

Realtà MAPEI

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MAPEI. THE BEAUTY OF SUSTAINABLE INNOVATION



We created new building materials specially for Italy Pavilion at Expo 2020 Dubai, using coffee, powdered orange peel and desert sand. Recycled materials that gave life to a sustainable microcosm, where guests can take part in a memorable sensory experience. As natural born innovators, we are partners in a project that creates beauty today and will lead to ever-growing sustainable solutions tomorrow.

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Partner of Italy Pavilion at Expo 2020 Dubai



GUIDO PALMIERI
Realtà Mapei
International's
Editor-in-Chief

“Connected” to the world: the global challenge of Expo Dubai

Expo Dubai (which opened on 1st October and will close on 31st March next year) is full of symbols that go well beyond a traditional event held every five years in a different country. Let's begin with the organising nation itself. For the first time in its over one-hundred-year history, a World Expo is being held in an Arab nation, strategically located from both a geopolitical and economic-trade viewpoint. Here's another extraordinary fact: after a lengthy

A SPECIAL ON EXPO 2020 DUBAI HIGHLIGHTS MAPEI'S CONTRIBUTION

“closure” caused by the Covid-19 pandemic worldwide, Expo Dubai is the first truly global event that is expected to attract 25 million visitors. In a nutshell, the world, which has already got going again over the last few months, has an opportunity to receive a fresh boost and look to the future with greater hope and optimism.

The concept of the future is closely associated with the Expo's “mission”, and it is no coincidence that the event's motto is “Connecting minds, creating the future”. The Expo is an interesting melting pot of ideas, thoughts and experiments on issues projecting us into our tomorrow: from climate change to urban growth, from intercultural

dialogue to gender equality and the most futuristic challenges of innovation and digitalisation. All very cutting-edge issues because they coincide with the main points of the Recovery Plan the EU Commission and European Parliament have implemented to repair the economic-social damage caused by the Covid-19 health crisis: a plan that is an investment in Europe's future.

“Being connected” is not just a slogan: Dubai plans to be the central hub of a major network of links encompassing a vast area stretching from North Africa to Southern Asia. But it is also a challenge for companies aiming to

A NEW LINE MAKES THE OFFER FOR THE INSTALLATION OF CERAMIC TILES EVEN MORE COMPLETE

be leading players on global markets: the ability to innovate (decisive for achieving a leadership role) is closely related to the ability to be globally “connected”, i.e. open to the outside world, new ideas and changes.

Mapei identifies with the major themes (opportunity, mobility, sustainability) being debated at the Expo and, right from the design and construction work for installing not just pavilions but lots of other areas on the exhibition site, it has made a notable contribution in the name of innovation and experimentation. One example suffices: the resin floor coatings created using coffee powder and orange peel powder. Mapei's

signature can be found not just at the Expo but also on the new infrastructures constructed in the Emirates over recent years. So, this special issue has given us the chance to present the Group's operations and plans in the Middle East and the prestigious works it has recently contributed to.

Meanwhile, major trade fairs have reopened their gate starting with the Cersaie show in Bologna, where Mapei showcased a new line of products to complete its range for ceramics and stone materials (from the preparation of substrates to the installation and maintenance of surfaces). But that is not the only novelty: the “Questions & Answers” section provides plenty of useful information about how to apply the latest innovative solutions for repairing masonry. And, as in every issue of *Realtà Mapei International*, there is a focus on “our” passions: football (Sassuolo's season) and cycling (the 2021 UCI Road World Championships that were held in Belgium).

Have a nice reading

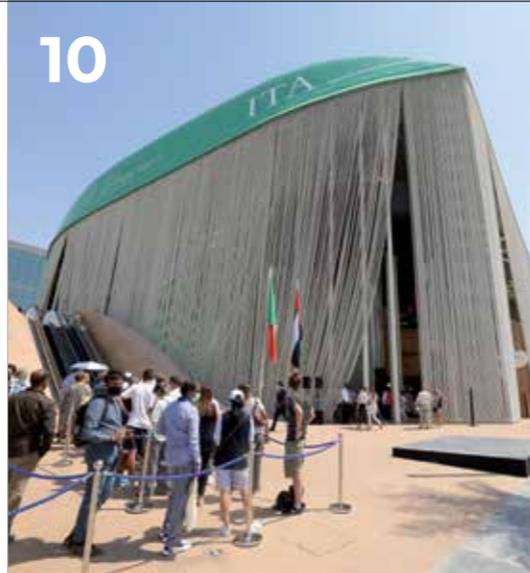
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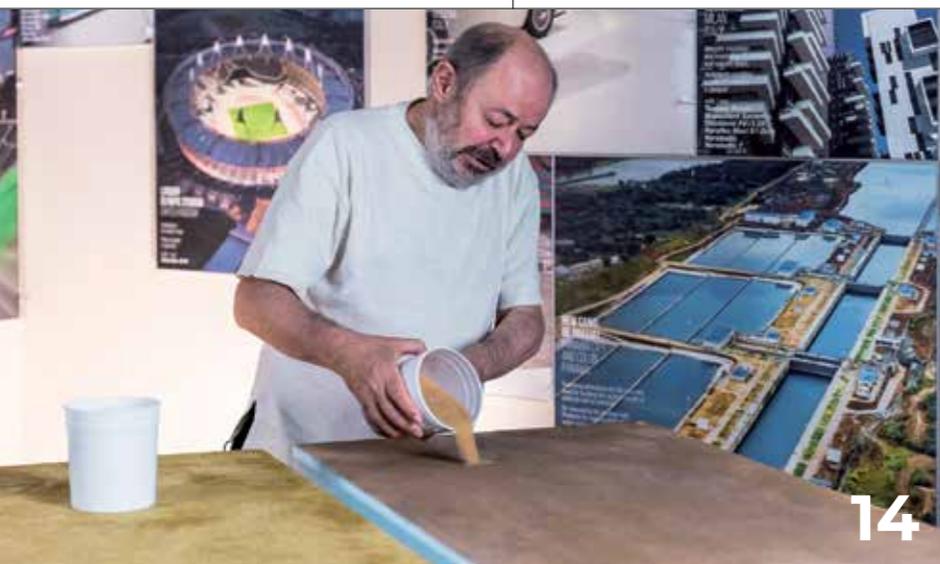


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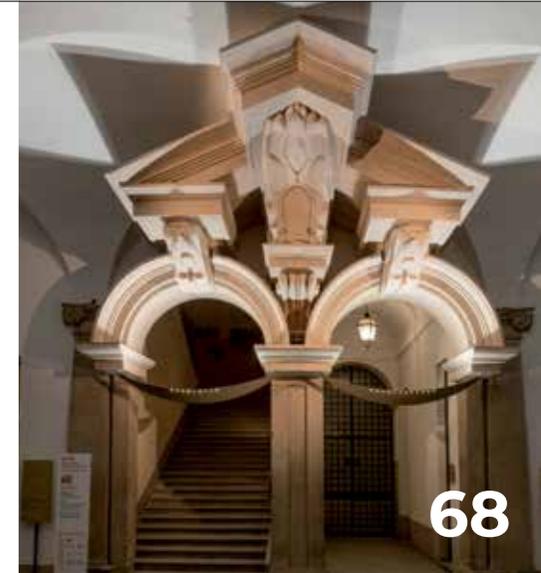
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Cover story
On the 1st of October the curtain rose at Expo 2020 Dubai, an event that will go on till March the 31st. This special publication shows Mapei's involvement in this special event as supplier of building solutions and Partner of Italy at Expo 2020 Dubai. © Expo 2020 Dubai Media Services

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Welcome Expo



Global connections for envisaging the future

The curtain rose on Expo 2020 Dubai on 1st October. This is the first world fair to be held in the Middle East/North Africa/South Asia region. Planned to be held in 2020 and then postponed due to the health crisis, it will end on 31st March 2022.

On the 50th anniversary of the founding of the United Arab Emirates, the event is a great showcase for the countries taking part that present a range of innovative projects and ideas inspired by the Expo's motto: "Connecting minds, Creating the future".

This elaborate theme is divided into three keywords that bring together the global community in search of solutions to fundamental issues: sustainability (progress and prosperity without compromising the needs of future generations), mobility (innovative systems for logistics, transport and communication), opportunity (creating a better future by unleashing the potential of individuals and communities).

The event's facts and figures are impressive: over 200

pavilions, 191 participating nations, approximately 25 million visitors expected, who will gather over a total area of 4.3 km² (equal to 613 football pitches). The Emirate of Dubai expects its economy to be boosted by 33 billion US dollars through the Expo, which will also create almost 300,000 jobs. All while focusing special attention on the project's sustainability, which has received glowing recognition from CEEQUAL: Expo 2020 Dubai became the first project in the Middle East to score 'Excellent' ratings from one of the world's first assessment, rating and certification schemes for sustainability in infrastructure projects.

Mapei is involved in the event as Partner of Italy Pavilion at Expo 2020 Dubai and supplied its products for the construction of plenty of other pavilions, hospitality and welcome areas and nearby infrastructures. This special report provides an overview of these projects that have also seen the creation of tailor-made products and the constant presence of Mapei experts on site.

Close ties between business and the local region to "create the future"



INTERVIEW WITH
VERONICA SQUINZI,
MAPEI'S CEO

"Connecting Minds. Creating the Future" is the theme of this edition, which, for the first time, is being hosted in the ME.NA.SA. region (Middle East, North Africa, South Asia), an area where Mapei is strengthening its operations. What connections has Mapei set up to contribute creating the future of local communities?

The theme of this year's Expo is an idea that has always underpinned Mapei's strategy. We were founded almost 85 years ago and have always believed in being local, i.e. in creating value not just from Italy but also by actually operating in different countries to connect people while promoting the values and quality that are our hallmark. We are international; we operate across all five continents and we are investing heavily

in new local companies because we believe that being local gives us inside knowledge of the market. Being able to draw on the experience of various regions enriches us and allows us to grow in a healthy way while holding onto our core values - quality, sustainability, research - and it also enables us to have highly specialised products that can deal with all the problems potentially arising on building sites.

What is Mapei's approach to internationalisation?

