied the benefits and potential regenerative effects of water and, over time, it has become a genuine means of therapy. The physical-chemical characteristics of water, its temperatures and its “vortex effect” were already used to treat numerous pathologies by the ancient Romans in spa centres (*salus per aquam* or health through water): buildings used for public baths – taking inspiration from Greek gymnasiums – were meeting and educational places.

The spa centres of ancient Rome combined these two traditions and acted as centres for personal hygiene and as places dedicated to the well-being of the mind. So, not just simple public baths, but also places of culture, enjoyment and social aggregation. And this is why Roman spa baths were often embellished with mosaics and decorations, and even more, such as gymnasiums, libraries, rooms, porticoes, fountains, shaded gardens, paths to take walks and even areas of land for ball games.

But not even the Romans ever thought about transforming a spa into an entire city. And that is precisely what is happening in the city of Fiuggi in Central Italy. Surrounded by unspoiled nature offering numerous opportunities for lovers of trekking, hiking and the outdoors in general,

Fiuggi, a renowned spa town known all around the world for its curative waters and natural beauty, over the years has also been a historic destination for lovers of golf. Situated in the Comino Valley in the Central Apennine Mountains, apart from being renowned for its cultural heritage with an artistic and historic patrimony of immense value, the town is one of the very first examples of how the love of golf can be combined with a passion for nature and spa treatments.

### Tourism and sport

It was with this in mind that Fiuggi Golf Club 1928 opened almost a century ago, one of the most prestigious and picturesque golf courses in the whole of central Italy. Its highly privileged location, at the foot of the Ernici Mountains and just a short distance from the town of the same name, makes it the ideal place for the lovers of sport, relaxation and nature. And it is with the rediscovery of these ancient traditions that Fiuggi City Council is now looking to turn a page with a new, ambitious project that will involve the entire economic fabric of the town and called, not by accident, “*Salus per Aquam*”. The guidelines of the project will have the production of the town’s famous water as the focus, but there will also be

significant investments to relaunch the entire spa sector, which will then have to interact with other strategic assets such as the health and wellbeing sectors, and also, and above all, a combination of tourism and sport.

### Upgrading the golf course

And it is precisely from here that a virtuous relaunch journey for the town has been initiated and the green light has been given for important redevelopment work on the historic course of Fiuggi Golf Club 1928: one of the oldest courses in the country and also, with 18 holes, one of the most important of Italy if we consid-



A view of some of the bunkers in Fiuggi Golf Club after being upgraded with MAPESOIL technology.



Application of the mix containing MAPESOIL GF binder following the conformation of the bunkers.



er that, over the years, it has hosted famous golfers, politicians and actors, as well as famous footballers and enthusiasts of golf, such as Diego Armando Maradona.

The golf course in the town of Fiuggi underwent important upgrading work on the surfaces of the bunkers, those sand-filled depressions dotted around the course to create obstacles during play. Apart from being areas every golfer would rather avoid (a golf ball in a bunker means players have to step into the unknown), they are also a problem for those who have to guarantee the efficiency of a golf course, in that the rain leaches away the sand from bunkers, leading to its costly replenishment.

#### Improving the drainage system

Mapei Research & Development laboratories have developed a system to improve the efficiency of drainage systems for bunkers based on MAPESOIL GF technology, specifically designed to increase the speed at which water is drained off from surfaces. Thanks to its high drainage capacity the system helps maintain the characteristics of the sand – to prevent it being leached away by rainwater – and, as a result, reduces a golf club's maintenance costs. With this system a highly permeable layer is applied

over the entire surface of the bunker, consisting of a mixture of gravel and MAPESOIL GF high-performance cementitious binder with a low carbon footprint and high drainage capacity, which improves the ground's volumetric stability, mechanical properties and durability. The installation of MAPESOIL GF technology enables rainwater to be collected, which can then be used to water the greens. Indeed, this technology encourages more integrated and effective management of water resources within golf clubs, a crucial objective to help reduce consumption of natural water (it would be wasteful to use Fiuggi low-mineral water to water the greens!), particularly when having to face recurring periods of drought due to the effect of climate change. Also, MAPESOIL GF does not contain substances that could potentially pollute the water that drains off and this aspect – apart from its excellent mechanical characteristics, such as high drainage capacity to prevent puddles forming in the event of violent rainstorms, which are now all too frequent due to the effects of climate change – is extremely important to prevent the rainwater filtering through the pores in the MAPESOIL GF screed from permeating into the ground and polluting the sources of

the renowned, low-mineral water famous all over the world for treating kidney stones.

All in all, MAPESOIL GF is the solution that associates technical characteristics (volumetric stability, drainage capacity, mechanical characteristics, durability and low maintenance costs) with environmental sustainability to safeguard the immense and all-important aquifer of the city of Fiuggi.

Italy is making preparations to host the Ryder Cup 2023, which will be played for the first time in Italy from 25<sup>th</sup> September to 1<sup>st</sup> October at the Marco Simone Golf & Country Club on the outskirts of Rome. Italy's and worldwide interest in golf is growing and MAPESOIL GF, which has also been used with great success at the Montecchia Golf Club (Province of Padua) and will soon be used in some golf courses in the UK, is the solution that combines technical characteristics and environmental sustainability.

**Elisa Portigliatti.** Corporate Product Manager, Sport Line, Mapei Group



Find out more  
MAPESOIL GF

#### PROJECT INFORMATION

**Golf Club Fiuggi 1928,**  
Fiuggi (Italy)

**Year of construction:** 1928

**Year of intervention:** 2023

**Intervention by Mapei:**  
supplying products to

upgrade the drainage  
capacity of bunkers

**Owner:** Go.We. Fiuggi srl

**Works direction:**

Fernando Floris

**Main contractors:** Linea  
Verde Nicolini srl and

Romani Prefabbricati

**Mapei coordinators:**

Elisa Portigliatti, Armando

Faccani, Paolo Cannella,

Alessandro Mechelli, and

Emanuele Marchegiani,  
Mapei SpA (Italy)

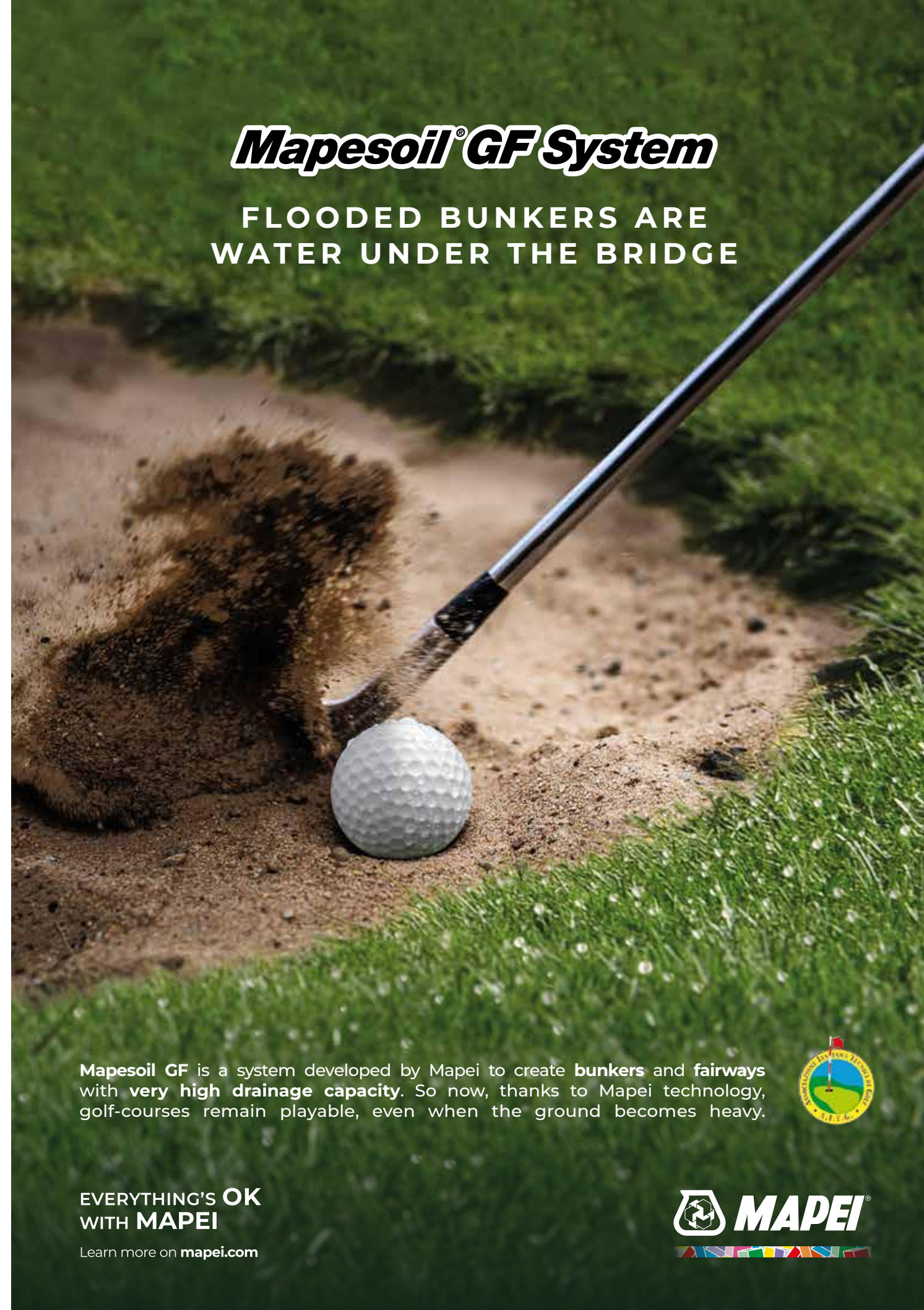
#### MAPEI PRODUCTS

Upgrading the bunkers:  
Mapesoil GF

For further information  
on this product visit  
[mapei.com](https://mapei.com)

# Mapesoil® GF System

## FLOODED BUNKERS ARE WATER UNDER THE BRIDGE



Mapesoil GF is a system developed by Mapei to create **bunkers** and **fairways** with **very high drainage capacity**. So now, thanks to Mapei technology, golf-courses remain playable, even when the ground becomes heavy.



EVERYTHING'S OK  
WITH MAPEI

Learn more on [mapei.com](https://mapei.com)





Alvor (Portugal)

# Golfland Family Entertainment Park

ADHESIVES AND TAPES TO INSTALL SYNTHETIC TURF IN A BRAND NEW SPORTS CENTRE AIMED AT BOTH THE YOUNG AND OLD

The Algarve region, one of the most loved destinations for international and Portuguese tourists, is not only long, sandy beaches, high cliffs with a sheer drop to the ocean, ancient cities with historic monuments and restaurants with delicious traditional dishes. It is also an area that offers comfort and modern, multi-faceted services to visitors, as well as a host of other opportunities for young and old alike to play sport and enjoy their stay. One such example is the new Golfland Family Entertainment Park in Alvor, one of the most beautiful resort towns of the Algarve and surrounded by lush vegetation. It includes an 18-hole miniature golf course, a restaurant, three bars and a terrace overlooking the course. The offer is completed by two Trackman simulators where visitors can “try out” the most famous golf courses from around

the world with the aid of a virtual coach. The golf course has been made even more beautiful thanks to the inclusion of waterfalls, rocks that look like ancient ruins, plants and flowers and offers families, beginners and expert golfers the chance to play a fun-filled round of golf on their own, or to take lessons from one of the professional golfers based at the centre.

**Sound installation of synthetic turf surfaces**

The course winds its way between various attractions (bars and a restaurant) and decorative features and services (animal statues, ponds, water courses, stone pathways and gazebos). This made installation of the synthetic turf surfaces at the centre particularly challenging, because resistance to the impact of numerous tourists play-

ing golf and the durability of the turf surfaces also had to be guaranteed.

This challenge was overcome thanks to ULTRABOND TURF 2 STARS, a two-component, solvent-free polyurethane adhesive specifically developed for the installation of synthetic turf playing surfaces. Thanks to its special formulation, once set, this product has very high tensile and tear strength, making it ideal for installing synthetic turf systems for sports use, including surfaces requiring approval from sporting bodies, such as FIFA (International Football Federation).

When creating both indoor and outdoor surfaces, rolls of synthetic turf are installed by bonding special seaming tapes from the ULTRABOND TURF range (ULTRABOND TURF TAPE 100, ULTRABOND TURF TAPE 300 or ULTRABOND TURF TAPE PRO). In the case of the miniature golf course in Alvor, the product used was ULTRABOND TURF TAPE PRO.

The special rheological properties of ULTRABOND TURF 2 STARS, combined with its controlled viscosity, makes it easy to spread the adhesive over the whole width of the seaming tapes while maintaining excellent ridge holding, including in particularly hot summer weather.