In every country in which we operate worldwide, as well as creating facilities to support our operations, we draw on competent local resources with an understanding of sustainability. Our dual goal is to grow the company and, at the same time,

contribute to the development of the local community. Indeed, we firmly believe that you cannot "create the future" without close ties between business, local regions and communities.

Mapei is renewing its support for the Expo. What is the importance of this event nowadays and what does it mean for Italy as a system?

Expo 2020 Dubai, just like all the other expos, is a great showcase of the world, which, this year in particular, provides an opportunity to show off the creative-business skill and potential of Italy and to reassert our excellence following the tricky period we have just been through. Mapei, which for years has been an ambassador for Italian know-how, could not fail to be present at this event

and is committed to helping designers ensure a truly memorable experience for visitors of the Italy Pavilion.

The Italy Pavilion is a melting pot of cooperation and innovation "Made with Italy". What was Mapei's contribution to this project involving other great champions of Italian excellence to give shape to the design concept "Beauty connects people"?

In the design concept "Beauty connects people", not taken as beauty from a purely aesthetic viewpoint but as "a harmony of beauty, truth, goodness and taste", we found a powerful analogy with our business operations. Mapei products and solutions cannot be seen but, thanks to their innovation and specialisation, they help make building works

more beautiful, sustainable and long-lasting, giving concrete shape to designers' ideas. And that is what we have done for the Italy Pavilion, too. Making it possible for the project to use iconic materials for both Italian and Arab culture, such as coffee, oranges, desert sand, we have given shape to one of the underlying ideas behind the Italy Pavilion: Mediterranean-ness as the co-existence of different cultures.

How important is sustainability?

In our concept of "beauty", we include the sustainability and durability of everything we make in partnership with designers and leading contractors: not just major works but also projects that will then be part of the everyday lives of thousands of people.

This global platform will be a launchpad for Italy

INTERVIEW WITH NICOLA LENER, AMBASSADOR OF ITALY TO THE UNITED ARAB EMIRATES

“Connecting minds, Creating the future” is the theme of Expo 2020 Dubai. How does Italy interpret the spirit of this international event?

Expo 2020 Dubai is an important showcase for Italy's ability to innovate and network and to provide a contribution to the challenges the world is facing: from sustainability and climate change to further progress in technological processes. The event takes place at a time when Italy is chairing the G20, which allow issues in which the nation is involved internationally to be included amongst the main themes of this Expo.

The underlying theme of the Expo, connectivity, has plenty in common with the vision of the future this country has: gradually distancing itself from paradigms like hydrocarbons and increasingly focusing on places where people, goods, financial resources and ideas come together, perhaps the paradigm the Emirates identifies with most closely. Italy is tackling this issue along the lines of beauty and so Italy's approach to the main theme of Expo 2020 Dubai is “Beauty connects people”. Beauty envisaged not just aesthetically but as a concept that encompasses what is right and useful, hence inclusive; what we today would describe as sustainable. All these concepts provide a prism through which Italy demonstrates its innovative-technological abilities to embrace and contribute to tackling the challenges of sustainability, post-pandemic resilience and inclusivity”.

Italy epitomises connecting in its deepest sense, both culturally and in terms of its geographical position. Could Expo 2020 Dubai provide a great opportunity to focus on Italy's role not just in the Mediterranean but in a much wider area including the Middle East and Gulf countries?

Definitely. Italy is in a strategic position in the Mediterranean just like the United Arab Emirates are in relation to the Asian, Arab and African markets. The



Emirates' economy focuses on notable diversification in terms of industry and services, as Dubai itself shows, and it will be increasingly guided by connectivity as it promotes itself as a central junction on a major network of East-West and North-South links, which encompasses a vast area stretching from North Africa to the Arab peninsula and Southern Asia and from Central Asia to East-South Africa. It is just a four-hour flight from Dubai to countries which, combined together, encompass one third of the world's population, and an eight-hour flight to countries accounting for two thirds of the global population: a densely populated area which is economically dynamic with great growth potential. The Emirates aspire to take on an increasingly central role thanks to their ability to connect through both physical infrastructures and also digital and mental infrastructures by focusing

on talent, a knowledge-based economy and innovation. Italy was the first of the G7 countries to confirm its participation in Expo 2020 and one of the first to sign the Participation Contract. The Expo is the biggest promotional event during this period with Italy's entire economic system investing important resources.

Expo 2020 is also a great showcase for promoting the competitiveness of the Italy brand and its excellence in all fields. How can we make the best use of this stage and what can we expect to happen after the event is over?

Despite the pandemic, there were consoling results in bilateral trading in 2020 achieving overall revenue of 8.4 billion Euros, which make Italy the Emirates' leading EU trading partner and eighth biggest partner globally. The Emirates are Italy's most important partner in the MENA (Middle East and North Africa) region. More specifically, exports are growing so fast that we have risen from 11th to 9th position among suppliers to this Arab nation, second of all EU nations behind only Germany. Approximately 600 Italian businesses operate in the UAE in various

industries, such as building and infrastructure, energy, consumer goods, defence, aerospace, banking and insurance.

We are extremely powerful and highly regarded in the consumer goods, farm food, fashion, household articles, design, car manufacturing, energy and infrastructure sectors. We are less renowned for our work in research and innovation in certain key sectors, which are showcased in the Italy Pavilion. I am referring to renewable energy and the hydrogen economy, waste management, including Waste-to-Energy (WtE), water treatment, aerospace, technology serving sustainable mobility, the life sciences and artificial intelligence.

Special mention should also go to the farm technology sector. Italy is investing so much in production in areas with extreme climates, indoor farming, latest generation glasshouses, hydroponics and much more. Italian technology for this field has great potential.

As regards the post-Expo period, we are committed to ensuring that most of the contacts, relations and experience our companies, institutions and research centres build up during the event will allow us to make further progress in economic relations between Italy and the UAE, a further “rung up the ladder” in terms of the quantity and quality of our exchanges with this country and the extensive area surrounding it.

Is the event's pulling-power in terms of foreign investment another opportunity Italy can take advantage of?

Definitely. Expo 2020 will coincide perfectly with the implementation of the Italian Recovery and Resilience Plan and associated process of extensive ambitious reforms required to get rid of any obstacles that have hindered our economy's growth over the last few decades. This will provide a better climate for investment in Italy. It is, therefore, vitally important to take the opportunities offered by global platforms like the Expo to show all international investors present in Dubai the extent of these reforms and their impact on the reliability of our system as a whole.

Italy means art, culture and history, which translates into tourism. How can we encourage tourist flows towards Italy, particularly from nations in the Gulf region, the closest to Dubai?

We can do this by tailoring tourism to this particularly attractive but highly demanding market. We must very quickly equip the nation with extensive hospitality amenities, highly qualified staff in terms of linguistic and cultural knowledge, state-of-the-art technology and integrated tourist opportunities based around providing experience of the very highest quality. I think the National Recovery and Resilience Plan will provide the financial

resources required to invest in this direction, but we will also have to raise the “cultural” awareness of operators in this field.

Tourists from the Emirates and the Gulf region in general adore Italy and love to spend their holidays here, but they are used to a different kind of service from ours and we must be able to understand and meet their needs if

we want to hold onto them over time. So, it is not enough to be the most beautiful country in the world if we cannot offer the most beautiful tourist experience in the world.

“With overall trade worth 8.4 billion Euros, Italy is the EU's leading partner in the Arab Emirates and the eighth biggest partner globally”

NICOLA LENER

He was born in Cagliari on 18th August 1968. He graduated in Law from Cagliari University and then began a career in the diplomatic service in 1993.

He was the Director of the Economic and Trade Department of the Italian Embassy in Lima, Peru, from 1997 to 2004 and then in charge of the same department in Amman, Jordan.

After returning to Italy, he was appointed to the Directorate General for Italians Abroad and Migration Policies. He was the Consul General in Casablanca, Morocco, from 2006 and then Deputy Ambassador in Ottawa, Canada, from 2010.

He re-joined the Italian Ministry of Foreign Affairs and International Cooperation in 2014 in the Directorate General for Cultural and Economic Promotion and Innovation, where he was involved in the internationalisation of the Italian economic system and then Deputy Director General from 2016.

He has been the Ambassador of Italy to the United Arab Emirates since 1st October 2019.



Partner of Italy Pavilion at Expo 2020 Dubai

Dialogue and contamination: beauty connects people

MAPEI IS PARTNER OF ITALY PAVILION AT EXPO 2020 DUBAI IN A PROJECT COMBINING CREATIVITY, INNOVATION AND SUSTAINABILITY



© Massimo Sestini for #ItalyExpo2020

Three ships arrived from the sea bringing with them knowledge, works of ingenuity and the chance to interact and exchange ideas. They bring people together creating bridges and connections between distant countries. This is the image that inspired Carlo Ratti and Italo Rota in designing the pavilion

representing Italy at Expo 2020 Dubai: three upturned vessels form the building's roof making reference to those Italian explorers who, for centuries, sailed the high seas. A way of talking about Italy, which has always fostered contaminations in the name of creativity and talent. Contaminations that the Italy Pavil-



© Massimo Sestini for #ItalyExpo2020

The Italy Pavilion was created with contributions from partner companies called to provide the best building solutions, technology and exhibition components. Mapei was among them and supplied building materials used in different areas.

ion has chosen to narrate through the claim "Beauty connects people". The concept of beauty is here seen as a means of conveying knowledge and interaction and as a strategic resource for planning the future.

A sustainability-driven pavilion

"Nothing is created, nothing is destroyed, everything is transformed", this famous quote by the French chemist Antoine-Laurent de Lavoisier inspired Carlo Ratti and Italo Rota in designing a building focused on the circular economy. As Carlo Ratti himself noted, "We tried to interpret this famous quote in the Italy Pavilion by choosing organic materials and, above all, lots of reused ele-

ments: I do not think any truly contemporary project can ignore the principles of circularity". Italo Rota also referred to the circular economy in an interview reported over the next few pages, specifically commenting on the natural materials used in the Pavilion.

The Pavilion covers an area of 3500 m² and rises up to a height of approximately 27 m. Inside there is an exhibition layout with installations on the subjects of innovation and sustainability. 28,000 visitors-a-day are expected, making a total of over 5 million over the six-month event.