The lines of the playing areas were bonded with ULTRABOND TURF PU 1K, a moisture-curing, polyurethane adhesive which, apart from having excellent ridge holding and being very easy to use, is a one-component product and is supplied ready to use, so does not need to be mixed with a catalyser.

Resistant and durable green surfaces are now available for all the guests of Golfland Family Entertainment Park.



**ABOVE.** ULTRABOND TURF 2 STARS was used to install synthetic turf surfaces in this entertainment park.



Find out more  
**ULTRABOND TURF 2 STARS**

**PROJECT INFORMATION**  
**Golfland Family Entertainment Park**, Alvor (Portugal)  
**Owner:** Golfland Alvor  
**Year of construction:** 2020  
**Year of the Mapei**

**intervention:** 2020  
**Main contractor:** 4evergrass  
**Synthetic turf installation company:** Algartennis  
**Mapei distributor:** Algartennis

**Mapei coordinator:** António Calado, Mapei Portugal (Portugal)  
**MAPEI PRODUCTS**  
Installing turf surfaces:  
Ultrabond Turf 2 Stars,

Ultrabond Turf Tape Pro, Ultrabond Turf PU 1K  
  
For further information on products please visit [mapei.com](http://mapei.com) and [mapei.pt](http://mapei.pt)



# Spare time... on holiday and in the city

WELLBEING, EMOTION, MOVEMENT: SO MANY SPACES DESIGNED FOR LIFE IN THE OPEN AIR, WITH THE CONTRIBUTION OF MAPEI



## Swimming pool – Grand Hotel Dino, Baveno (Province of Verbania, Italy)

More than 350 rooms, a congress centre, a vast, well-equipped wellbeing area and a large, lake-front garden with two swimming pools. From this year, the Grand Hotel Dino offers its guests a new outdoor pool built in record time to replace one of the old ones before the start of the summer season. For this project

Mapei supplied products to prepare the substrates (EPORIP, PRIMER SN and PLANITOP FAST 330), for waterproofing work (PURTOP 1000, MAPEBAND EASY and MAPELASTIC FOUNDATION) and to install ceramic tiles in the pool (KERAFLEX MAXI S1 ZERO, KERAPOXY EASY DESIGN, and ADESILEX P10 + ISOLASTIC).



## City Park Budapest (Hungary)

A sports centre extending over an area of 36,000 m<sup>2</sup>, featuring courts, pitches and facilities for various sports, was recently completed in the centre of the Hungarian capital. It also includes an area dedicated to teqball, a “cross” between football and ping-pong, first played in Hungary and now increasingly popular abroad. The system chosen to create the surfaces the players use for this sport was from the acrylic resin-based MAPECOAT TNS line, consisting of MAPECOAT TNS PRIMER EPW and MAPECOAT TNS WHITE BASE COAT to prepare the substrates, followed by a coating of MAPECOAT TNS URBAN and then MAPECOAT TNS PROTECTION protective finish. The playing areas were then marked out using MAPECOAT TNS LINE paint.



## Vertika rollercoaster, Milizac (France)

To celebrate its 30<sup>th</sup> anniversary, in 2020 the La Récré Des Trois Curés theme park, in the Department of Finistère (France), added a new ride, the only one of its kind in France. The Vertika rollercoaster is 440 m long and has a dizzying drop of 31 m – the equivalent of an 8-storey building – which enables the train to reach a speed of 83 km/h. The piles that support the structure were anchored to blocks of concrete using MAPEFILL F high performance mortar. This mortar, specifically created for anchoring and sealing machinery and metallic structures, has extremely high flexural and compressive strength and bonds extremely well to iron and concrete.



### “The Container” CrossFit area, Malaga (Spain)

Last year on 3<sup>rd</sup> October there was the official inauguration in Malaga of “The Container”, a 1200 m<sup>2</sup> space dedicated to CrossFit, a fitness regime originating in the United States and increasingly in vogue amongst sportspeople around the world. Mapei took part in the creation of the coloured surfaces for the area through the supply of MAPECOAT TNS MULTISPORT COMFORT, a

highly elastic, multi-layered, acrylic resin-based system in combination with elastic, granular rubber matting. This system enables flooring to be created that mitigates the effect of impact trauma, provides a high level of playing comfort and allows players to change direction quickly and safely, while at the same time maintaining an excellent compromise between balance and slide.



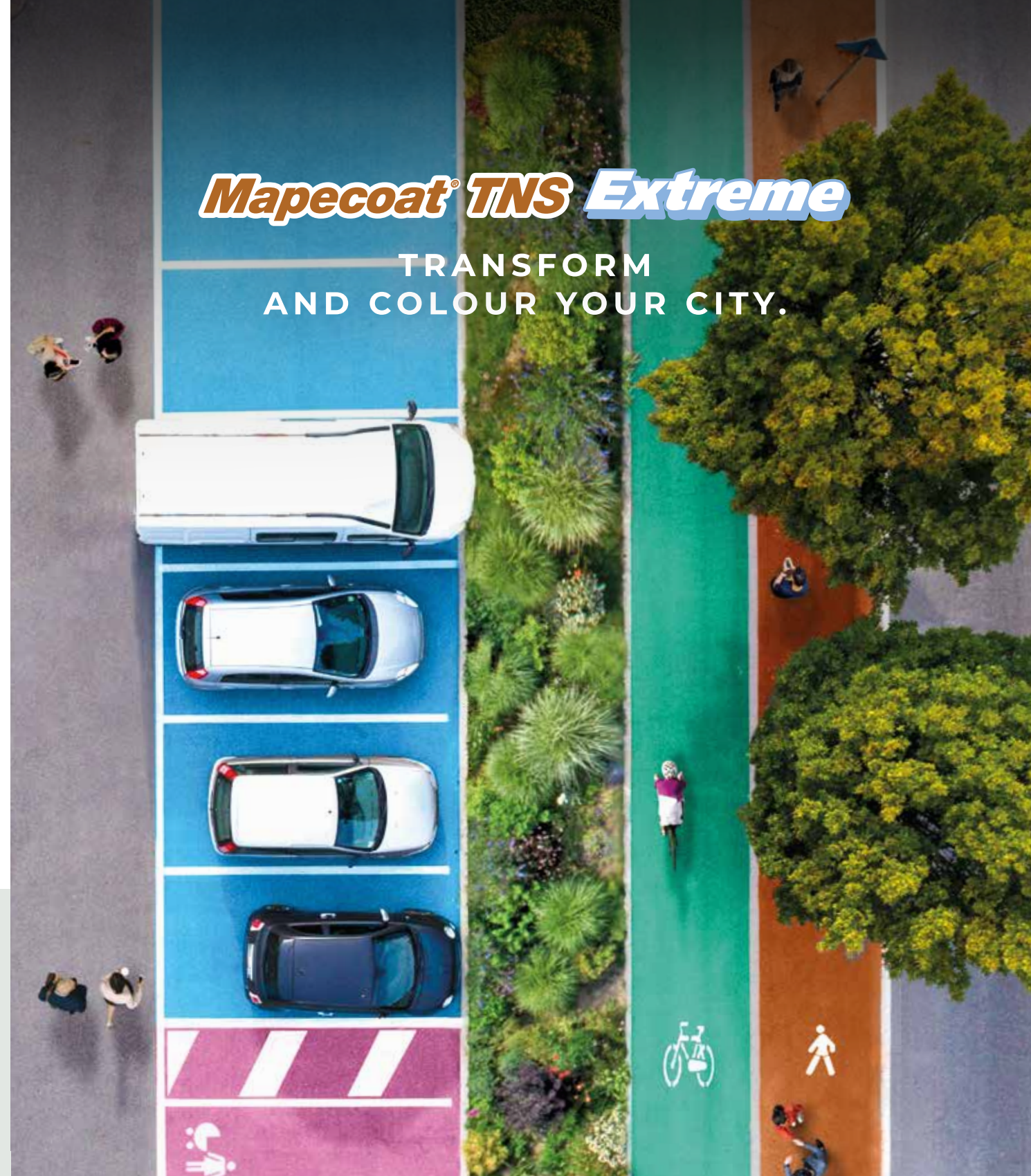
### Promenade Castiglione della Pescaia (Province of Grosseto, Italy)

Castiglione Della Pescaia is renowned for its long, sandy beaches and beautiful sea. With particular attention to slow tourism and all those activities typical of a seaside resort, the Local City Council launched a redevelopment project for the promenade, which now also features a cycle lane and new, concrete flagstones. Because one of the mandatory requirements of the promenade is that vehicles need to be able to deliver goods to local businesses and beach clubs, the designers decided to use MAPESTONE SYSTEM for the paving package, consisting of MAPESTONE TFB60 mortar to install the concrete flagstones, PLANICRETE latex to make bonding slurry and MAPESTONE PFS 2 mortar to grout the joints. Apart from its excellent mechanical properties, this system also stands out for its resistance to saline spray and airborne sea-salts, conditions that paving in areas overlooking the sea typically have to withstand.



**Mapecoat® TNS Extreme**

**TRANSFORM  
AND COLOUR YOUR CITY.**



**Mapecoat TNS Extreme** is the resin to renovate and colour urban spaces. Developed for coating and upgrading carparks, access ramps, cycle lanes, it is also resistant to the most intense vehicular traffic. Easy to apply and rapid-drying with a non-slip finish. **Mapecoat TNS Extreme transforms your city.**

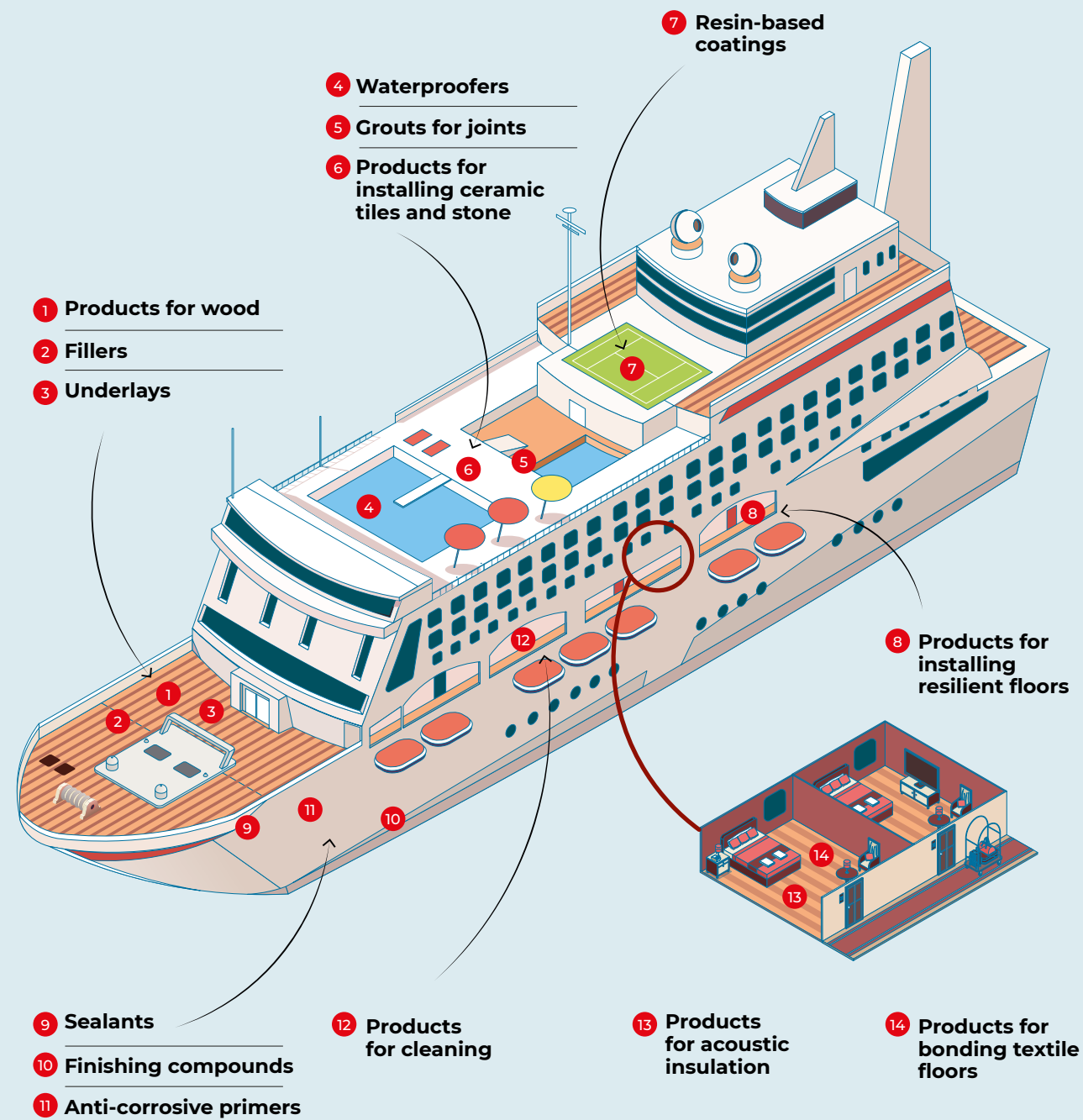
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WITH MAPEI**

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# Mapei Marine solutions



## Aesthetics, comfort, safety

THREE INNOVATIVE SOLUTIONS FOR THREE NEEDS IN THE MARITIME INDUSTRY

### Aesthetics

Even though the ship-building industry replaced natural teak with synthetic teak to cover external decks on boats and ships a number of years ago, those who love sailing still enjoy the pleasure of seeing wooden decks. This is why the demand for aesthetic finishes similar to wood has driven various producers of resin systems to propose synthetic teak coverings that look just like natural wood. Over the years these aesthetic effects have progressively improved. The natural veining of wood, or rather its “wood grain” effect, is determined by the conformation of the rings in the trunks of trees. These rings are generated during a tree’s growth due to the continuous oscillations of the trunk caused by the wind. What a human eye perceives when a trunk is cut and processed is an optical effect determined by the very nature of the veining, which is often three-dimensional. And this explains the complexity in reproducing the grain effect of natural wood in a self-levelling resin system.



## ■ Mapedeck Teak Evolution for Costa Crociere

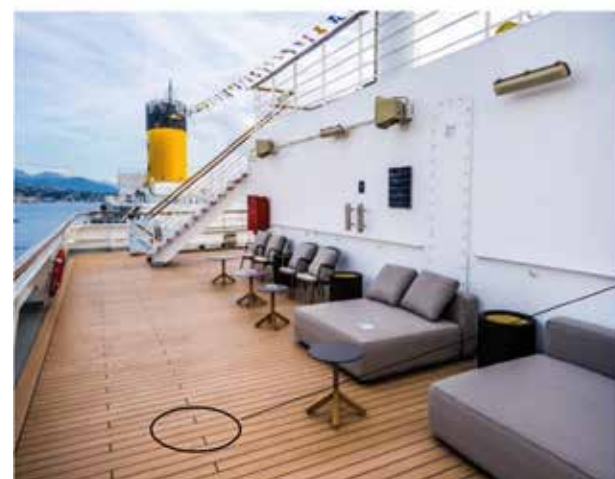
The producers of resin systems are striving to meet the demand from the maritime industry to improve the aesthetic quality of synthetic teak, and this has also become an objective for Mapei Marine, the Mapei Group's product line providing solutions for the ship-building industry.

To obtain the desired result an existing base product, MAPEDECK TEAK DESIGN, had to be modified by altering some of its mechanical characteristics without precluding the possibility of creating various chromatic effects and, at the same time, making it possible to obtain a wood grain effect in the product while still fluid.

The critical issues that needed to be overcome regarded the stabilisation of the system, which consists of a monochrome base layer and veining in a contrasting colour created in the base layer.

The grain effect had to remain until the product had fully hardened, without deforming and/or without being absorbed in the fluid mass, and then disappearing or forming a series of shapeless blotches or streaks of various sizes. In order to create the veining manually, special steel "rakes" with adjustable blades were used.

The final result can be seen in the photos of the external deck of the Costa Pacifica, a cruise liner owned by the Genoa-based cruise ship company Costa Crociere. The photos show the "aesthetic" quality achieved.



Natural teak.

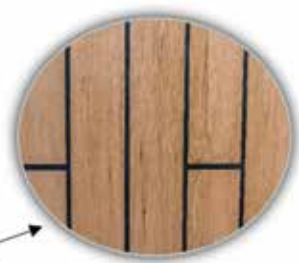


The aesthetic effect of MAPEDECK TEAK EVOLUTION.

The application phases may be summarised as follows:

- application of a layer of monochrome MAPEDECK TEAK EVOLUTION around 3 mm thick with a notched trowel;
- while this layer was still fluid, workers wearing special hobnail boots and pushing a special trolley with notched wheels applied MAPEDECK TEAK EVOLUTION on the surface in a contrasting colour to the monochrome base coat. Then, with the special steel rake, the veining was created.

This standardised application process for the MAPEDECK TEAK EVOLUTION system enables particularly high quality aesthetic effects to be created through a series of simple, repeatable actions, which can be carried out by installers used to applying resin systems, without requiring a particularly high level of expertise, dexterity or practical experience.



MAPEDECK TEAK EVOLUTION was used on the deck of Costa Pacifica cruise liner to combine the performances of synthetic teak and the aesthetic effect of natural wood.

## Acoustic insulation

The evolution of existing knowledge has led to the development of innovative and improved application processes for an area of use which is very specific and important for the ship-building industry: reducing noise in cargo and military ships.

The level of noise has a high impact on the quality of life for a ship's crew and passengers. This is why, for a number of years, the impact that noise has in ships has been the subject of in-depth studies and is covered by standards and guidelines from the International Maritime Organization (IMO).

Various types of two-layer and multi-layer sound damping flooring have been proposed over the years to help contain the impact that noise has in plant rooms and in cabins used by passengers and crew. The limits imposed were the usual ones for the maritime industry: low weight and low thickness, conditions that are in contrast with the need for high acoustic performance, for which mass and thickness are essential parameters. As a result, acoustic systems have been produced with layers made from steel or aluminium plates, thereby overcoming the problem of high-density masses contained within a low thickness. While the introduction of metal plates fulfils this need, it has also led to other problems when it comes to their actual application. Research work carried out by Mapei Marine has led to the development of a trowellable solution which is easy to apply and modular in terms of density and elasticity, with high density and soundproofing properties similar to those of steel and aluminium plates.

MAPEDECK FCM-CEM systems have introduced various technical and practical improvements compared with the use of metal plates:

- may be used in combination with other cementitious and resin systems;
- lower application costs;
- may be used in all sound damping systems as a replacement for layers of metal sheet, or to replace layers made from cementitious mortar to achieve the same weight with a lower final thickness;
- easier handling and movement on site: only bags of product are used;
- simple application with a notched trowel without having to cut/shape to suit, which is not always easy on site but inevitable when applying sheets.



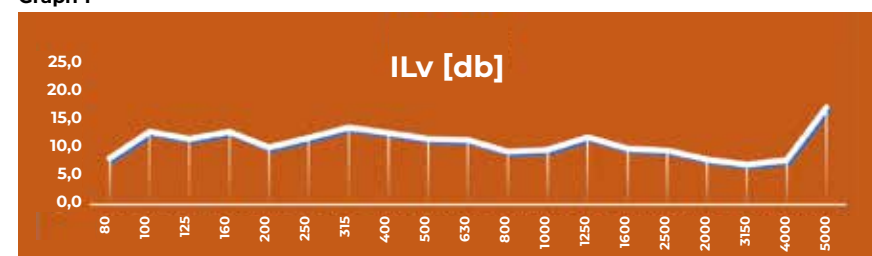
MAPEDECK FCM - Pu is characterized by high elasticity, high density (3.5 Kg/l), and low thickness (4.0 mm).



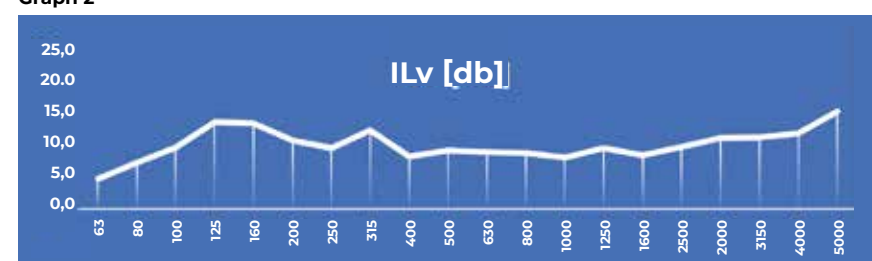
MAPEDECK FCM-CEM ensures simple application and easy handling on site.



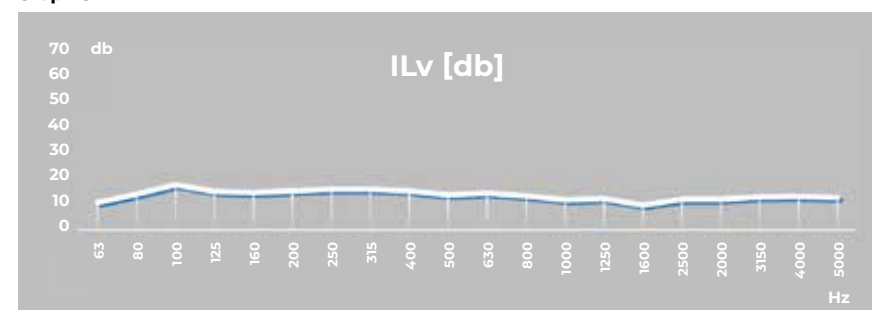
Graph 1



Graph 2



Graph 3



The graphs show the values of Insertion Loss (ILv) for a viscoelastic system just 6 mm thick comprising 2.0 mm of MAPEDECK VISCOELASTIC 100 and a 4.0 mm thick restraining mass of MAPEDECK FCM-CEM weighing 14.0 Kg/m<sup>2</sup> (**Graph 1**) and a system made from 2.0 mm thick steel plates bonded to a 2 mm thick layer of viscoelastic material (**Graph 2**). From the graphs we can see there is no difference from an acoustic performance perspective, but there are certainly considerable differences in terms of practicality and materials and installation costs.

### ■ Mapedec FMC for Fincantieri

Thanks to MAPEDECK FCM systems, which are protected by patent No. 102017000129968, it was possible to comply with the requirements of Fincantieri, one of the largest shipbuilders in the world, and supplying a compact system with good

soundproofing capacity to combat vibration noise. For this project Mapei Marine proposed MAPEVISCO SYSTEM FCM 9-17, a 9 mm thick sound-damping sublayer, which was applied in the cabins and communal areas for the officers and petty officers on board the Cavour aircraft carrier, currently in service with the Italian Navy.

MAPEVISCO SYSTEM FCM 9-17 consisted of the following:

1. A 2.0 mm thick viscoelastic layer of MAPEDECK VISCOELASTIC 100;
2. A 4.0 mm restraining layer of MAPEDECK FCM-CEM;
3. A 3 mm thick levelling layer of ULTRAPLAN MARINE 1400.

**Graph 3** illustrates the values of Insertion Loss (ILv dB) for MAPEVISCO SYSTEM FCM 9-17.

## Safety

Slips, trips and falls are the most common causes of injuries and, unfortunately, fatalities. This is why, in the maritime sector, ship owners are highly committed to reducing and eliminating these risks.

Slips depend on a number of factors. Some slips have to do with the actual person: their sense of balance, physical characteristics and age. Others can be due to the condition of the floor's surface: wear, spills (presence of liquids or grease), obstacles, holes, protrusions, etc. and, last but not least, the type of shoes a person is wearing, which are often unsuitable for the surrounding conditions.

In spite of there being many factors that can contribute to a slip, the slip resistance characteristics of a surface are only defined according to its Dynamic Coefficient of Friction (DCoF), which is measured using various methods. It is not uncommon that measurements taken using different methods and instruments, even on the same surface, give different results, which can lead to complaints and disputes. A 3-year research programme carried out by the Mapei laboratories focused on identifying new and more reliable criteria to evaluate the risk of slips. Certain parameters relating to surface roughness, particularly the interaction between flooring and shoes when walking and running, were analysed to

find a correlation. A sliding-contact factor  $\eta_{sc}$  has been defined, a dimensionless number calculated using the values of two roughness parameters only, measured using a handheld instrument (Portable Surface Roughness Measuring Instrument), portable and easy to use. The sliding-contact factor,  $\eta_{sc}$ , improves precision when evaluating the slip risk factor. The results of this research were published in October, 2022 in the international journal *SN Applied Sciences* in an article entitled "The sliding-contact factor ( $\eta_{sc}$ ): a novel index for slip risk definition", which can be downloaded at the link <https://rdcu.be/cX8m1>. Thanks to the research carried out by Mapei, and the introduction of the sliding-contact factor  $\eta_{sc}$ , there is now more knowledge on the subject and it can help stimulate new ideas to develop and improve the validity and reliability of how the slip risk factor is evaluated, and also to monitor how it can vary over time, leading to a higher level of safety regarding the risk of falls caused by slipping in the workplace, in real-life situations in general and during recreational activities, including activities on ships, yachts and boats.