Mapei partners the Italy Pavilion

Mapei is Partner of Italy Pavilion at

WE HAVE MANAGED TO COMBINE ITALY'S HEART AND SOUL WITH LOCAL CULTURE

INTERVIEW WITH STEFANO IANNAZONE, THE MAPEI GROUPS' REGIONAL DIRECTOR FOR MIDDLE EAST AND EAST AFRICA



Mapei is the sole supplier of the Italy Pavilion with an industrial plant located just a few miles away from the Expo area. What has this meant for the project?

Mapei's manufacturing site in Dubai is, indeed, just a few miles away from the location where the Expo is being held and we have been operating in the United Arab Emirates for over 10 years with the highest investment in production in the country of any Italian company. The fact that our manufacturing plant is located in the vicinity of the Expo location has enabled us to react extremely quickly to any issues arising during building operations. For example, a number of issues occurred on-site during the night shift, but our technicians and engineers were

on hand at the location early the following morning to resolve the problems encountered during the night.

This is definitely a real asset that has enabled us to gain the confidence not only of the Italy Pavilion and Italy Commissioner's Office but also the entire Italian system, which has been able to count on a supplier like Mapei that is so nearby and always ready to react to any problems or requests emerging on site.

Mapei supplied both off-the-shelf products for the Italy's Pavilion, ordinarily available on the market, and also special finishing products specifically designed for building this project. These special finishing products (not previously marketed) were first tested at the company's

Expo 2020 Dubai, strengthening its ties with World's Fairs that began at the Shanghai Expo in 2010 and then Milan Expo in 2015. Just like more than 50 other pavilions set right across the exhibition area, the Italy Pavilion was built using Mapei systems, many of which were specially designed for this work and required numerous laboratory and on-site tests. Resin coatings, waterproof-

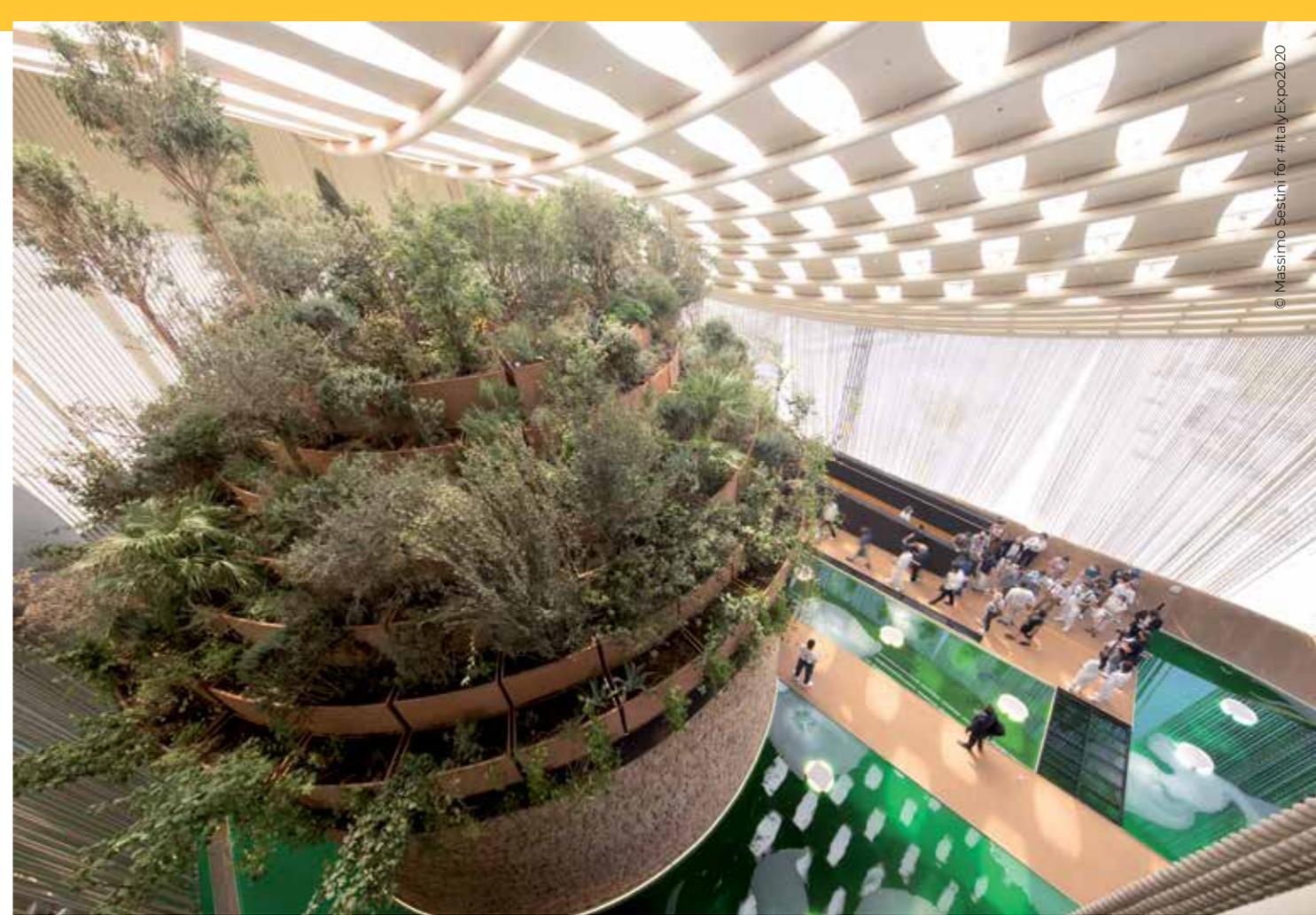
ing agents, wall coatings, and lots of other products chosen for their reliability and sustainability, have enabled the construction of a spectacular pavilion, which, once again, provides an overview of Italian genius.

Two awards for the Italy Pavilion

“Best Innovative Project of the Year” and “Commercial Project of the Year”: these are the two prizes the Italy Pavilion was awarded on 29th September. The “Construction Innovation Awards” are prizes given by Construction Business Views ME, one of the main media for the building industry in the Middle East focused on individual and corporate excellence and successful projects in various realms. The winners in the 22 different categories were selected by a panel of experts in the industry. For the architectural designers, the Italian Commissioner’s Office in charge of Italy’s involvement in Expo 2020 and Mapei, this is important recognition for the guidelines they chose for developing this project: commitment to innovation, excellence in building design and management of the entire process.



© Massimo Sestini for #ItalyExpo2020



© Massimo Sestini for #ItalyExpo2020

Italy's Pavilion is an innovative hub featuring exhibition areas and functional spaces for events. Plenty of its areas were completed with Mapei products.

Research & Development laboratories in Milan. Having a manufacturing plant just a few miles away from the project location meant we could test out the materials on site under the same weather and application conditions encountered on the Expo site. This was definitely a big advantage for the people involved in the project.

Being present on site and in such close vicinity to the Expo location also meant we could train the teams responsible for installing our products properly under the actual conditions in which they will be used. This certainly met with the approval of all the stakeholders in the Italy's Pavilion. Operating in the Emirates and having already established relations with both local and Italian institutions in the area certainly allowed us to understand the needs and demands (even on a conceptual level) of the architect and convey them to local operators, providing them with

all the products they required.

This is one of Mapei's most distinctive features: keeping its distinctly Italian identity but also having an understanding of the place in which we operate, attempting to embrace the soft, cultural traits of the host nation.

“Mapei's manufacturing plant in the Emirates located close to the Expo site made work easier”

Mapei's contribution to the World Expo goes beyond the Italy Pavilion. Which other projects did Mapei work on to enable the 2020 event to take place?

The Mapei Group's involvement in works connected with World Expos dates back to the 2010 event in Shanghai, when we began supplying specific materials for meeting the Italy Pavilion's specific design needs (see *Realtà Mapei International* no. 32). Our involvement in the Dubai Expo is the latest example of Mapei's commitment to Expos and Italy's Pavilion.

For Mapei and Mapei's business operations in the United Emirates, the Expo was more than just the Italy's Pavilion. Mapei contributed to the completion of dozens buildings and areas on the Expo site, ranging from the reception areas for the general public to the auditoriums, and we also helped construct more than 55 national pavilions for numerous countries that acknowledged not just the quality of the products supplied but also the efficiency of the service provided.

Moving beyond the confines of Expo 2020, we can also claim to have contributed to all the infrastructural links to the Expo site, such as the extension to the underground railway that will run right into the site. We had the honour of being involved in both the design and construction works, including both the underground and aboveground sections of Dubai metro and its stations.

“We supplied materials for the Italy Pavilion and helped build more than 50 national pavilions inside the Expo”

What was Mapei's approach in the Arab Emirates?

Mapei has had its own manufacturing plant in the Emirates for over 10 years, but the Mapei Group's operation in the Emirates and the Gulf actually date back at least 20 years. Since then, we have begun to contribute to the development of the most important infrastructural and residential projects in the Emirates and the entire Persian Gulf region. For example, I would like to mention the construction of Burji Khalifa skyscraper, the tallest in the world, and Burj Al Arab Hotel. The

biggest shopping malls in Dubai were built using Mapei technology and products. So, if you like, we might say that Expo 2020 Dubai is the icing on the cake of an enterprise that first began 20 years ago and was intended to make Mapei technology available for the development of an area that still has very real prospects for growth.



© Oriana-Spadaro

“Metamorphosis”, narrative idea of the project

WE SPOKE WITH ITALO ROTA, DESIGNER OF THE ITALY PAVILION

The Italy Pavilion for Expo 2020 Dubai uses architecture to stage a creative and innovative presentation of “Beauty connects people”. What were the first choices you made in order to make this idea become visible?

When Carlo Ratti and I started working on the design of the Italy Pavilion, the first thought that came into our minds was to create a narrative idea of a pavilion in line, on the one hand, with the fundamental concepts of a circular economy, as well as being, on the other hand, a place of innovation. Then, more than a work of architecture, we came up with the idea of a large architectonic installation that arrives and takes shape and is then taken down and leaves. While on this journey it underwent a series of modifications that we could define as a metamorphosis. And to do this we had to think about creating “new materials”, many of them of organic origin, and tackle very particular situations, such as the fact that the pavilion in the visitors’ area is not air conditioned. So we had to pay a lot of attention and be particularly sensitive, which led to the creation of this highly unusual and innovative structure. The concept is of three large boats

that arrive in Dubai, are overturned and form the roof. As we all know the word of Latin origin “nave” (in Italian “navata”) actually comes from the fact of turning over a boat. When we say “nave” we mean being together, thinking together, imagining a togetherness and a future to save the planet.