**Andrea Gerardini.** CEO & Sales Director, Mapei Marine (Mapei Group)

## MAPEI MARINE SOLUTIONS AT CRUISE SHIP INTERIORS DESIGN EXPO AMERICAS

Every year since 2019 Cruise Ship Interiors Design Expo Americas, the American exhibition and conference dedicated to interior design in cruise liners, has been reuniting architects and designers from the most prestigious firms, the suppliers of materials and technologies and representatives of the most important cruise companies. The 2023 edition was held on 6<sup>th</sup> and 7<sup>th</sup> June in Miami (Florida, USA) with 250 brands in the spotlight. Also present was Mapei Marine, a subsidiary of the Mapei Group, with a presentation of various innovative solutions to create interiors of the highest quality, such as the MAPEDECK

TERRAZZO epoxy flooring system, MAPEDECK MONODESIGN polymer smoothing compound for floors and walls, the MAPEDECK TEAK EVOLUTION decorative, resin-based system to recreate the various shades of teak and decorative, MAPEDECK MIRUM polyurethane skimming compound, suitable for both

internal and external surfaces on ships and yachts. Solutions highly appreciated on the international market thanks to their IMO (International Maritime Organization) certification and for being in line with the requirements of the MED (Marine Equipment Directive) for coating products in boats and ships.





30 years of Mapei Australia

A growth plan with ambitious goals

FROM TRAINING IN THE R&D LABORATORY IN MILAN TO LEADING MAPEI AUSTRALIA: MARCO DE SANTIS, GENERAL MANAGER OF THE GROUP'S SUBSIDIARIES FROM 2022, HAS HIS SAY



Marco De Santis, General Manager of Mapei Australia.

Mapei began doing business in Australia 30 years ago. How has the Group's operations in the local market changed?

Mapei Australia was established in 1993 as a sales office located on the Gold Coast in Queensland. After supplying products to many significant projects, such as the Melbourne Sports Centre, Brisbane International Airport, and the Palazzo Versace Hotel on the Gold Coast, Mapei Australia was commissioned to supply primers, levelling compounds, adhesives, grouts, and silicone sealants for the 2000 Sydney Olympic Games venues. Since then, we have started production locally in 2000 and expanded our operations in all states. Mapei Australia now employs over 130 staff and can produce over 67,000 tons of powder products and 12 million litres of liquid products yearly. As we celebrate our 30<sup>th</sup> anniversary this year, we are even more committed to meet our customers' expectations through our perfected products and solutions. It has been a memorable journey with a truly amazing team. Throughout 2023, we will be looking at where we started, what we have achieved, and what our plans are for the future. Towards the end of the year, we are inviting all employees and their families to a special event to celebrate our milestone.

What are the growth targets for 2023 and the years to come, regarding new product ranges and revenue?

Mapei Australia grew from almost 12,5 million euro in 2012 to 68,5 million euro in revenue in 2022. This was a massive growth that went well beyond the market growth rate. Moving forward, we are keen to keep the momentum by growing organically within our existing customers and looking to create new market opportunities. Tunnelling, concrete admixtures, infrastructures and waterproofing are our key targets for future expansion. We currently have some existing



The Mapei Australia manufacturing plant in Brisbane.

businesses in those segments within the construction industry, but there's further potential for growth. With the addition of these businesses, we are confident to reach 80 million euro of revenue this year, and we have an ambitious target to reach 124,5 million euro in 5 years.

How are you planning to climb the ladder of top companies in the industry to gain leadership status?

We leverage the following pillars, which are the foundation of Mapei's global strategy:

- **Research & Development and innovation:** we target to introduce new products and technologies each year to keep our team motivated with new initiatives and provide the industry with new, cutting-edge solutions to the most challenging applications. We have always been highly committed to this sector, our Research & Development laboratory in Brisbane works towards adapting global formulations to meet the local needs;
- **Specialisation:** our team is prepared to assist any size or type of project within our target markets. We provide internal training to help maintain knowledge at the highest level. We have also started CPD (Continual Professional Development) training for industry professionals to strengthen our relationships and increase collaboration when specifying systems for their projects.
- **Sustainability:** we have partnered with the Green Building Council of Australia (GBCA) for over a decade and have promoted lots of initiatives related to sustainability, and we plan to continue to do so in the future. Volatile Organic Compounds (VOC), Environmental Product Declarations (EPD), carbon neutral products and carbon reduction of concrete manufacturing (MAPECUBE SYSTEM) have been some of our key focus areas

“ Our turnover increased from 12 to 68 million euro from 2012-2022. We aim to reach 80 million this year and will reach 125 million over the next five years

MAPEI AUSTRALIA

1993

THE YEAR IT WAS FOUNDED

1

PLANT

IN BRISBANE (AND 1 TO BE BUILT IN MELBOURNE)

1

RESEARCH & DEVELOPMENT LABORATORY

IN BRISBANE

130

STAFF

68.5

MILLION EURO

TURNOVER IN 2022

80

MILLION EURO

FORECAST TURNOVER IN 2023

67,000

TONNES

OF POWDER PRODUCTS

and

12

MILLION LITRES OF LIQUID MATERIALS

MANUFACTURING CAPACITY/YEAR IN 2023



“To boost our manufacturing output, we plan to build a new plant soon in Melbourne and then another one, in a few years’ time, in Western Australia

**Australia is a very big country that calls for a widespread distribution network and an equally extensive manufacturing base. What moves is Mapei Australia making to boost its operations throughout the territory?**

Currently, we have warehouses and offices in each state, plus a fully-owned state-of-the-art production facility in Brisbane. Our sales have filled most of our current production capacity, and we need to expand our production footprint at the earliest.

To do so, we recently signed an agreement for a 20000 m<sup>2</sup> lot of land in Victoria, located in the heart of Melbourne’s western industrial precinct, where we are planning to build our new production facility, with a capacity of over 120,000 tons of powdered products and 12 million litres of liquid products per year.

The final step is to establish a smaller plant in Western Australia in a few years.

**In response to the lengthy blackout linked to the Covid-19 pandemic and also the emergency caused by various natural disasters over recent years (fires, drought, floods), the Australian government has launched a major infrastructure investment plan: what opportunities are opening up for the Mapei Group?**

Mapei Australia has already been active in the tunnelling industry for years. We are supplying products to the tunnels of the Sydney Metro 1, part of the M6 highway, and one of Australia's most significant renewable energy projects: Snowy 2.0 in the Alpine region of New South Wales. This project involves linking two existing dams, Tantangara and Talbingo, through 27 km of tunnels to build a new underground power station. Water will be pumped to the upper dam when there is surplus renewable energy production and the energy demand is low, and then released back to the lower dam to generate energy when electricity demand is high. The aim is to provide flexible, on-demand power while reusing or "recycling" the water in a closed loop and maximise the efficiency of renewables by using excess solar and wind energy to pump water to the higher dam, to be stored for later use. In addition, we have also set up a new team of professionals focusing on the "above-ground" infrastructure projects. Our

current targets are structural strengthening and concrete repair systems for bridges and road structures.

**A more personal question: you worked at Mapei's headquarters in Milan long before being appointed General Manager of Mapei Australia. Can you tell us about your career path in the Group and what challenges you are getting ready to take on?**

I started working for Mapei 18 years ago as an intern. Through my internship in the Mapei SpA's Research & Development Laboratory in Milan, I focused on studying the movements of self-levelling compounds during their plastic stage. Then I started working full-time in the Tile Adhesives lab under the leadership of Vittorio Riunno first and Stefano Carrà who were great mentors at the start of my career. I believe I was lucky to join a fantastic team of co-workers in the Tile Adhesive lab, who welcomed me as part of a family, making me feel at home and initiating my bond with the company. During my eight years in Milan lab, I had the opportunity to specialise in cementitious mortar technology and formulation.

I moved to Australia 10 years ago as an R&D manager under the leadership of Philip Gray, the former General Manager of Mapei Australia, who completely changed my career path. During these years, with the realisation of the need to strengthen the Technical Services department in the Australian subsidiary, I was appointed as the Technical Manager to support customers and target the most prestigious and challenging projects. Philip Gray had great trust in my skills and "pushed" me to support the business more and more, coaching and mentoring me continuously so that I could successfully deal with new challenges. In 2019 I was appointed Deputy General Manager, thanks partly to the backing of the Squinzi family, and since the beginning of 2022, I've been leading the business in Australia as General Manager.

It has been a fantastic journey and it is great to look back at what we have achieved over the years. Which other challenges to take on? I think the challenges related to the ambitious 124,5 million target, which involves constructing new premises and continuously strengthening the team in each department, are enough for the moment!

## SPONSORSHIPS, TRADE FAIRS AND EVENTS

Mapei Australia has always invested in promoting its brand by sponsoring prestigious events and institutions: it is the sponsor of the Queensland Performing Arts Centre and last year it sponsored the Summer Jam Basketball Streetball Championships held in Melbourne on courts that had been refurbished using products from the MAPECOAT TNS range. Marketing operations also include intensive use of "conventional" media, such as transport advertising, radio and billboards, as well as digital channels like Google ads and social media. Trade fairs are also used as an opportunity to build relationships: this year, the Australian subsidiary took part in the Sydney Build Exhibition for the first time and saw great success from the leads generated at the event. Lastly, there is a focus on training: the Mapei Academy provides a wide range of courses and events for people working in the industry, both in-person and online. In 2022, the subsidiary organised 64 training events and plans to boost these operations in 2023, both for customers and staff.



"Spartacus" ballet by the Bolshoi Ballet Company staged at Queensland Performing Arts Centre in Brisbane in 2019.

© Darren Thomas

## MAPEI-CADEL EVANS: CLOSE TIES

A long-standing partner of professional cycling, Mapei supported Cadel Evans throughout his career: from joining the Mapei-Quickstep Cycling Team in 2002 to training at the Mapei Sport centre under the supervision of Professor Aldo Sassi, former Director of Mapei Sport Research Centre, who made such a key contribution to his career including his win in the 2011 Tour de France. His close ties with Mapei are continuing: Mapei Australia has been Main Sponsor of the Cadel Evans Great Ocean Road Race since it was first held in 2015. Cadel Evans personifies the passion, commitment and constant growth that are in the Group and Mapei Australia's DNA.





The Brisbane Skytower, which reaches a height of 269.6 m, is the tallest building in the capital of the state of Queensland and the sixth tallest in the whole of Australia.

## Brisbane (Queensland)

# Brisbane Skytower

IT IS THE SIXTH-TALLEST SKYSCRAPER IN AUSTRALIA.  
THE CONSTRUCTION OF AN ICON OF LUXURY AND THE CITY SKYLINE  
IS THE CONCLUSION OF THE COMPLEX STORY OF THIS SITE



With its 90 floors and a height of 269.6 m, the Brisbane Skytower is the tallest building in Brisbane, Queensland, and the sixth tallest in the whole of Australia. It rises up from within the Central Business District and has become an essential feature of the Brisbane skyline. For its guests (owner-occupiers, long-term renters, and short-term hotel visitors) it provides exceptional views of the city, a particularly convenient position and services and comfort of the highest level. The skyscraper has 1141 apartments divided into three separate units, each with its own lifts, reception and areas for recreational activities, such as gyms, swimming pools and saunas.

The building features innovative technology and methods, such as the national broadband network and various systems to provide self-sufficient energy, recycle water and manage waste and sewage.

### A site with a long history

The Brisbane Skytower was built on the remains of another site which, in turn, had gone through various setbacks. The construction of another skyscraper had been planned on the same site, the Vision Brisbane, but was never completed. After excavating the ground to a depth of seven floors, the property development company commissioned to carry out the work went bankrupt and the site remained abandoned for seven years. After being purchased by the Billbergia real-estate group in 2011, in the same year it was “transformed” into a temporary dam to drain off water as quickly as possible from surrounding areas and buildings following the floods that hit Brisbane in 2011.

Construction work then started again, involving numerous building companies and professionals from the sector actively collaborating to ensure excellent levels of safety and quality for the building. The construction of such a tall skyscraper brings various challenges, such as the need to respect the limits imposed by the Australian Civil Aviation Safety Authority (CASA), which specify, for example, that any activity carried out over a height of 274 m has to be covered by strict procedures due to them being within local air space.

Challenges overcome thanks to “creative” solutions, such as the use of a custom designed cantilevered tower structure on level 66, which uses hydraulics to lift a flathead crane into operation during the day, lowering it into dormancy during the night.





**LEFT.** KERAFLEX MAXI S1 was used to install ceramic and stone tiles on the walls and floors in numerous areas of the skyscraper.  
**RIGHT.** In the swimming pool on the 90<sup>th</sup> floor, mosaic, tiles and stone slabs were bonded with KERABOND PLUS\*+ISOLASTIC 50\* and joints were grouted with KERAPOXY.

Thanks to careful planning of construction operations, work was carried out in line with the schedule and, because the building had been divided into three separate units, residents were able to move into the areas already completed while work continued elsewhere: a solution never adopted before for a residential building in Australia.

#### The right products for a project full of challenges

Mapei Australia also contributed to the challenge to create elegant surroundings built to last by supplying solutions from the line of products dedicated to the installation of ceramic tiles and stone slabs.

KERAFLEX MAXI S1 cementitious adhesive was used to install ceramic tiles and marble and limestone slabs for the floors and walls in the kitchens, bathrooms, entrances, communal areas, balconies, corridors and rooms in the apartments over a total area of 24,000 m<sup>2</sup>. This adhesive, in fact, characterised by excellent workability, high thixotropy and the ability to absorb deformations in substrates



and tiles, is particularly recommended for bonding numerous different types of ceramic and stone material, including large formats.

The KERABOND PLUS+ISOLASTIC 50 adhesive system, on the other hand, manufactured and distributed on the Australian market by Mapei Australia, was chosen to install stone and mosaics over an area of 6,000 m<sup>2</sup> in and around the swimming pool in the apartments section located on the 90<sup>th</sup> floor. KERAPOXY epoxy mortar was the product chosen to grout all the joints in the ceramic and stone surfaces thanks to its excellent cleanability and resistance to acids, as well as for its excellent mechanical and chemical resistance and ability to create waterproof joints in colours that remain uniform and stable over time.



Find out more  
KERAPOXY

#### PROJECT INFORMATION

**Brisbane Skytower,**  
Brisbane (Queensland,  
Australia)

**Period of construction:**  
2012-2019

**Period of Mapei  
intervention:** 2012-2019

**Owner:** Billbergia

**Designers:** Noel  
Robinson Architects and

Nettletontribe

**Main contractor:** Hutchies  
(Hutchinson Builders)

**Ceramic and stone  
installation company:**

Tilecorp

**Project managers:** Lyndon  
Watson (Hutchies) and Rod

Walls (Tilecorp)

**Intervention by Mapei:**  
supplying products to

install and grout ceramic  
tiles, glass mosaic and  
stone slabs

**Mapei coordinator:** Dyorn  
Taylor, Mapei Australia

#### MAPEI PRODUCTS

Installation of ceramic tiles  
and stone: Keraflex Maxi S1,  
Kerabond T\*+Isolastic Plus\*  
Grouting joints: Kerapoxy

\* These products are  
produced and distributed  
on the Australian market by  
Mapei Australia

For further information  
on products, please visit  
[mapei.com](http://mapei.com) and  
[mapei.com.au](http://mapei.com.au)

# Projects across the board

SPORTS COMPLEXES, SWIMMING POOLS, CASINOS AND LIGHTHOUSES:  
MAPEI SOLUTIONS ADOPTED IN DIFFERENT APPLICATION CONDITIONS  
IN VARIOUS PARTS OF THE COUNTRY



## SkyCity Adelaide, Adelaide (South Australia)

Between 2019 and 2020 the old casino in Adelaide was transformed by SkyCity, a company specialised in entertainment centres dedicated to gambling, into a new multifunctional complex which, apart from being the only authorised casino in South Australia, also includes bars, restaurants and a 120-room hotel

with a wellbeing centre, a swimming pool and a sauna. Mapei Australia contributed to the construction of this new tourism hub aimed at gamblers in the Asia-Pacific area by supplying products for the preparation, waterproofing and soundproofing of substrates and the installation of ceramic and wooden floors and walls.



### South Solitary Island lighthouse Coffs Harbour (New South Wales)

Around 18 km from the coastal city of Coffs Harbour in Eastern Australia there is South Solitary Island with a lighthouse dating back 140 years. The lighthouse recently underwent restoration work to repair the damage caused by the weather and to guarantee acceptable levels of safety for ships. Specific products were used to repair areas of damaged concrete (PLANITOP SMOOTH & REPAIR R4), to waterproof surfaces (AQUAFLEX WPU\*, MAPEBAND EASY and PLANISEAL MR\*) and to seal cracks (MAPEFLEX PU 45 FT).



### Yirrkala basketball courts East Arnhem (Northern Territory)

The House of Darwin is a social enterprise operating out of the Northern Territory that invests profits from its clothing sales into social programs for remote indigenous communities in Australia. One of these projects was an initiative to resurface two basketball courts in Yirrkala with locally designed art courts in collaboration with the community youth and elders. The Aboriginal cultural elements inspired the patterns on the courts' surface. A complete system from the MAPECOAT TNS line was used for the new courts, consisting of MAPECOAT TNS WHITE BASE COAT to prepare the substrates, MAPECOAT TNS FINISH for the coloured coating on the courts, and MAPECOAT TNS LINE SEAL and MAPECOAT TNS LINE TEX to mark out the courts.

### Langlands Memorial Park Aquatic Centre, Brisbane (Queensland)

Built in 1958, this water park was renovated thanks to an investment of 5 million Euros: two swimming pools were eliminated, the outdoor pool was relocated and a new entrance, four swimming pools and various water-themed attractions were created. Various Mapei solutions were employed in the 50 m outdoor pool, from those used to prepare substrates (TOPCEM PRONTO and PLANICRETE SP\*), to waterproof the pool (MAPELASTIC SMART and MAPETEX SEL), to install ceramic tiles (KERABOND PLUS\* + ISOLASTIC 50\*), to grout the joints (KERAPOXY) and to seal expansion joints (MAPESIL AC). A complete system which will guarantee safety and durability.



### Eden East residential complex Floreat (Western Australia)

Sixty-two apartments and several two-story units surrounded by the natural setting of Perry Lakes Reserve and enhanced by lush gardens, a sun deck, a state-of-the-art gymnasium, a yoga studio, a steam room and a sauna for residents' relaxation and well-being. The new Eden East complex, built in 2022, has all this to offer and is also located close to Clermont's and Subiaco's local stores and golf and tennis clubs. The project designed by Hillam Architects involved using various Mapei systems for waterproofing substrates, soundproofing floor surfaces and installing ceramic tiles in various indoor and outdoor areas.

\*These products are distributed on the Australian market by Mapei Australia.



# Reference Grand Prix 2022

Once again, the Mapei Group is rewarding the best building projects its subsidiaries have been involved in around the world over the last year. The competition has reached its 20<sup>th</sup> edition and embraces every kind of building project to underline the sheer range and variety of the products on offer. Here is a presentation of **the winners of the first prizes**. Other winning projects are shown at the bottom of the page.



## COMMERCIAL FACILITIES Le Monde Headquarters, Paris (France)

A complete epoxy-based system by Mapei France contributed to create polished terrazzo floor coatings in the new office building designed by studio Snøhetta.

## RESIDENTIAL BUILDINGS Helea Tower, Puebla (Mexico)

One of the most iconic projects in Puebla and winner of several architectural prizes, the tower was completed with Mapei solutions for preparing substrates and installing ceramic tiles.



## OTHER WINNING PROJECTS



Etele Plaza, Budapest (Hungary)



M8 Office Building, Munich (Germany)



Mirabel Towers, Vancouver (Canada)

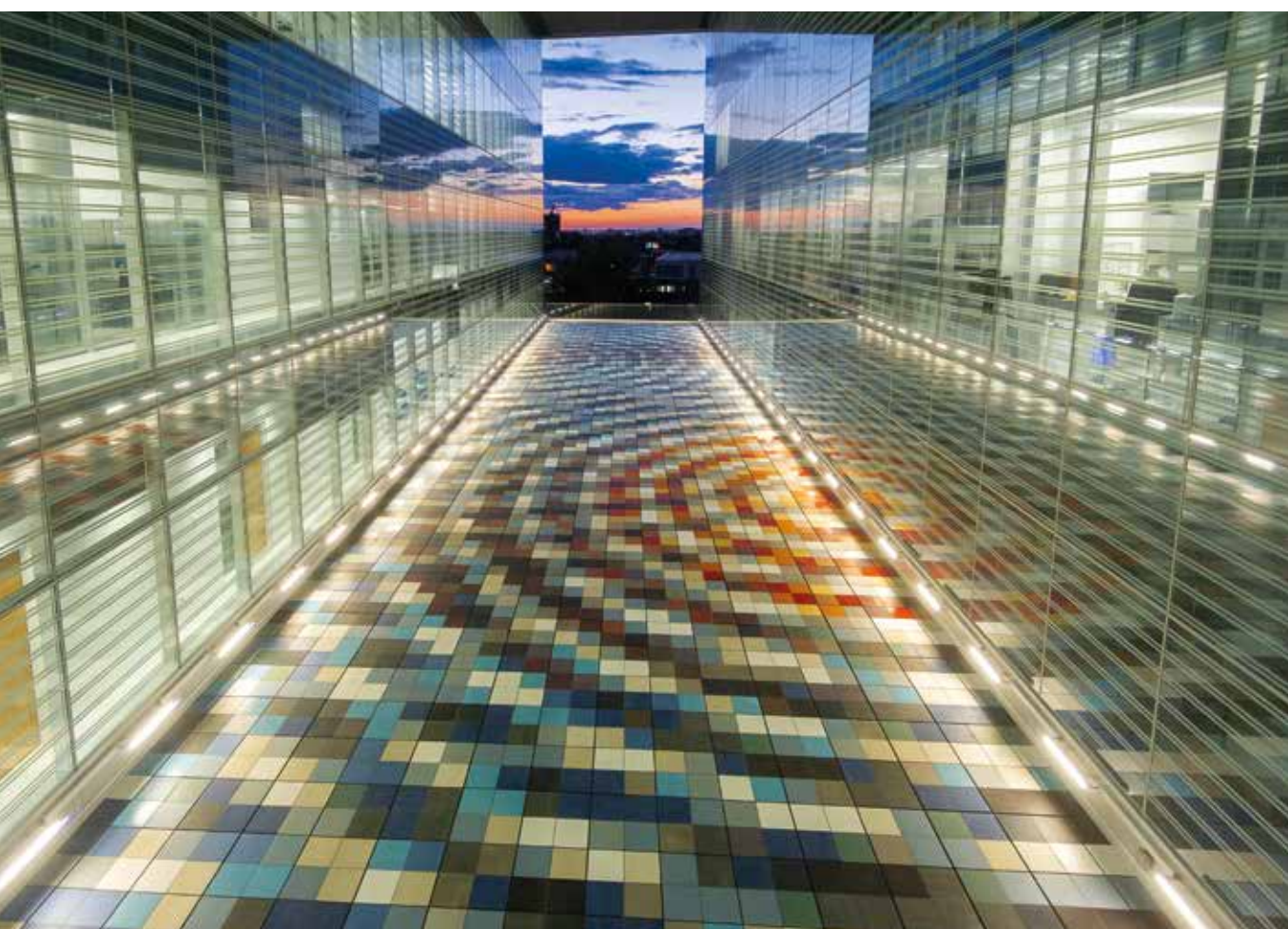


Fonte Algarve Residences, Almancil (Portugal)



Maestro Rodrigo Garden Apartments, Valencia (Spain)





© Céraldine Bruneel

#### PUBLIC BUILDINGS

##### The University of Montreal's new MIL Science Complex, Montreal (Canada)

KERAFLEX SUPER and ULTRACOLOR PLUS FA allowed proper bonding and grouting of ceramic tiles on a stylish pedestrian bridge that crosses one of the most prestigious Canadian universities.



© Equinor

#### PRODUCTION FACILITIES

##### Hywind Tampen floating wind farm, The North Sea (Norway)

Mapei AS supplied admixtures for concrete, mortars and epoxy coatings to build the world's first floating wind farm to power offshore oil and gas platforms.

### OTHER WINNING PROJECTS



Pikes Peak Summit Complex, Colorado Springs (USA)



The National Museum, Oslo (Norway)



Braywick Leisure Centre, Maidenhead (UK)



The Coloured Mindplein, Rotterdam (The Netherlands)



Château de Pez, Saint-Estèphe (France)





© Gianni Baumann

#### TOURISM AND WELLNESS

##### **Fortyseven wellness spa, Baden (Switzerland)**

Waterproofers, epoxy-based adhesives and grouts ensured a durable installation of ceramic tiles on 8,500 m<sup>2</sup> in 8 pools subjected to high temperature thermal water and disinfectants.



© Tibor Soós

#### SPORTS FACILITIES

##### **MVM Dome, Budapest (Hungary)**

Mapei products were used for the installation of 30,000 m<sup>2</sup> of resilient floorings in the largest sports hall of Hungary, that hosted the 2022 European Men's Handball Championship.

#### OTHER WINNING PROJECTS



© Céraldine Brunel

**La Calinésie water park, Libourne (France)**



**The Londoner Macao, Hong Kong**



**Grand Paris Express, Paris (France)**



**D4 and R7 motorways, Bratislava (Slovak Republic)**



© Miroslav Jafthauer

**Water Tower, Vukovar (Croatia)**



# Buzzi hospital in Milan

SOLIDARITY PROJECT TO BUILD THE FIRST PAEDIATRIC TOTAL-BODY MAGNETIC RESONANCE IMAGING CENTRE IN ITALY



A spaceship immersed in a sky full of colourful planets and bright stars. This new Total-Body MRI machine draws on state-of-the-art technology to help children cope with this challenging diagnostic examination. The machine provides a very accurate and quick diagnosis and is totally safe because, unlike CT and PET, it does not emit any kind of radiation.

Mapei contributed to the purchase of vital innovative hardware and software components for this important instrument by participating in the solidarity project to build the First Paediatric Total-Body Magnetic Resonance Imaging Centre in Italy at Vittore Buzzi Children's Hospital in Milan. "It is thanks to the support of the best of Lombard entrepreneurship that we plan to keep at the very forefront of cutting-edge diagnostic technology", so Dr. Andrea Righini told us, Director of Radiology and Paediatric Neuroradiology at Buzzi Hospital.