Which of the architectonic and exhibitiv elements were designed to provide visitors with a memorable experience?

The story behind the interior is very complex, very rich, and I think visitors will undertake a long journey through Italy of the past, the present and the future. And during their visit, visitors will experience various episodes connected with great technological innovations. In the centre of the pavilion there is an alga factory. Alga became a leitmotif of the pavilion: It produces energy and oxygen because alga “devours” CO₂. To accompany this farm, we created a lot of new materials, thanks also to Mapei, using other “remains” of human activity such as coffee grounds and orange peel, as well as other simple components such as desert sand.

““We created a lot of new materials using coffee grounds and orange peel powder and other simple components such as desert sand”

If you had to give a synthetic summary of architecture of the future, what should it be like for you? What should be the role of materials and why?

Today, and quite rightly, we often talk about sustainability. I believe we should no longer talk about sustainability in the same way as we have until now because, today, it should be something that comes with common sense. It’s another matter, on the other hand, if we pass to another level, contributing in a more profound way to changing the environment and, above all, to approach the more far-reaching issue of the climate crisis.

To do this we must imagine architecture as being not only transformable and reusable but, above all, creating fewer and fewer physical products on the planet. So, we must have materials and technological solutions that transform elements into exchangeable products. I would define it as “architectural banking”; a place where I can take products, exchange them and invest them in exactly the same way as they did before with currency. We also need to have materials that are part of an “urban mine”, from which these products can be extracted with great purity and then transformed. I believe that these two processes together, along with other considerations, can also lead to a reduction in the total constructed mass when producing something new because, one of the problems we have today, is that producing something new also produces a large amount of debris.

Mapei helped make your design choices possible; which ones in particular and how big a part did the company play in achieving the results you expected?

We have been working with Mapei for many years because the innovations this company has developed are perfectly in line with the evolution in architecture in recent years. And also, we have been using Mapei products for years in our projects because they are in step with the evolution in architecture, in terms of both sustainability and long-term innovation. So, when we contacted Mapei for the Italy Pavilion, we proposed working with the materials we had selected when we conceived the idea for the building. Everything went really well and really quickly, which was also due to the fact that materials of this type can only be made by developing prototypes. The work carried out in the Mapei Research & Development laboratories was really interesting and effective.

Can you give us a concrete example of materials developed with the support of Mapei?

For the Italy Pavilion we proposed the use of all five senses during visits: apart from sight and sound, the “classic” senses when visiting a display pavilion, we also added the senses of touch, smell and, in certain areas, taste. For example, we used coffee powder to create, together with Mapei, a very particular material used to coat the first 600 m of the walkway in the pavilion. And this is what turns it into a visit immersed in the fragrance of coffee. Coffee is something that Italy and the Arab countries have in common and creates a moment of almost olfactory brotherhood. Another product we developed together with Mapei was a special coating containing orange powder that is almost like fabric, highly variegated and also fragrant. Another material we created in collaboration with Mapei was made using sand from the Expo site. It forms a sand-dune with an installation made from the same type of sand sitting on it. And here you can see how well the desert blends in, just like it does on the site in Dubai.

ITALO ROTA

Born in Milan in 1953, Italo Rota graduated from Milan Polytechnic. After winning the competition to design the interiors of Musée d’Orsay in Paris, in the late 1980s he moved to Paris where he completed the renovation of the Modern Art Museum in the Pompidou Centre (with architect Gae Aulenti), the new rooms for the French School in the Cour Carré courtyard at the Louvre Museum, and the redesign of Nantes city centre. He currently lives and works in Milan. His firm’s works vary in subject matter, scale and style, always working on a global approach deriving from experience gained working on installations, events and temporary structures. His most recent works include the restructuring of Palermo Port’s Maritime Station in Southern Italy and the conversion of the Arengario Building into the “Museo del Novecento” in Milan; the Dolvi temple in India, and the Columbia University in New York. He also designed “Ciudades de Agua” exhibition pavilion in Spain for Saragossa Expo 2008 and, working with Carlo Ratti, the Italy Pavilion for Dubai Expo 2020. He was awarded the Landmark Conservancy Prize in New York and the Grand Prix de l’Urbanisme in Paris.

Coffee and orange peel powders for a sensorial experience

A NEW CHALLENGE FOR MAPEI RESEARCH & DEVELOPMENT: USE NATURAL SUBSTANCES TO MAKE THE COATINGS OF THE ITALY PAVILION

Amongst the many partners that contributed and worked on the Italy Pavilion project, Mapei was contacted and asked to help turn an architectonic idea into reality: to use innovative forms and materials that could combine functional performance properties with eco-sustainability and aesthetic requirements. Mapei accepted the challenge, studying, designing, testing and, finally, proposing solutions that would provide both the required performance characteristics and a marked, natural and materic effect finish in particular.

The idea behind the project to use, or rather re-use, natural substances such as coffee grounds, orange peel and sand from the nearby desert, became a reality in the Mapei Research & Development laboratories by creating coatings that combine technical efficiency with design and sustainability. And what is more, the walkway in the Italy Pavilion has been designed with a coating made from powdered orange peel and spent coffee grounds to give visitors a truly special sensorial experience. Thanks to these completely natural elements, in combination with a specially selected colour and particle size of ceramic quartz mixed with MAPECOAT UNIVERSAL, a non-yellowing epoxy resin, a unique and eco-sustainable coating was created with a distinctive texture.

The same type of binder, combined with sand from the local desert, was used to create the entire area, which now projects an image of sand dunes from the local desert. These coatings were chosen not only for the floors, but also for the walls of the structure up to quite a considerable height, which made it even more difficult to develop and choose the most suitable product system and the best way of applying it.

From primers to top coatings

The substrates were also primed with extreme care using Mapei products and with types of material compatible with the construction materials. PRIMER GRIP WHITE, a water-based synthetic resin used to promote adhesion, was specifically selected for its col-

our in order to obtain the right base layer and enhance the dynamic shading effects of the powdered orange peel and coffee grounds. It was also necessary to apply a coat of PRIMER LT, a one-component acrylic primer, to guarantee perfect adhesion of the system to the concrete substrates, and of MAPETHERM ARI mortar before skimming the ESP panels. The final step was to protect the surfaces with MAPEFLOOR FINISH 630, a water-based transparent acrylic formulate used to increase the resistance of surfaces to wear.

ULTRATOP LOFT for cementitious floors

Mapei also supplied products for cementitious and resin floorings created in many of the other areas of the Italy Pavilion.

The trowel-applied cementitious system ULTRATOP LOFT, with its special textured materic finish, proved to be the optimum solution to give a sense of continuity to

the natural aesthetic effect, the pivotal concept of the entire project. Thanks to the use of ULTRATOP LOFT F (in its natural base colour pigmented with ULTRATOP EASYCOLOR in its Manhattan CO shade), along with PRIMER LT

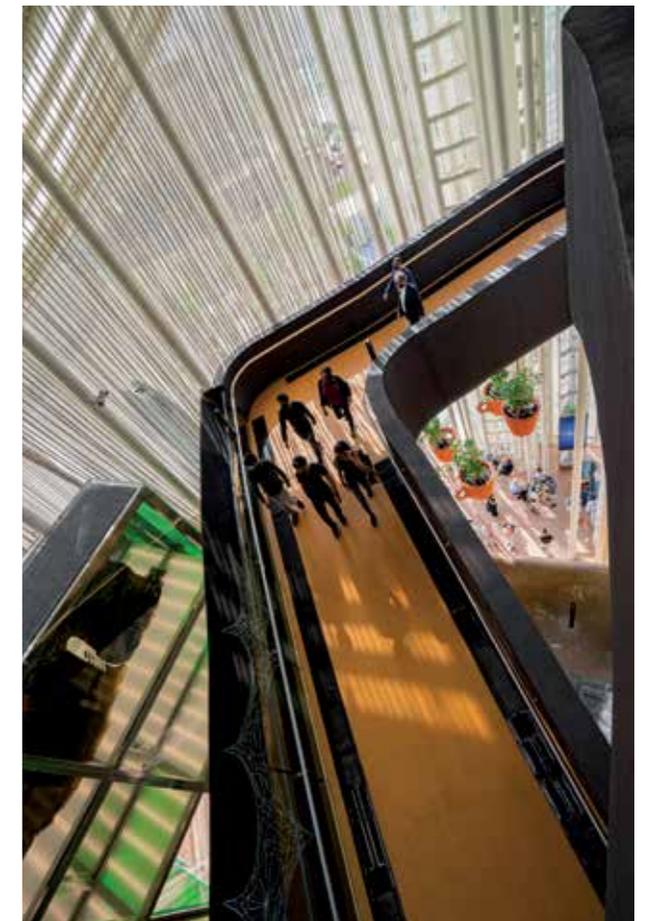
and a protective top-coat of MAPEFLOOR FINISH 630, cementitious coatings were created in many areas with steps or corridors and in other areas used for dining or for office space.

In the plant and service areas and in the kitchen, the designers opted for solutions more suited to their final use. The flooring, made from the MAPEFLOOR SYSTEM 32 multi-layered epoxy system, guarantees sufficient mechanical resistance to particularly demanding processes and excellent resistance to chemical substances in areas where food and drinks are prepared and served.

Also, thanks to its non-slip finish, this product ensures that work environments are much safer.

Piercarlo Rocca. Corporate Flooring Director, Resin and Cementitious Flooring Line, Mapei Group.

“The coatings were chosen not only for the floors, but also for the walls and the dunes”



TOP OF THE PAGE AND RIGHT.

The walkways were coated with MAPECOAT UNIVERSAL mixed with desert sand, coffee powder or orange peel powder.

ABOVE. Cementitious floors in various areas were completed with ULTRATOP LOFT.



SAFE WATERPROOFING FOR PONDS CONTAINING ALGAE

The Italy Pavilion's sets an example of sustainability using microalgae in the biofixation of the carbon dioxide emitted within the premise of the Pavilion. The biofixation process

by means of algae captures carbon dioxide through photosynthesis so that CO₂ can be exploited as a raw material in high-quality products. This is why Italy pavilion has five large water ponds located at the mezzanine level for the cultivation of algae which needed to be waterproofed with non-toxic material that doesn't hamper the growth of algae.

Mapei was able to provide several options of liquid applied systems forming an excellent bond and can be applied on various surfaces of concrete, metals, etc., creating a strong, flexible, and continuous waterproofing membrane. The proposed systems were as follows:

- PURTOP 1000 a two-component, solvent-free, spray applied pure polyurea membrane applied with a high-pressure bi-mixer type pump, and fast curing time of approx. 6 seconds
- PURTOP EASY DW a two-component hand applied elastic polyurethane membrane which once applied, in just a few hours forms a seamless and elastic membrane.

Mapei's technical solutions were successful in overcoming the challenges faced due to aggressive site conditions and project's time constraints. Mapei's strong on-site technical support contributed to the successful completion of all stages of work. This included developing the method statements and drafting detailed AutoCAD drawings based on real site conditions and supervising all the waterproofing operations.

Waterproofing materials by Polyglass, a subsidiary of the Mapei Group, also played an important part. Products like IDROPRIMER, SPIDER P, ADESOGUARD HDPE and POLYSTUOIA 20 enabled the vertical and horizontal surfaces of the observation deck and gardens to be fully waterproofed.

Shatha Weldali. Regional Product Manager for Waterproofing & Sealants, Mapei Construction Chemicals (UAE)

Wide-ranging products for the Italy Pavilion

FROM WATERPROOFERS TO WALL COATINGS: PLENTY OF SYSTEMS WERE CHOSEN TO COMPLETE THE STRUCTURE

HYGIENE AND CLEANLINESS FOR WALLS

Amongst the numerous solutions that played a part in making the Italy Pavilion at Expo Dubai 2020 truly unique are Mapei wall coatings, a combination of protection, durability and aesthetics. MAPECOAT ACT 021 was applied on the walls of the restaurant, a special enamel paint with advanced technology for protecting and decorating walls and specifically designed to meet requirements such as high levels of hygiene and cleanliness in areas used for processing and preparing food, as well as being mould-resistant and compliant with the HACCP (Hazard Analysis Critical Control Point) protocol.

Again for walls, in other areas of the pavilion the product of choice was DURSILITE, a water-based paint for decorating and protecting internal walls in highly demanding internal environments. DURSILITE was applied after treating the walls with DURSILITE BASE COAT, a coloured, smooth acrylic base coat and adhesion promoter for preparing and evening out surfaces. And lastly DURSILAC BASE FILLER, a water-based, acrylic undercoat with good filling properties, was used for the wooden doors, followed by DURSILAC MATT, water-based acrylic-urethane enamel paint with a matt finish.

HIGHLY- RESISTANT STONE AND CERAMIC FLOORS

The floor and wall coverings in some areas of the Italy Pavilion are made of ceramics and natural stones, materials which in themselves epitomize the excellence of Italian manufacturing. Mapei installation systems were chosen to ensure these surfaces are durable, highly resistant against heavy foot traffic, and pleasant to look at. For example, the porcelain tile floors and walls in various sections were installed using KERAFLEX MAXI S1, a white-coloured deformable cementitious adhesive that is ideal for surfaces subject to heavy foot traffic, before grouting the joints using ULTRACOLOR PLUS, a fast-setting and fast-drying anti-efflorescence mortar.

The same system was used to bond marble coverings on the floors of the utility rooms, while those in the VIP areas (see picture on the right) were installed using GRANIRAPID adhesive, whose extraordinary fast-drying and bonding properties make it particularly suitable for works that need to be brought into operation immediately.



In the name of sustainability

THE MAPEI PRODUCTS USED IN THE THEMATIC PAVILIONS HAVE BEEN CHOSEN DUE TO THEIR SUSTAINABILITY AND ABILITY TO MEET THE DESIGNERS' REQUIREMENTS



TERRA – THE SUSTAINABILITY PAVILION

Terra was designed by Grimshaw Architects according to rigorous eco-sustainable and energy efficiency parameters, which enabled the pavilion to be awarded LEED Platinum certification. The 130 m-wide shell is covered with over 5,000 solar panels. In the gardens around the pavilion, 18 structures in the shape of trees rotate to follow the direction of the sun, while producing energy. Inside the pavilion, 1,500 m² of large-size ceramic tiles were installed with KERAFLEX MAXI S1 before grouting the joints with ULTRACOLOR PLUS in the dry areas, and with KERAPOXY in the wet areas. MAPESIL AC silicone sealant was used to seal the expansion joints. The same system, with the exclusion of KERAPOXY, was used to install stone and ceramic tiles outside the pavilion. A ramp was created inside the pavilion, which was covered with two layers of black rubber. Using ULTRABOND ECO 571 2K to bond the rubber covering to the substrates, and the two layers together, helped the designers to obtain a surface that doesn't reflect the light so that visitors can concentrate their attention on the displays on the vertical surfaces.



ALIF – THE MOBILITY PAVILION

Designed by Foster + Partners, this Pavilion allows visitors to explore how mobility has influenced the development of mankind over the centuries and our relationship with technology and the digital world. The undulating pavilion is surrounded by a dynamic landscape, conceptualised as a lively fairground that incorporates winding tracks and demonstration areas for the latest mobility-related technological inventions. There is a partly underground/partly open-air, 330-m high-speed track, where cutting-edge mobility devices can be seen in action.

After treating the substrates with PRIMER G and levelling them off with ULTRAPLAN, ULTRAPLAN MAXI and ULTRAPLAN ECO 20, linoleum, vinyl and textile flooring was installed with, respectively, ULTRABOND ECO 520, ULTRABOND ECO 375 and ULTRABOND ECO FIX inside the pavilion. Resin flooring was also created inside the pavilion using MAPEFLOOR FC 200 ME, an epoxy resin-based coating product manufactured and distributed on the Emirates market by Mapei Construction Chemicals, in combination with PRIMER SN and QUARTZ 0.5. For the external areas large slabs of granite were installed with KERAFLEX MAX S1, before grouting the joints with ULTRACOLOR PLUS. In the fountains and water features, the substrates were waterproofed with MAPELASTIC SMART and MAPETEX SEL membranes, while ADESILEX P7 adhesive was used to bond ceramic tiles and ULTRACOLOR PLUS to grout joints.



THE QUEST FOR EXCELLENCE, SHARED EXPERIENCES AND TECHNOLOGY ARE THE PILLARS SUPPORTING OUR GROWTH

THE EXPO "SPIRIT" AND MAPEI VALUES

A tiny gold ring buried in the sand. That is how the journey to Expo 2020 began thousands of years ago beneath a sand dune that looked just like all the others. However, the keen eye of His Highness, Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates and the Ruler of Dubai, noticed it during a reconnaissance trip by helicopter about twenty years ago.

Intrigued by the different layout of the dunes, the Sheikh had the coordinates noted down and very soon teams of archaeologists from all over the world were excavating to bring Saruq Al Hadid to light, a

major manufacturing centre for forging bronze, copper and iron located in the southern outskirts of the Emirate of Dubai. The site, which flourished most during the Iron Age (1900-600 BC), was also one of the most important trading centres for the entire Gulf basin, Mesopotamia, the Indo-Iranian region and Egypt, as is testified by the discovery of as many as 53 seals coming from these areas now on display in the museum of the same name in the Al Shindagha district right in the heart of the old city of Dubai.

Travellers and merchants used to meet in Saruq Al Hadid, not just to look for tools and weapons but also

jewellery, including a small circular shaped ring as small as a little finger that was produced with a fine gold making technique called granulation.

This ring, a symbol of sophisticated skill and, at the same time, of a trading centre and meeting point between the East and West, has been chosen as the logo for Expo 2020. The slogan "Connecting minds, Creating the future" makes even more explicit reference to Dubai's drawing power (now and in the past) to people and talents from all over the world in a melting pot of nationalities, cultures, skills, ambitions and dreams. Expo 2020 Dubai sets out

to celebrate this spirit, focusing on bridging curiosity with experience, tradition with progress, looking to the future in an open-minded and inclusive way, focusing on people and their professionalism/talent capable of shaping our tomorrow.

This line of thinking overlaps with the Mapei Group's own philosophy, in accordance with which a vocation for international expansion and growth has guided a global search for value based on sharing experience, technology and products and enhancing the skills and expertise of individuals. Characteristics that make the Group so global and local at the same time.

Representatives of almost two hundred countries gather at the Expo to present their ideas and projects for the future to the world, tackling three main themes: Opportunity, Mobility and Sustainability, also represented spatially in the architectural layout of the Expo site in the shape of three petals.