# Gomitolorosa Onlus

THE WARMTH OF WOOL IN SOLIDARITY WITH CANCER PATIENTS

Mapei is supporting Gomitolorosa Onlus again this year, an association that encourages knitting for patients undergoing medical therapies and provides support for the most vulnerable people. The association uses and recycles surplus wool, which would otherwise be burned, and turns it into balls of wool in 15 different colours matched with certain diseases.

Mapei is providing its own support for the "Love bag" project that will enable Gomitolorosa to make shoulder bags for holding clinical records to be given to patients with cervical cancer as a sign of solidarity. The goal is to make as many articles as possible for cancer departments throughout Italy to celebrate the 17<sup>th</sup> November, Cervical Cancer Elimination Day, the fourth most common gynaecological cancer that 51,000 women have to live with in Italy alone.



ONCE AGAIN THIS YEAR, MAPEI IS TAKING PART IN CERVIA GARDEN CITY IN THE NAME OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

## A closer alliance between man and nature

"We must turn Romagna region back into a garden again, we must make the land beautiful, because it is our own garden." These were the words of H.E. Cardinal Matteo Maria Zuppi at the opening of the 51<sup>st</sup> edition of the Cervia Garden City event on June 15<sup>th</sup> in Cervia (Central Italy).

"We must look after creation and creatures", he added, "in the name of beauty, in the name of better relationships between people: the garden must, therefore, also be a meeting place where we recognize we are part of a communal home." Cervia Garden City is sending out an appeal for a closer alliance between man and nature in the name of environmental protection and sustainability: "Sustainable Gardens" is the theme chosen for the 2023 edition under the motto "Climate, Peace, Future" for a greater understanding of environmental issues.

"Let's build the present so we can have a Future" is a motto mentioned on a panel in the elegant "dry" garden set up at Cadorna roundabout: the

Garden City and Mapei share the same vision, the same focus on conscientious growth. Once again this year, skilled master gardeners from Italy and abroad have designed over 60 green areas creating authentic works of floral art for Europe's largest open-air exhibition, a clear example of a perfect combination of man/nature and architecture/nature. The numerous roundabouts that form the basic "framework" of Cervia's urban design have been turned into flowery "pavilions" of great beauty, and one of them, named after Adriana Spazzoli (the Mapei Group's former Communication and Marketing Director), is once again decorated in the crimson red colour of the "Cinco de Mayo" roses dedicated to her.

The event began at the Roundabout of Peace in Cervia in a small garden designed by gardeners from the Ukrainian city of Ternopil in the bright colours of their country's national flag. Cardinal Zuppi, who had just returned from his recent peace

mission in Kiev, spoke about Ukraine. Beauty and the fragility of life and nature: sustainability and biodiversity were brought together with friendship among peoples and brotherhood for a peaceful future in Zuppi's message. In his opening video message, the Mayor of Ternopil expressed his thanks for all the fraternal help and support and pointed out that the blue and yellow colours of the city of Cervia are the same as the Ukrainian flag. Students from the Vocational Training School for Tourism in Ternopil, the greenest city in Ukraine, came to Cervia to set up their own flowerbed, even at such a difficult time for them: their parents had died in the war, but solidarity and support meant they did not feel alone. From Romagna region as it battled against all the mud after the recent floods to Ternopil which is fighting to survive, the beauty of nature has the upper hand and Cervia's gardens help unite the world.

**Wilma Malucelli.** Journalist





## Re Stelvio Mapei, an increasingly international event

ATHLETES AND SPORTS AMATEURS FROM AS FAR AFIELD AS AMERICA AMONG MORE THAN 2,200 PEOPLE TAKING PART IN THE CYCLING-RUNNING RACES UP THE MOUNTAIN

"Fly over eagles' nests" has often been sung at bike races to urge on riders who break away from everybody else and triumph up in the mountains. That's also why the jersey Santini made for Re Stelvio Mapei 2023 featured an eagle, a bird found all over the mountain peaks of Valtellina (Northern Italy). Re Stelvio Mapei, that took place on 9<sup>th</sup> July this year, has now reached its 18<sup>th</sup> edition (it was not held in 2020 due to the pandemic) in part-

nership with Mapei. As always, staff and management from Mapei SpA and Mapei Sport took part in the events in Bormio in large numbers this year.

### DONEGANI'S ROAD

The route of the cycle-running races rises up from the city of Bormio to the summit of Stelvio Pass at an altitude of 2,758 m along the road designed by the engineer Donegani. The Re Stelvio Mapei has now

reached its 38<sup>th</sup> edition organised by Polisportiva Bormiese. Polisportiva Bormiese is one of the most important non state/military-run clubs in Italy.

It boasts 1,200 members taking part in competitive sports, mainly football, cycling and volleyball, without forgetting numerous other endurance and power-strength based disciplines. The President of the cycling section is Mario Zangrando, who noted: "We needed 300 volun-

teers and civil defence personnel to help organise Re Stelvio Mapei 2023. We put the safety of everybody taking part first and we managed to close the road from Bormio to Stelvio Pass to traffic for about six hours, which is how long the event lasted".

### GROWING IN POPULARITY

After the Covid-19 period, Re Stelvio Mapei is on the rise again. There were 2,270 actual starters this year,

more than half on bikes taking part in competitive races and Aldo Sassi Memorial bike ride. "We are witnessing a boom in the number of people taking part on e-bikes", so Zangrando noted. "E-bikes are becoming really popular: there were 350 this year".

Re Stelvio Mapei is also an international event. "We even had people come over from the Americas to take part", so Zangrando added. "The best of the foreign female rid-

ers was the American Byrne, who came third in the bike race. I think I can safely say that we looked after everybody really well".

Another top performer was Mattia, who is differently abled, on a prototype for a three-wheeled bike. Mattia exploded with joy as he rode to the 2,758-m summit of the climb. He was another of the real winners at this year's Re Stelvio Mapei, proving that the Mapei and Bormiese sponsored event is also a highly





**IN THE FACING PAGE.**  
The start of the women's cycling race.  
**IN THE MIDDLE.**  
The start of the men's cycling race.  
**RIGHT.**  
The award ceremony took place at Bormio Sports Centre.

successful social project. Mapei's contribution is also important in terms of image: "Every member of the security staff", Mario went on to say, "wore a Mapei t-shirt. Banners, flags and inflatables brightened up the event".

**MOTORBIKE STAR MARCO MELANDRI**

Spectators of the Re Stelvio Mapei event got the chance to cheer along motorcycling star Marco Melandri. The motorbike star from Ravenna took part in the Re Stelvio Mapei cycle race. In 2002 Marco became the 250cc World Champion and has also won 22 MotoGP Grand Prixes. Since 2011 he has

been focused on Superbike events, winning a further 22 Grand Prixes. Melandri's involvement in the event and post-race celebrations in Bormio sparked a selfie hunt by all the numerous fans in attendance. The Re Stelvio Mapei event brought people together with people of all ages having fun. "The youngest", Zangrando emphasized, "were teenagers. Among the less youthful there were also octogenarians, including some who have taken part in every Re Stelvio Mapei edition since it first began." As always, the runners and cyclists included lots of athletes who live in the Alps region and mainly focus on cross-country/downhill skiing or ice skating dur-

ing the rest of the year, proving that this is an event for everybody.

**THANKS FROM VALTELLINA**

"Stages of the Giro d'Italia have always used our roads", so Gigi Negri pointed out, Director of the Valtellina Tourist Consortium supporting events for world-class sports people. When Mapei's former CEO, Giorgio Squinzi, owned the Mapei Professional Cycling Team, we admired the outstanding performances of riders wearing cube-patterned jerseys in the stages we organised. Mapei has helped improve cycling and is now a sponsor of the Re Stelvio Mapei, a wonderful event. The partnership with

an intercontinental company like Mapei makes the Re Stelvio Mapei an even more important event. It has always been a driving force for tourism in the whole Valtellina region, not just Bormio and Stelvio Pass". Gigi Negri and his staff are already busy at work organising the 2026 Milan Cortina Winter Olympics. A huge number of clients and friends of Mapei were among the runners and cyclists taking on the Stelvio climb. "There were 1,268 of them in all" - so Mapei SpA's Marketing Department staff pointed out. The award ceremony took place at Bormio Sports Centre.

**18<sup>TH</sup> EDITION OF THE MAPEI GOLF TROPHY**

Golf is getting really popular with Mapei customers and the President of Mapei's Board of Directors, Laura Squinzi, is also a big fan. Bormio hosted the Mapei Golf Trophy for the 18<sup>th</sup> time in conjunction with the Re Stelvio Mapei cycling-running event. A total of 96 golfers took part in the tournament. 24 Mapei clients graced the greens of Bormio Golf Club. Top of the overall rankings was Marcello Zamboni (best "gross" score). Luigi Credaro came first in the handicap event with Ferruccio Farneti placing second. Iole Robustelli finished top of the handicap rankings in the second category event with Maurizio Antonini coming second. Monica Belloni was the top lady with Marco Cantoni winning the senior event. There were, of course, special rankings for Mapei clients and guests. The best was Marco Pietro Bellotti with Lorenzo Tomasi coming second. A special mention to Sabrina Testori: she came first among all the female Mapei clients. Other special prizes went to Ferruccio Farneti (closest to the hole 1/10), Pietro Abbà (longest drive 3/12), and Giuseppe Dattilo (closest 2nd shot to the hole 9/18).

**MATTIA GAFFURI AND MONICA TRINCA COLONEL WIN COMFORTABLY**

The men's Re Stelvio Mapei cycling race was won by Mattia Gaffuri, who completed the 21.25 km course in 1h 2'46". Second was Andrea Prandi (3'37") behind with Matteo Moltoni finishing third. The women's cycling race was won by Monica Trinca Colonel in 1h 18'7", distancing Giorgia Bandini by 8' and Meredith Byrne from the USA by 9'. The Aldo Sassi Memorial bike ride saw 704 riders complete the climb and a further 275 starting but not reaching the finish. The entire Italian national short-track speed skating team also took part. The non-competitive race was won by Tommaso Dotti, an Italian short-track speed skating champion in

a time of 1h 12'21" ahead of brothers Davide and Valter Trentin. An Italian short-track athlete also won the women's race: Elisa Confortola (1h 45' 29") ahead of Barbara Frigerio and Debora Busi. The men's running race was won by Daniele Felicetti in 1h 34' 27", Matteo Bradanini came second and Luca Cantoni third. The women's running race was won by Ivana Iozzia, who even came 11<sup>th</sup> in the overall rankings including men. The multi-winner Iozzia broke away comfortably from her rivals Grazia Razzano and Nives Carobbio. Simone Secchi and Sara Recalcati came first and second in the non-competitive running event.



A group picture of the winners of the Mapei Golf Trophy 2023 held at Bormio Golf Club.



FIRST PLACE FOR AMBROGIO BECCARIA IN THE NORMANDY CHANNEL RACE ON BOARD ALLA GRANDE-PIRELLI, A PROJECT BACKED BY MAPEI

Interview with  
Bernardo Zin,  
Boat Manager of  
Alla Grande-Pirelli

## OUR STRONG POINT? ATTENTION TO DETAIL

THE DESIGN OF THE KEEL AND ITS VARIOUS FIXTURES ARE THE MOST INNOVATIVE FEATURES

**RORC Caribbean 600, Défi Atlantique, Normandy Channel Race: Alla Grande-Pirelli can boast some prestigious successes. What are the boat's strengths? Which features, on the other hand, need to be improved in view of upcoming challenges?**

It is an incredible boat. From the very beginning we realised that Fabio D'Angeli and Gianluca Guelfi's design met all of Ambrogio Beccaria's requirements. A boat that is easy (as easy as it can be) to sail in the toughest conditions but required very precise adjustments in the most mundane conditions, something Ambrogio is very good at and aware of. Alla Grande-Pirelli has lots of small detail features we need to work on. The biggest changes involve Ambrogio's own distinctive way of sailing that we might describe as focused on comfort and ergonomics.

**What are the most innovative technological features in the boat's construction?**

The shape of the hull and appendages that make Alla Grande-Pirelli a unique boat. The construction technology is known as 3-step infusion to create a light-weight but strong boat based on making detailed checks at the end of each and every process carried out at San Giorgio Marine shipyard. The design shapes combined with the meticulously executed construction process and careful study of the systems and components on board have made the boat so competitive right from its first season, despite competing against really tough opponents.

**Have you ever used or are you using Mapei products?**

Mapei has been by our side ever since the boat was first built, both as a sponsor and as a technical partner, providing us with very high-quality products that we have used in the assembly of the boat and now also for maintenance purposes. The product we have used most is a sealant for all the material mounted on board: MAPEFLEX M200 AS, a multi-purpose adhesive and sealant, which ensures we have no seepage on board. As regards, on the other hand, maintenance works on Alla Grande-Pirelli, we use products from the ULTRACARE 4 YACHT range.