"Opportunity" is taken as the ability to unlock the potential of individuals and communities to shape the future; "mobility" is envisaged across-the-board, i.e. the possibility of imagining increasingly smart and efficient ways of moving around goods, people and ideas; and "sustainability" in its most noble sense:



MISSION POSSIBLE - THE OPPORTUNITY PAVILION

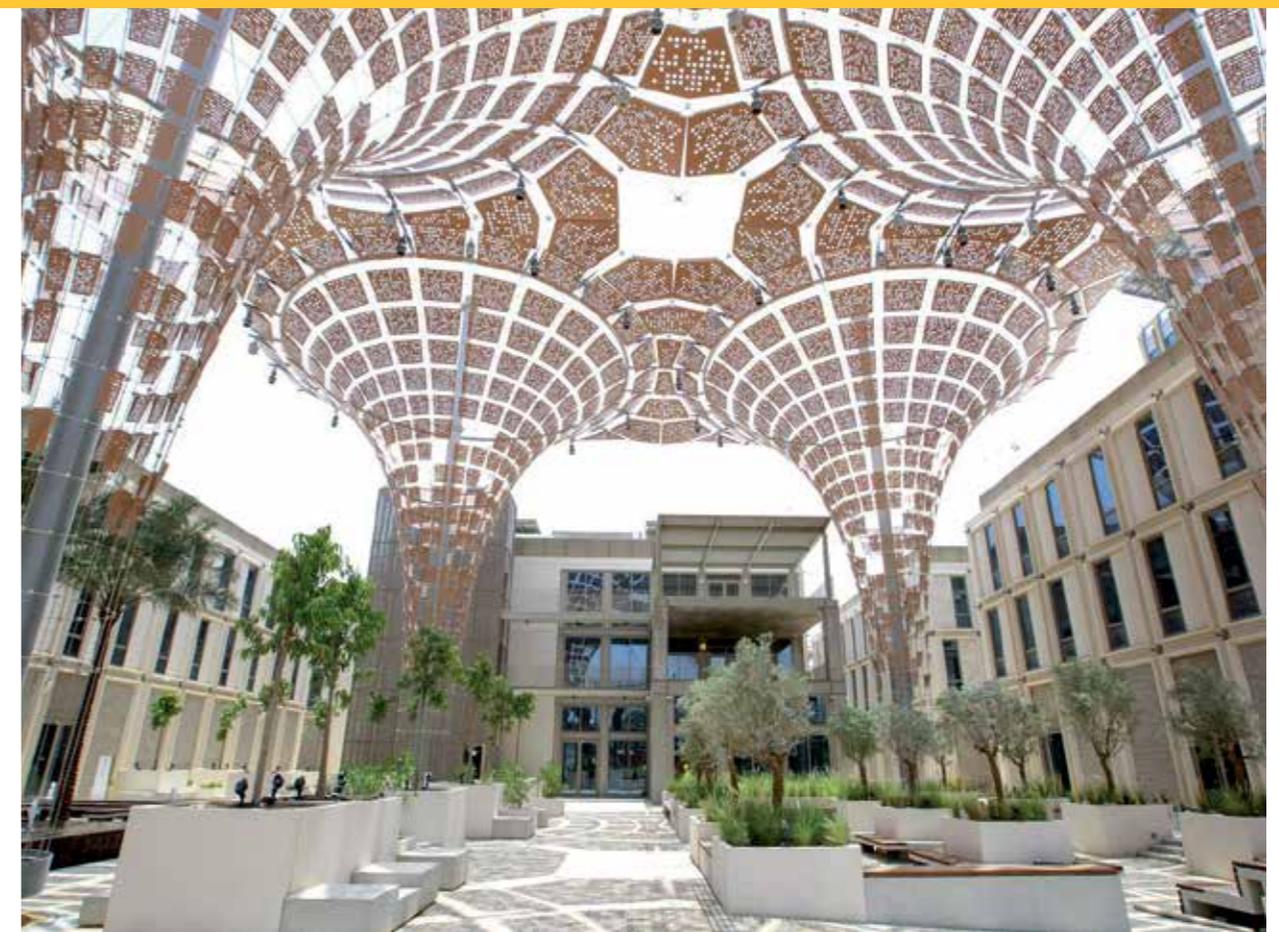
Situated in the heart of the district of the same name, the intention of the Opportunity Pavilion is to explore the various possibilities on offer to individuals and the communities of our planet, stimulating the desire to react and create a better world. Designed by AGi Architects, it extends over an area of more than 8,000 m² and reflects the idea of a city square as a place where people come together, a scenario for collective rituals. This pavilion was also designed according to sustainable criteria that exploit the difficult climatic conditions of Dubai, creating a structure with a low impact on the environment and the ability to ensure the visiting public enjoy a pleasant experience. For the screeds inside the pavilion, Mapei supplied TOPCEM, a special hydraulic binder used to make normal-setting, rapid-drying (4 hours), controlled-shrinkage screeds.

respecting and living in harmony with the world in which we live. These fundamental themes are closely connected with the world of building where products and materials can make a difference and help create a better and more sustainable future: a challenge made possible by research, sharing experience and developing cutting-edge systems, pillars on which Mapei has always built its own international growth. These themes take on even greater significance in the Middle East and Africa region, where a World Expo is being organised for the first time. The biggest challenge is to integrate them into the rapid and powerful

growth the region is currently experiencing economically, demographically and in terms of architectural design with significant global repercussions, like, for example, the major infrastructural projects being carried out across Africa. A challenge that Mapei has decided to take up by directly operating in various countries in the region, from Kenya to Egypt, promoting its own solutions, providing technical assistance, and supporting the architectural designers and professionals who are shaping the world of tomorrow. The aim is to make concretely available all the experience gained in years of Research & Devel-

opment by providing constant theoretical-practical training, continuing the quest for excellence on a technical, applicational and environmental level, and blazing a trail even (and above all) in regions where regulations are less strict, and markets are still anchored to more conventional application systems. A constant commitment to training and listening that is in tune with the Expo's motto: Connecting minds, Creating the future.

Andrea Perini, Regional Area Manager, Mapei Group.



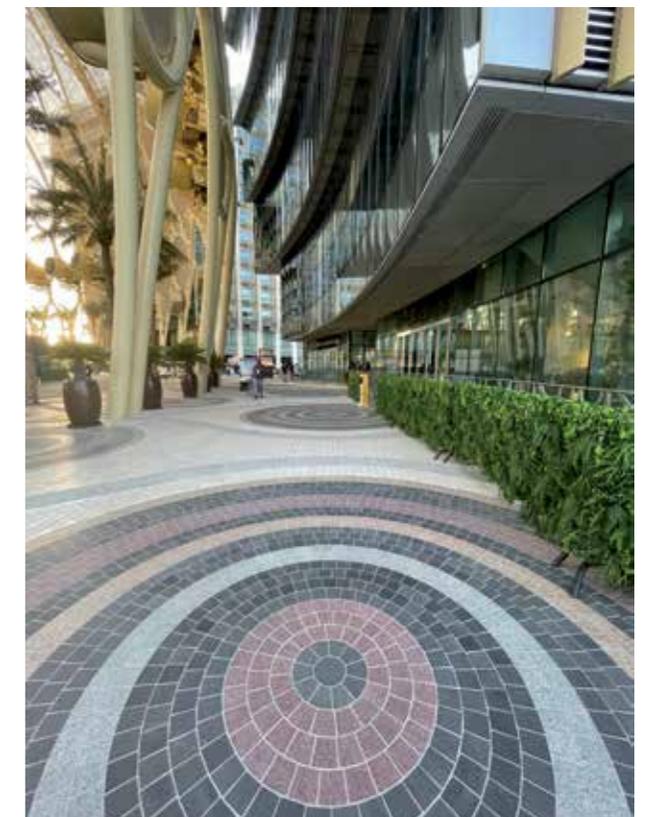
THEMATIC DISTRICTS

The sub-themes of Expo 2020 Dubai (Opportunity, Mobility, and Sustainability) are represented by three thematic districts inspired by typical Arabic neighborhoods, with tree-lined streets, shaded enclaves, traditional geometry, landscaping, and colours to reflect each subtheme.

Forming the largest built-up area of the site and including 86 low-rise buildings that house dozens of country pavilions, food and beverage outlets, retail spaces, performance spaces and leisure areas, each district is anchored by its own thematic pavilion and connected to the central Al Wasl Plaza. Mapei contributed products from its ceramic, resilient and waterproofing lines in several areas of the thematic districts, spanning over 9,000 m².

This included KERABOND T adhesive for ceramic tiles and ULTRACOLOR PLUS and KERACOLOR FF grouts for joints. Installation of linoleum, textile, and vinyl floors on raised access floors was completed with ULTRABOND ECO 520, ULTRABOND ECO FIX and ULTRABOND ECO 375 respectively, after preparing the substrates with PRIMER G, QUARTZ 1.2 ME, and ULTRAPLAN FIBER KIT (the latter two products are manufactured and distributed on the UAE market by Mapei Construction Chemicals) to ensure resistant floorings in high-trafficked areas. To guarantee proper waterproofing of structures below ground level, two products by Polyglass (a subsidiary of the Mapei Group) come into use: SPIDER P self-adhesive bituminous membrane and IDROPRIMER quick drying bituminous water based primer. MAPELASTIC SMART was used to waterproof substrates in several wet areas of the service rooms.

Mapei supplied products to install stone, ceramic tiles and resilient materials in many areas of the districts.





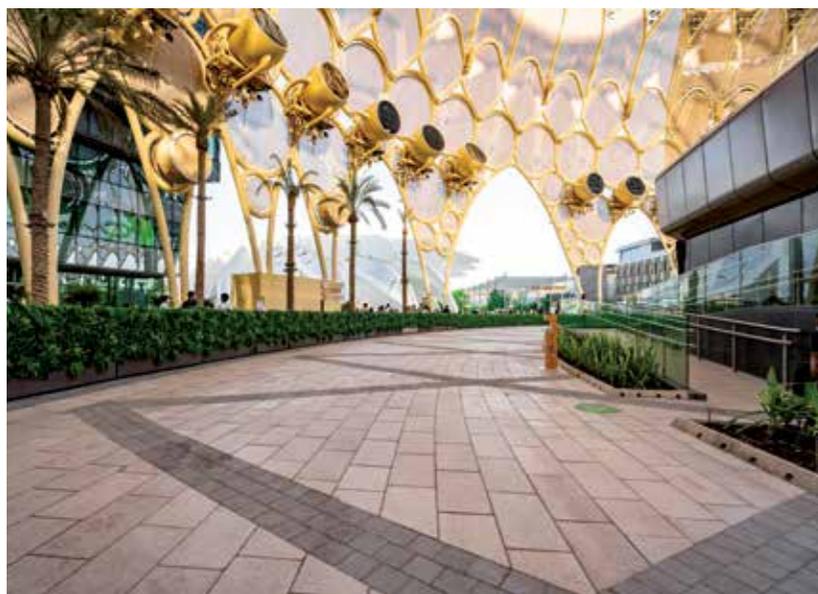
Al Wasl Plaza

THE BEATING HEART OF THE EXPO SITE



Ahmad Iftikhar.
Key Account Manager

Al Wasl Plaza is the beating heart of the Expo site and the setting for the captivating ceremony, as well as the hub where the three theme districts come together. Its name, the ancient nickname of Dubai which also means "connection" in Arabic, is a reminder of one of the cardinal themes of the Expo: this is where the entrances to the city's metro rail network can be found. The Plaza is dominated by an enormous 65 m tall cupola with a diameter of 150 m, which also serves as a 360° projector screen.