# Victory in the Channel

On June 9<sup>th</sup>, in tandem with Frenchman Kevin Bloch, Ambrogio Beccaria took first place in the Normandy Channel Race. It was another success for the Milanese sailor with the backing of Mapei. Over recent months he also finished second in the prestigious Route du Rhum, Défi-Atlantique and RORC Caribbean 600. Beccaria, who won the regatta last year aboard Crédit Mutuel as co-skipper with Ian Lipinski, repeated the success, this time aboard his Class40 Alla Grande-Pirelli. The Normandy Channel Race covers

a distance of approximately 1,000 miles (1,800 km) in the English Channel, a journey full of pitfalls from Normandy to Ireland and back. This race allows Class40s to express their full potential since the tricky course is half coastal and half offshore in both the English Channel and Celtic Sea. After a good start, the French-Italian duo found themselves in the leading group. As the Isle of Wight came into sight, Alla Grande-Pirelli reached third position and then took the lead after negotiating the tricky waters of the Solent. The

exit from the English Channel and approach to Cornwall saw the two sailors fall back a few positions only to regain the lead after a couple of miles. The race then continued with various twists and turns, but Beccaria and Bloch left their opponents with no chance in the finishing stretch. "The race went really well! An incredible regatta", so Ambrogio Beccaria commented at the finish, going on to explain that: "At the start we had some initial manoeuvring problems because a line got stuck in the jib roll (headsail,

editor's note) and we slowed down a bit. On passing the Isle of Wight the boat started going like a train... we overtook everybody, confirmation that Alla Grande-Pirelli was the fastest boat in the fleet. However, we realised anything could happen in this regatta and we watched several boats retire near the final buoys". But Ambrogio is not resting on his laurels: after a summer full of events and technical preparations, another prestigious regatta awaits him this autumn, the Transat Jacques Vabre starting on October 29<sup>th</sup>.



# Sassuolo, 20 seasons in partnership with Mapei

THE CLUB, WHICH HAS BEEN PLAYING IN THE ITALIAN SERIE A FOR 10 YEARS, WAS TAKEN OVER IN 2003 AFTER BEING SPONSORED FOR SEVERAL YEARS

2003-2004 football season: Sassuolo plays in the Italian Serie C2 league and struggles against Pizzighettone, Valenzana and Montichiari. 22<sup>nd</sup> January 2023: Sassuolo beats AC Milan 5-2 at San Siro stadium in the Italian Serie A championships. Times have changed and Sassuolo's transformation is clear to see in its 20<sup>th</sup> season under Mapei's ownership. The company logo first appeared on the Sassuolo team shirts back in the 1980s and was a simple sponsorship deal. The club has made huge strides since it was taken over by Mapei with Carlo Rossi as club President.

## A model of competence and forward-thinking

The 2022-23 league championship was Sassuolo's tenth consecutive season in the Italian Serie A championships. Sassuolo is not a big city but, thanks to the passion and managerial skills of the Squinzi family, owner of Sassuolo, the club has become a model of forward-thinking, competence and organisation. Sassuolo peaked in the 2015-2016 season when it finished sixth and qualified to play in the Europa League the following season.

The team has done great things in the Serie A championships: the standard of play has been high and many new players have been discovered and gone on to play for their national teams in various parts of the world. Among Italian clubs based in small-sized cities, Sassuolo is the team with the highest number of players appearing for their national teams, despite the fact that the club has only recently hit the big time. In July 2021, manager Roberto Mancini's Italian national team won the European Championship fielding three Sassuolo players: Domenico Berardi, Giacomo Raspadori and Manuel Locatelli.

**RIGHT.** Martin Erlic and Gregoire Defrel lift up Domenico Berardi in celebration after scoring.



**ABOVE.** Sassuolo players celebrate after winning at Mapei Stadium.

## A successful long-term programme

Sassuolo is a special club because it knows how to replenish its resources on the transfer market even by selling off its prize possessions; plus, it has always turned to innovative and highly competent managers.

Alessio Dionisi is on the bench now and his predecessors included Stefano Pioli, Massimiliano Allegri, Eusebio Di Francesco and Roberto De Zerbi. Sassuolo has played at Mapei Stadium in Reggio Emilia, which was bought and then improved by Mapei, since the team was promoted to Serie A.

The team has been training at the stunning Mapei Football Center for four years now. The staff has boosted the Youth Sector and in just a few years the club has won the prestigious Viareggio Cup three times. Sassuolo also means the women's Serie A and youth teams.

President Carlo Rossi, Vice President Veronica Squinzi and the CEO and General Manager Giovanni Carnevali

## From developing young players to sports activities in the local community: the Mapei approach to club management

know how to improve club facilities in the way the old owner and former CEO of the Mapei Group Giorgio Squinzi wanted, albeit with a careful eye on the budget. Giorgio Squinzi set the guidelines that are still being followed in his wake. Giovanni Carnevali recalls the

meeting when he was appointed General Manager and CEO by him: "He wanted Sassuolo to become a popular and successful team with ideals people could share. The philosophy was clear: a long-term program based around Italian players and young attacking-minded managers; football focused on entertaining team play rather than individual skills."

Adriana Spazzoli, Mapei Group's former Marketing and Communication Manager, was also a keen supporter of the Sassuolo project. "A company like Mapei", so she often said, "must have close ties with the local community, even getting involved in social projects". Sassuolo lived up to the script engaging in plenty of social responsibility work and also promoting youth football through its "Generation S" project.





Left, Laura Squinzi, President of the Mapei Board of Directors, at the award ceremony and, right, with guests out on the golf course.

# Mapei's passion for golf gets stronger each year

THE EVENT HELD AT VILLA D'ESTE GOLF CLUB IS GROWING IN POPULARITY

The Mapei Golf Trophy at the Villa d'Este Golf Club was a remarkable success again this year with 110 players taking part from different regions of Italy. The players and spectators enjoyed themselves out on the club's golf courses covering 30 hectares of land between Montorfano and Capiago Intimiano, just outside Como (northern Italy). The event was also held thanks to the lawyer Laura Squinzi's great love of golf, President of the Mapei Board of Directors. Ms. Squinzi, attended the event along with Alessandro Locatelli, Mapei SpA's Deputy Sales Director. Numerous Mapei customers and guests attended the event. Alberto Beretta, President of Villa d'Este Golf Club, and other executives welcomed everybody taking part. The golfers competed on the 18-hole course and the Mapei Trophy was won by Thomas Munafò who completed the 18 holes in the lowest score finishing ahead of

Filippo Tognolato in second place. The top two are both from Golf Club Villa d'Este, while Damiano Croce from Padova Golf Club came third, Marcello Zamboni finished fourth and Santino Bellotti fifth. The panel of judges drew up various "medal" rankings for the first and second categories, rankings based on the stroke count, and also a third Stableford category based solely on points. Three top players from Villa d'Este Golf Club filled the podium for the first category: Santino Bellotti finished first ahead of Antonio Munafò and Michele Trioni. In the second category competition Andrea Bianchi was the winner ahead of Valerio Presezi in second place and Carlo Tremolada in third, all from Villa d'Este Golf Club. The same club also dominated the third category event with Romano Pinardi finishing first, Francesco De Blasi second and Renato Tenneriello third. The leading

lady in the Mapei Trophy was Bianca Del Favero. The organisers also awarded a prize to Renato Tenneriello as the top super-senior. The rankings included a prize for driving contest awarded to Santino Bellotti. The nearest-to-the-pin prize went to Francesca Buraschi for the ladies and Jorg Karau for the men. Laura Squinzi and Alessandro Locatelli attended the awards ceremony in the company of Villa d'Este Golf Club staff. The red-and-blue-coloured club boasts 400 members and a long history of organising events. In 2023 it hosted the Italian under-18 women's championship. "We have hosted the Italian Open 12 times", so the Club's Sports Secretary Ivan Nosedà noted. "The International Championships have also been held here several times with the stars of world golf taking part. We can also claim to have organised a host of amateur events".

## #CYCLING

### Sponsoring the Tour of Slovenia again



The winners of the race.

Now in its 29<sup>th</sup> year, the Tour of Slovenia is an international cycling event which, since it was first held in 1993, has continued

to grow in terms of the number of spectators, its prestige and its contribution to tourism in the country. This year's 830 km route was divided into five stages to be covered in five days from June 14<sup>th</sup>-18<sup>th</sup>. Winner of the tour was the Italian rider Filippo Zana followed by Matej Mohorič and Diego Ulissi. Mapei d.o.o., the Group's Slovenian subsidiary, was one the event's sponsors for the third time, so the company logo was on display at the start and finish lines, in banners located along the route, and in the background of the winners' podium.



## CYCLING

### Mapei at the Maratona dles Dolomites

Once again, this year Mapei sponsored the Maratona dles Dolomites, a road cycling race in the Dolomites area of Italy featuring legendary climbs from the Giro d'Italia and other major races. The organiser, Michil Costa, designed three routes covering 138, 106 and 55 km respectively, all starting from La Villa in Alta Badia and finishing in Corvara. The 7,918 riders who took part from all over the world included Paolo Bettini, a member of the legendary Mapei Professional Cycling Team from 1999 to 2002, Vincenzo Nibali and Davide Cassani, who all competed in the middle-distance event. Loic Ruffaut and Samantha Arnaudo won the long-distance race, Mattia Gaffuri and Olga Cappelletto were first across the finish line in the middle-distance event, and Thomas Hintner and Giulia Soffiati came home first in the short-distance race. Lots of Mapei customers took part in the most famous sport event in the Alps. The Mapei zone in the hospitality village was a hive of activity. The Mapei Sport team was also in attendance with its own stand in the hospitality village.

## #VOLLEYBALL

### Special Partner of the 2023 Summer Tour

Keeping with tradition, Mapei was Special Partner of the 2023 Volleyball Summer Tour featuring 6 highly rated women's teams. The series of beach events was held under the patronage of the Italian Women's Volleyball League and organised by Master Group Sport. There were 3 tournaments with 6 teams taking part. The first tournament was for the Super Cup: Stabili Casalmaggiore beat Vero Volley Milano 2-1 in the final. The Italian Cup was then up for grabs at the event held in Riccione, which was won by Stabili in the final. Vero Volley won the Italian Championship beating Motorola Busto Arsizio 2 - 0 in the final. The public got closely involved, trying their hand at some fun games organised by Mapei both at the official stand and in the intervals during the matches to promote products from the Zero range.





# MAPEI WORLD NEWS

EVENTS, PROJECTS  
AND INITIATIVES  
FROM THE GROUP'S  
SUBSIDIARIES

USA – SUPPORTING AEC CARES  
TO HELP HOMELESS YOUTH



On June 9<sup>th</sup>, 11 members of Mapei Corp, the Group's U.S. subsidiary, took part in the "projectSanFrancisco" initiative organised by the association AEC Cares to renovate the Lark Inn facility in San Francisco. The facility accommodates homeless youths engaged in education or work projects and includes dormitories, a kitchen, toilets, dining and recreational areas. Thanks to a "blitz" of work carried out by 140 volunteers with the help of architects and construction companies, all the areas were renovated in a single day. Since 2011, Mapei Corp. has been involved in AEC Cares projects through cash donations and the enthusiastic involvement of its team.

COLOMBIA – 200 FOOTBALL UNIFORMS  
FOR THE CHILDREN OF LA GUAJIRA

Barrancas is a town located in a poor region of northern Colombia, traditionally linked to mining and inhabited by the indigenous Wayuu community. Local children love to play football and dream of achieving success like the Liverpool player Luis Díaz, also a Wayuu and a native of Barrancas. A foundation named after him, the Luis Díaz Sowing Hope Foundation, is committed to nurturing their hopes and talents. Mapei Colombia also contributed to the project by donating 200 uniforms to the young football players in keeping with the ideals of commitment, perseverance and social responsibility that are the hallmark of Mapei's projects in sport.



SWITZERLAND – CO-SPONSORING THE  
SWISS TUNNEL CONGRESS 2023

800 experts from 15 countries gathered in Lucerne on June 12<sup>th</sup>-13<sup>th</sup> for the annual Swiss Tunnel Congress organised by the Swiss Tunnelling Society, which was celebrating the 50<sup>th</sup> anniversary of its founding. The event was an opportunity for many industry professionals, including those from Mapei Suisse, to hear talks about issues and problems associated with tunnel construction in the Alpine territories of Switzerland.



In addition to its experts, Mapei Suisse also was Co-sponsor of the congress and had a booth and information material about its products and systems for underground construction at the event.