Mapei's contribution

The Plaza obtained LEED Gold certification according to the LEED v4 for Building Design and Construction: Core and Shell classification system and Mapei contributed to this result by supplying eco-sustainable materials. Granite floors were installed with KERAFLEX MAXI S1 and then grouted with KERAPOXY and, in several areas, with ULTRACOLOR PLUS. The expansion joints were sealed with MAPESIL LM. Several small water features were built in the surroundings of the main arena and waterproofed with MAPELASTIC SMART and MAPETEX SEL.



RIGHT.
The Rove Hotel, located in the Al Wasl Plaza, also used Mapei materials for its construction, including adhesives and grouts for the swimming pool on the terrace.

The grey carved granites were installed with KERAFLEX MAXI S1. The joints were then grouted using KERAPOXY. About 10000 m² of granite coverings were treated with ULTRACARE protective agents. The square is also the location of the only hotel inside the Expo site, the Rove Expo 2020 Dubai Hotel. Inside the hotel, KERABOND T was used to bond porcelain flooring in the communal areas before grouting joints with KERAPOXY. In service areas, substrates were waterproofed with MAPELASTIC AQUADENFENSE, MAPELASTIC SMART and MAPETEX SEL before installing ceramic

tiles with ADESILEX P9. The walls in the common areas were coated with the ULTRATOP LOFT cementitious system. Products manufactured and distributed on the United Arab Emirates market, such as MAPEGROUT T60 ME and PLANITOP 400 ME, were used to repair the concrete. In the swimming pool located on the hotel terrace, the substrates were water-proofed with MAPELASTIC SMART, glass mosaics were bonded with KERAPOXY ADHESIVE and joints grouted with KERAPOXY DESIGN, while the expansion joints were sealed with MAPEBAND tape and MAPESIL AC.

Lots of products for lots of countries

FROM RESIN COATINGS TO TILE ADHESIVES, MAPEI SUPPLIED MATERIALS FOR 55 NATIONAL PAVILIONS. HERE YOU FIND A FEW OF THEM.

United Arab Emirates

Designed by Santiago Calatrava, the United Arab Emirates Pavilion is in the form of a falcon, a reminder of the country's tradition of falconry. It was designed using sustainable building techniques and materials to obtain LEED Platinum certification. The majestic appearance of the structure was obtained thanks also to the use of very high-quality white granite slabs from Oman for the landscape. The external granite paving had to be a close match with the colour of the facades. This is why indoor and outdoor granite floors were installed with KERAFLEX MAXI S1, while the joints were grouted with KERACOLOR FF and ULTRACOLOR PLUS in the same shade as the slabs. MAPESIL LM was used to seal the expansion joints. MAPELASTIC SMART was used for waterproofing the substrates of the shallow water feature at the entrance of the building, before bonding ceramic tiles with KERAFLEX MAXI S1 and ADESILEX P7 and grouting joints with ULTRACOLOR PLUS. The ULTRATOP LOFT system was also used in the pavilion to create cementitious floors that is resistant to high levels of footfall.



Inside the pavilion, TOPCEM was used to make more than 7,000 m² of screeds. The substrates of many areas were treated with ULTRAPLAN ECO 20 levelling compound, distributed on the Emirates market by Mapei Construction Chemicals. The vinyl flooring was installed with ULTRABOND ECO 370 adhesive. ADESILEX P9 was chosen to install the porcelain tiles, while KERAFLEX MAXI S1 was used to install the stone materials. ULTRACOLOR PLUS was then used to grout joints in both areas. In the water features, the substrates were waterproofed with MAPELASTIC SMART before installing ceramic tiles with ADESILEX P9 and grouting the joints with ULTRACOLOR PLUS.

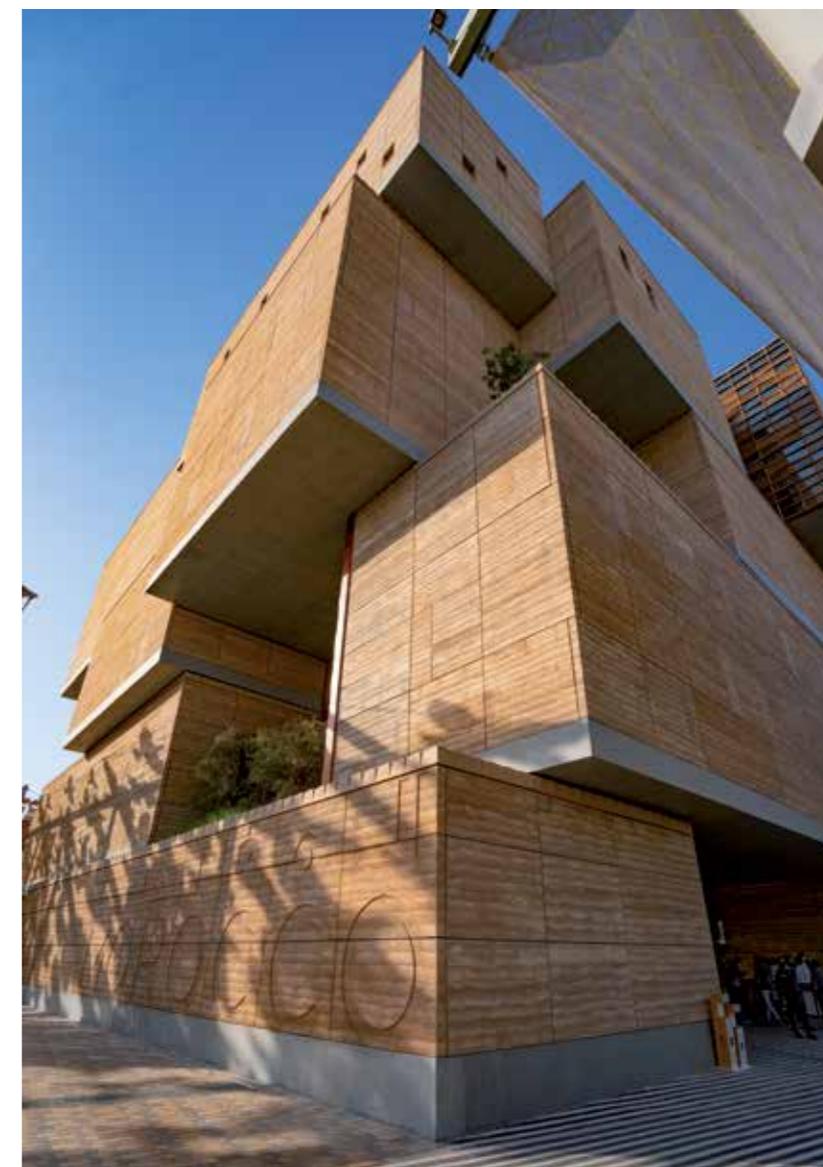
United States

The pavilion, designed by the Woods Bagot design studio, is intended to present the United States as a dynamic society, promoting liberty and collective prosperity.



Morocco

The pavilion, which is particularly striking for its sculptural forms, takes inspiration from traditional Moroccan building techniques and conducts visitors inside the Moroccan medinas by means of a ramp that ends in a high-level viewing platform. Mapei contributed products from its resin and cementitious floors line towards the application of the flooring in the pavilion and products for installing ceramic tiles for the common and wet areas. MAPEFLOOR I 300 SL ME was used as an internal self-leveling epoxy for seamless floor finishes. The concrete surfaces of the external areas were treated with the aliphatic polyurethane finish MAPEFLOOR FINISH 58 W, which improves the superficial mechanical characteristics of surfaces.





France

A structure of light: that is what the France Pavilion appears to be. This is because France aims to present the country as a centre that “radiates” expertise for the “construction” of tomorrow. MAPEFILL GP-ME and MAPEGROUT ME05, manufactured and distributed on the Emirates market by Mapei Construction Chemicals, were used to repair

and restore concrete. The concrete water tanks were waterproofed with IDROSTOP PVC BI BE ME, a waterstop that is also distributed locally by Mapei Construction Chemicals. The synthetic membrane MAPEPLAN T M 15, made by Polyglass (a subsidiary of the Mapei Group), was used to waterproof the steel roofs.



Australia

The Australia Pavilion is an anthem to the biodiversity, a sense of collaboration and the mobility that characterise Australia. It also aims to offer visitors a taste of its natural landscape, as it resembles a large cloud floating over a series of rocky outcrops. Products from Mapei’s ceramic installation line played a key role in the construction of this structure. KERAFLEX MAXI S1 adhesive was used to bond large-size ceramic tiles before grouting joints with ULTRACOLOR PLUS and sealing the expansion joints with MAPESIL AC. In other areas, stone floors were installed with ADESILEX P9.



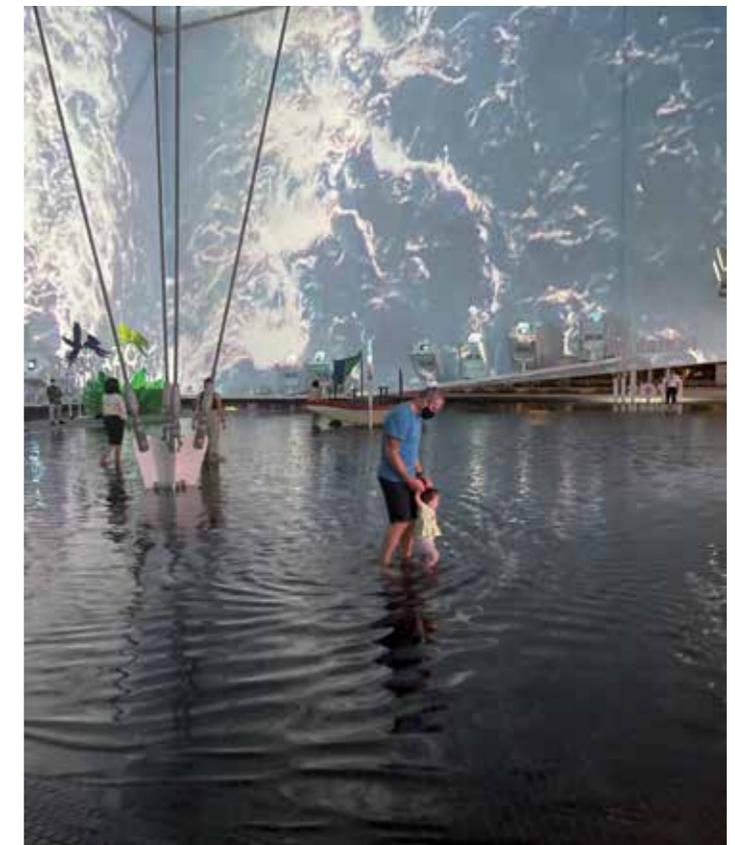
Kingdom of Saudi Arabia

A scintillating opening to the future is the image the Kingdom of Saudi Arabia is aiming to project of itself at Expo 2020 Dubai. The

structure resembles a large open window rising upwards towards the sky. And inside, visitors can explore the richness of the Saudi cultural heritage, the country’s natural beauty and cutting-edge technology. The substrates in several internal areas were treated with PRIMER G and levelled off with ULTRAPLAN ECO 20, which is manufactured and distributed in the Emirates by Mapei Construction Chemicals, before installing linoleum flooring with ULTRABOND ECO 520. The steel roof structure and steel decks were waterproofed with MAPEPLAN TM 15 membrane made by Polyglass, a subsidiary of the Mapei Group.