THAILAND - SEMINAR ON UNDERGROUND  
CONSTRUCTION

Under the Royal Patronage of the King of Thailand, the Thai Institute of Engineering and the Thailand Underground and Tunnelling Group (TUTG) organised a seminar on underground construction held on 7<sup>th</sup> June. The event was sponsored by Mapei Far East, the Group's Regional Headquarters in Asia. The speakers included two members of Mapei's Underground Technology Team (UTT), Richard Schulkins and Kooper Kim (in the photo with the rest of Mapei team). The event was attended by 80 professionals specialising in underground construction. In Thailand, Mapei has already contributed to major water tunnel projects by the Water Management Authority.







## QUESTIONS & ANSWERS

### DAMP IN UNDERGROUND AND SEMI-UNDERGROUND WALLS: HOW TO INTERVENE AND WHICH PRODUCTS ARE MOST SUITABLE



by **Daniele Sala**

# Repair work on damp semi-underground areas and basements

When we encounter damp in underground masonries, such as in basements or semi-underground storage areas, we need to look for the problem at its origin, that is, when the building was constructed. The partial or total lack of waterproofing, an error made during construction and degradation are the main causes of damp in underground and semi-underground rooms. There are many technologies that allow this problem to be overcome after construction: the most appropriate solution needs to be chosen carefully, according to the characteristics of the building, and must respect any existing constraints or restrictions.

Mapei offers a range of systems for restoration work on masonry damaged by damp, such as an internal waterproofing system or a dehumidifying system, or, in many cases, a combination of both approaches.

#### Which system should be used in the case of damp in retaining walls?

Even if water doesn't actually penetrate into a building but only comes into contact with the structure, it is absorbed by the walls and they become damp; the surrounding environment, therefore, could become unhealthy and mould could form. In such situations, it is possible to intervene by applying a Mapei anti-condensation system which blocks moisture. The room could then be converted into a living space, a shop, a restaurant or a storage area.

In such cases, the old render needs to be demolished and all loose, crumbling or detached material needs to be removed, after which all the surfaces to be treated need to be cleaned thoroughly to reduce the salts and dust present. For more thorough, deep-down cleaning, the surfaces may also be sandblasted.

The weakest areas of masonry may have cavities or gaps in the mortar joints, and these will need to be reintegrated by using MAPEWALL RENDER & STRENGTHEN or MAPEWALL MURATURA FINE breathable, high-strength, natural hydraulic lime-based mortars suitable for rebuilding, repointing and grouting cracks in all types of masonry. Once the substrate has been restored, it has to be levelled off by applying a layer at least 1 cm thick of MAPEWALL RENDER & STRENGTHEN fibre-reinforced rendering and masonry

## CEMENTITIOUS ANTI-CONDENSATION SYSTEM



- |   |  |                                  |
|---|--|----------------------------------|
| <b>1</b> Masonry                            | <b>4</b> Mapelastic Foundation             | <b>7</b> PoroMap Finitura Civile |
| <b>2</b> MapeWall Render & Strengthen       | <b>5</b> PoroMap Rinzaffo Plus             | <b>8</b> Silancolor Primer       |
| <b>3</b> Primer 3296 diluted 1:1 with water | <b>6</b> PoroMap Deumidificante (min 1 cm) | <b>9</b> Silancolor Paint        |

mortar with a trowel or rendering machine. Once the render is fully cured, the surfaces need to be treated with PRIMER 3296 acrylic primer diluted 1:1 with water; this is followed by an application of MAPELASTIC FOUNDATION, a two-component, flexible mortar used to waterproof surfaces subject to negative hydraulic lift. Two coats of product must be applied with a roller or a trowel or by spray to form a layer at least 2 mm thick. In both cases, once applied, the surface of the product must be smoothed over with a steel trowel to create a sufficiently compact layer. Once the waterproofing layer is dry, you can then apply the POROMAP dehumidifying system consisting of a 5 mm thick layer of POROMAP RINZAFFO PLUS scratch-coat mortar applied over the entire surface, followed by a layer at least 1 cm thick of POROMAP DEUMIDIFICANTE macro-porous dehumidifying render. This system prevents the formation of surface condensation and, as a result, of mould, and keeps rooms healthy. After waiting until the macro-porous render is fully cured, the surface can then be skimmed. Bearing in mind that it is important not to use mortars containing gypsum because they are highly sensitive to moisture, we suggest applying a product such as POROMAP FINITURA CIVILE, a lime-based, breathable skimming mortar compatible with the POROMAP dehumidifying system. The skim coat may be painted with silicate-based paint from the SILEXCOLOR range or with siloxane-based paints from the SILANCOLOR or SILANCOLOR PAINT PLUS ranges, permeable to vapour and highly resistant to the formation of mould. This anti-condensation system is made up of cementitious mortars compatible with any type of masonry substrate, but Mapei also offers other solutions

with cement-free, lime-based materials from the MAPE-ANTIQUE and MAPE-ANTIQUE NHL ECO ranges for listed buildings and the green building sector.

#### And for masonry above ground level?

Masonry above ground level can also be damaged by moisture, which can rise up from the ground via capillary action. Mapei proposes numerous dehumidifying solutions to overcome this type of problem, such as single-layer renders (POROMAP DEUMIDIFICANTE and MAPE-ANTIQUE NHL ECO RISANA) and traditional systems (MAPE-ANTIQUE system), as well as chemical barriers against rising damp (MAPESTOP range). These technologies must be finished off with a skim coat (from the POROMAP FINITURA, MAPE-ANTIQUE NHL ECO RASANTE or MAPE-ANTIQUE FC ranges) and with highly breathable coatings that encourage the masonry to dry out. These solutions are compatible with all types of masonry (brick, stone, tuff and mixed) and may be integrated with Mapei restoration mortars, such as breathable renders and skimming compounds, to complete a façade (MAPE-ANTIQUE NHL ECO RESTAURA), or with solutions to strengthen and consolidate masonry to improve its resistance to loads and stresses (MAPEWALL range).



Find out more  
on Mapei solutions  
for all types of masonry

**Daniele Sala.** Restoration systems for historical buildings, Mapei SpA (Italy)





## PRODUCTS IN THE SPOTLIGHT

WATERPROOFING EXPOSED SURFACES,  
PROTECTING PARQUET AND RESTORING OLD  
RENDER: A FEW PROPOSALS BY MAPEI

1

### Aquaflex Roof /Aquaflex Roof HR



#### WATERPROOFING CONTINUOUS EXPOSED SURFACES

Ready-to-use, colored, flexible liquid membranes with fibers for continuous waterproofing layers on exposed surfaces, flat and curved roofs, paving slabs, and cupolas. Once the substrate has been prepared, they may be used on ceramic and stone, cementitious screeds and screeds made from special binders (TOPCEM and TOPCEM PRONTO), concrete, old bituminous membranes, wooden trimmings, galvanized sheet, copper, aluminium, steel and iron. When dry, they form a continuous, flexible, waterproofing membrane which is resistant to all atmospheric conditions and UV rays. They comply with the principles of EN 1504-9 and EN 1504-2 standards for coating (C) according to principles PI, MC, RC and IR.

2

### Ultracoat Hard Oil Wax Plus



#### PROTECTION FOR PARQUET AND ITS NATURAL LOOK

Water and oil resistant, low odour oil/wax finish to protect and gently tone wood surfaces with a warm colour. It successfully protects floors from staining, preserving the natural appearance of wood for a longer time. ULTRACOAT HARD OIL WAX PLUS is ready to use and is applied in a uniform coat by using ULTRACOAT ROLLER T3 or ULTRACOAT STEEL SPATULA. For a higher protection and shorter waiting times add ULTRACOAT HARD OIL HARDENER to ULTRACOAT HARD OIL WAX PLUS. After approximately 35-45 min (at +20°C) remove the exceeding product using a single-brush floor cleaner - equipped with ULTRACOAT PAD WHITE to ensure a uniform final surface.

3

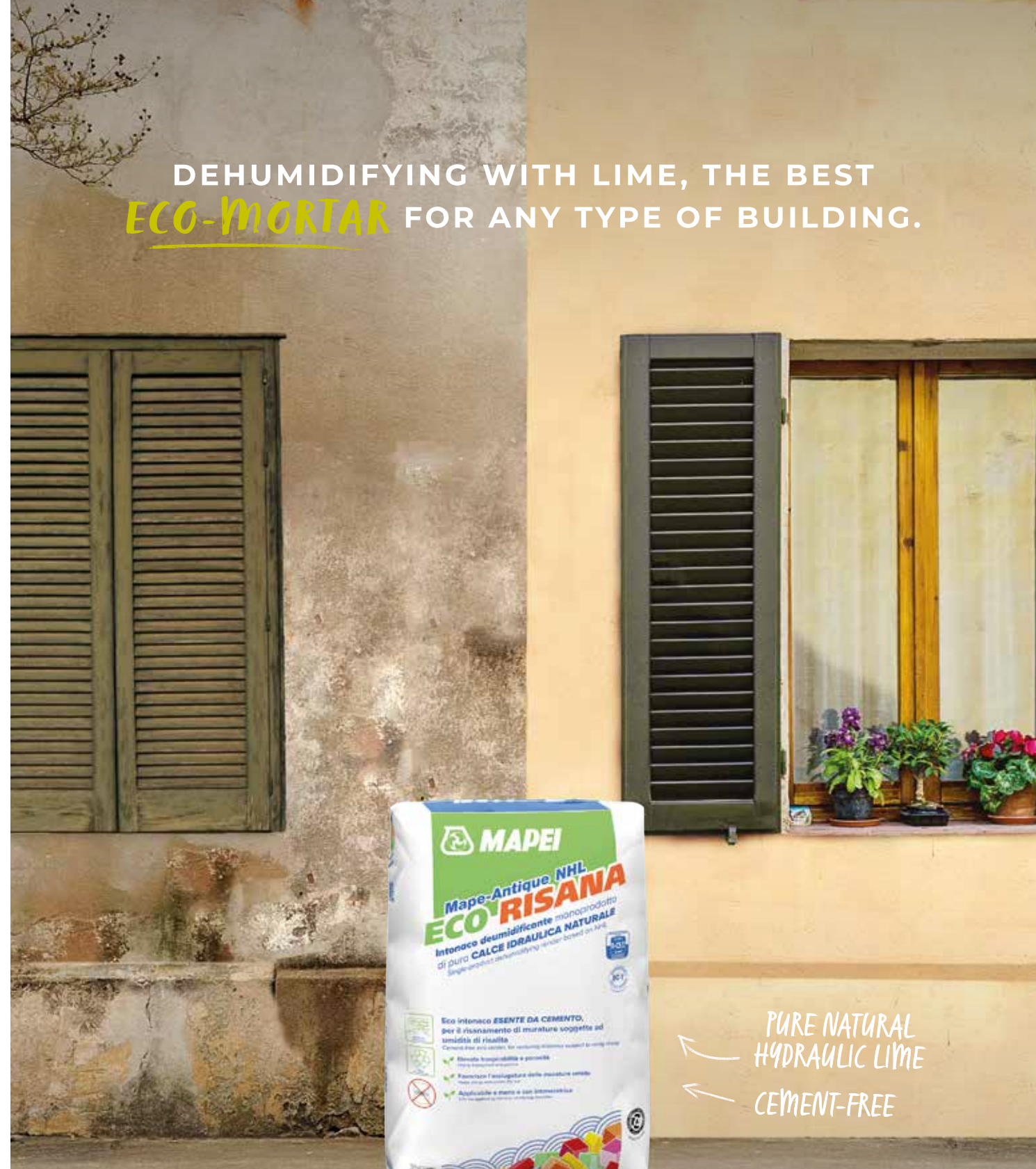
### Mape-Antique NHL Eco Risana



#### RESTORING OLD RENDER AND BUILDING NEW ONE

One-component, cement-free, salt-resistant, dehumidifying eco-render made from pure natural hydraulic lime, with recycled materials. MAPE-ANTIQUE NHL ECO RISANA is used for restoring old masonry made of brick, stone, tuff and mixed masonry damaged by capillary rising damp or by the crumbling effect of sulphates, chlorides and nitrates in existing buildings, including those of historical interest. It is also used to build new de-humidifying render in new builds including those located in a lagoon area or close to the sea. It has very low emission of volatile organic compounds (EMICODE EC1<sup>plus</sup>-certified) and is classified as R according to European standard EN 998-1.

DEHUMIDIFYING WITH LIME, THE BEST  
**ECO-MORTAR** FOR ANY TYPE OF BUILDING.



Mape-Antique NHL ECO RISANA is the **single-product de-humidifying render made from pure natural hydraulic lime** and recycled materials, particularly recommended for **ECO-compatible** restoration work of existing masonry on any type of building, including listed buildings, with rising damp.



EVERYTHING'S **OK**  
WITH **MAPEI**

Learn more on [mapei.com](https://mapei.com)





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CO<sub>2</sub> emissions measured throughout the life cycle of products from the **ZERO line** in 2023, using Life Cycle Assessment (LCA) methodology, verified and certified with EPDs, have been offset through the acquisition of certified carbon credits in support of renewable energy and forestry protection projects. A commitment to the planet, to people and to biodiversity.



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