Brazil

The intention of the Brazil Pavilion is to recreate the lush, natural landscape and the sounds, colours, fragrances and biodiversity of the Amazon Forest. Built around a pedestrianised surface immersed in water, it allows visitors to cool off in the shade of a structure that resembles the stilt-houses of the Amazon forest. In the external water features MAPELASTIC SMART and MAPETEX SEL were used here to waterproof around 4,000 m² of substrates before installing glass mosaics with ADESILEX P10 and grouting joints with KERAPOXY. The substrates in internal areas were treated with PRIMER G and ULTRAPLAN ECO 20, a levelling compound manufactured and distributed in the Emirates by Mapei Construction Chemicals, before installing rubber floors with ULTRABOND ECO V4 SP.



Qatar

Designed by the Spanish architect Santiago Calatrava, the Qatar Pavilion is inspired by the images featured on the country's coat of arms (a palm tree, a sailing ship and two swords). The result is a curved, sail-shaped structure intersected by a lower building. The aim of the pavilion is to incarnate the values of mobility, strength and tradition which Qatar is recognised for. At the side there is a 20 m high tower that recalls the palm trees typical of this



country's landscape. Mapei collaborated in the construction of the external water features by supplying MAPELASTIC SMART mortar to waterproof the substrates and the adhesive KERAFLEX MAXI S1 to install the stone coverings.



Egypt

Designed by the architect Hazem Hamada, the pavilion takes visitors on a trip through time across a walkway over the water, which, together with sculptures and other exhibits on the inside, evokes the landscape of the River Nile. The water features on both the inside and outside were created with the help of Mapei, which supplied MAPELASTIC, MAPELASTIC SMART and MAPETEX SEL for waterproofing substrates before using KERAFLEX MAXI S1 to installing granite and KERAPOXY ADHESIVE to bond ceramic tiles. All the joints were grouted with KERAPOXY.



Azerbaijan

The Azerbaijan Pavilion has a striking timber viewing platform encompassed by a delicate leaf-shaped roof. It is surrounded by 1,300 m² of gardens and walkways. The pavilion represents energy and life and boasts many sustainable design technologies. TOPCEM was used to prepare the floor screeds before bonding small-size ceramic tiles with ADESILEX P7 and large-size tiles with KERAFLEX MAXI S1. ULTRACOLOR PLUS was used for grouting joints in both areas.

China

Totalling 4,636 m², the China Pavilion is one of the largest at Expo 2020 Dubai. The pavilion is modelled on a traditional Chinese lantern and features references to ancient Chinese innovations in its architecture. The main feature is a wall inspired by moveable type-printing technology that turns into a spectacular, digital light show at night. ULTRAPLAN CONTRACT, self-levelling, ultra quick-hardening smoothing compound, was used for self-levelling a sizeable portion of the floor substrates.



OTHER CONTRIBUTIONS

From Singapore to the Fiji Islands, from Angola to Switzerland and from Chile to the Vatican City, many other nations have utilized Mapei products as trusted building solutions for the construction of their own national pavilion: for waterproofing roofs and wet areas, self-levelling substrates, installing ceramic tiles, repairing concrete and coating floors with cementitious or resin products. The same applies to other pavilions such as the Integrated Energy Partner ENOC (Emirates National Oil Company), Etisalat (Emirates Telecommunication Company), Women's Pavilion, DP World that highlights Dubai Port (in the photo above), and Dubai Exhibition Centre, to name a few where Mapei has left its mark through its products. Other buildings for welcoming and accommodating visitors are illustrated over the following pages.

FROM THE EXPO VILLAGE TO FACILITIES FOR MEETINGS AND EVENTS: NUMEROUS APPLICATIONS FOR PLENTY OF PRODUCTS



EXPO VILLAGE

Strategically located just outside the site of the Expo, this is an area created to cater for up to 25 million visitors and local authority employees during the months of the Expo and will also serve as a residential complex for 3,500 residents in 2,000 housing units. It includes 11 groups of luxury apartments for a total of 15 buildings, shops, medical centres and a school. This is the first structure completed for the Expo and work on it commenced in 2018. The intention of the authorities was to obtain LEED Gold certification for this area and, from the initial stages of the project, Mapei was accepted as privileged partner due to the company's ability to supply certification and documentation regarding the reduced environmental impact of its products. KERABOND T adhesive was used in all 15 buildings to bond ceramic floor and wall tiles over a total surface area of 250,000 m², which were grouted with ULTRACOLOR PLUS. For the external water features, the substrates were waterproofed with MAPELASTIC SMART and MAPETEX SEL before installing mosaics with ADESILEX P10 and grouting the joints with ULTRACOLOR PLUS. In the swimming pools, KERAPOXY ADHESIVE was used to bond ceramic tiles and KERAPOXY was used to grout the joints.

A host of solutions to welcome and host visitors

The organisers of the Expo 2020 Dubai have dedicated a number of spaces inside the site to the large influx of visitors: piazzas, live exhibition venues, water features, relaxation areas and gardens. There are also other structures on the site reserved for journalists, representatives of local authorities, police, security personnel and VIP guests, as well as facilities, both inside the Expo and just outside the site, that will be used to host those coming to Dubai to visit the World's Fair. Let's take a look at some of them.

WORLD MAJLIS

The area called the World Majlis Area is a public space that recalls an important aspect of Emirate traditions and of Arabic countries in general: the Majlis, in fact, is an assembly in which various communities come together to exchange ideas and to discuss and decide on various topics. This is an area used to hold debates, conferences and other events. It includes a series of reception and VIP rooms. Ceramic tiles were installed in the internal areas using ADESILEX P7 adhesive with ULTRACOLOR PLUS for grouting the joints, while KERALASTIC T was used to install marble flooring in external areas.



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DUBAI EXHIBITION CENTER

This large, high-tech exhibition centre extends over an area of 45,000 m² and will be used to host special events, exhibitions, conferences and meetings, both during the months of the Expo and then after its closure. In the centre there is also a theatre, an auditorium, poly-functional areas and various meeting rooms. In the service areas, ceramic floor and wall tiles were installed with KERABOND T adhesive after treating the substrates with PRIMER G. The joints were then grouted with ULTRACOLOR PLUS. MAPEGROUT T60 and PLANITOP 400, on the other hand, were used to repair concrete.



2020 CLUB BY EMAAR

The colossus of Emirate hospitality, Emaar Hospitality Group, wanted to dedicate a special area to VIP guests with a series of lounges, relaxation areas, hookah smoking areas and a spa. There is also a heliport available for guests on the roof of the structure. Mapei took part in the construction of these spaces by supplying the adhesives ADESILEX P7 and MAPESET to install ceramic tiles and ULTRACOLOR PLUS mortar to grout the joints. Porcelain tiles were installed in several areas with ADESILEX P7 and then grouted with KERAPOXY.



**MAPEI
CONSTRUCTION
CHEMICALS**

2008

**THE YEAR IT WAS
FOUNDED**

(ITS NAME WAS
"INNOVATIVE BUILDING
SOLUTIONS")

148

STAFF

(FROM 25 DIFFERENT
NATIONS)

1

**MANUFACTURING PLANT
IN DUBAI**

41

**MILLION EUROS
TURNOVER IN 2020**

112,000

TONS

**PRODUCTION CAPACITY
IN 2020**

Maxi infrastructure plan in the Arab Emirates' future



HASSAN BOUHADI,
GENERAL MANAGER
OF MAPEI
CONSTRUCTION
CHEMICALS LLC,
SHARES HIS VIEWS
WITH US

Infrastructure development played and continues to play a fundamental role in the UAE's expansion and growth plans. The UAE has recently set ambitious and comprehensive plans for a sustainable urban development focusing on enhancing people's happiness and quality of life and reinforcing UAE as a global destination for citizens, residents and visitors over the next 20 years.

To meet its infrastructure plans, the UAE government has started pushing forward with its various initiatives and projects, including the Dubai 2040 Urban Development plan, the Sheikh Zayed Housing Programme,

the Dubai Tourism Strategy and Dubai Industrial Strategy 2030.

Over the next 6 years, a budget of 40 billion US dollars has been set to meet this infrastructure development plan. Some of the major projects being explored include a futuristic suspended rail network in Dubai, turning a landfill area into a solar farm, a waste-to-energy plant to generate enough electricity to power up to 22,500 UAE households, a reverse osmosis desalination plant with a capacity of producing up to 150 million imperial gallons (almost 682 million liters) of clean water per day, two seawater nano-filtration

plants with a combined treatment capacity of 210 million imperial gallons (over 954 million liters) a day.

The Abu Dhabi Executive Council also approved a framework between the Abu Dhabi Government and Aldar Properties for the development of capital projects in the UAE. Aldar will provide management oversight of US 2.7 billion worth of Musanada's projects in education, healthcare, infrastructure, social services, and facilities management.

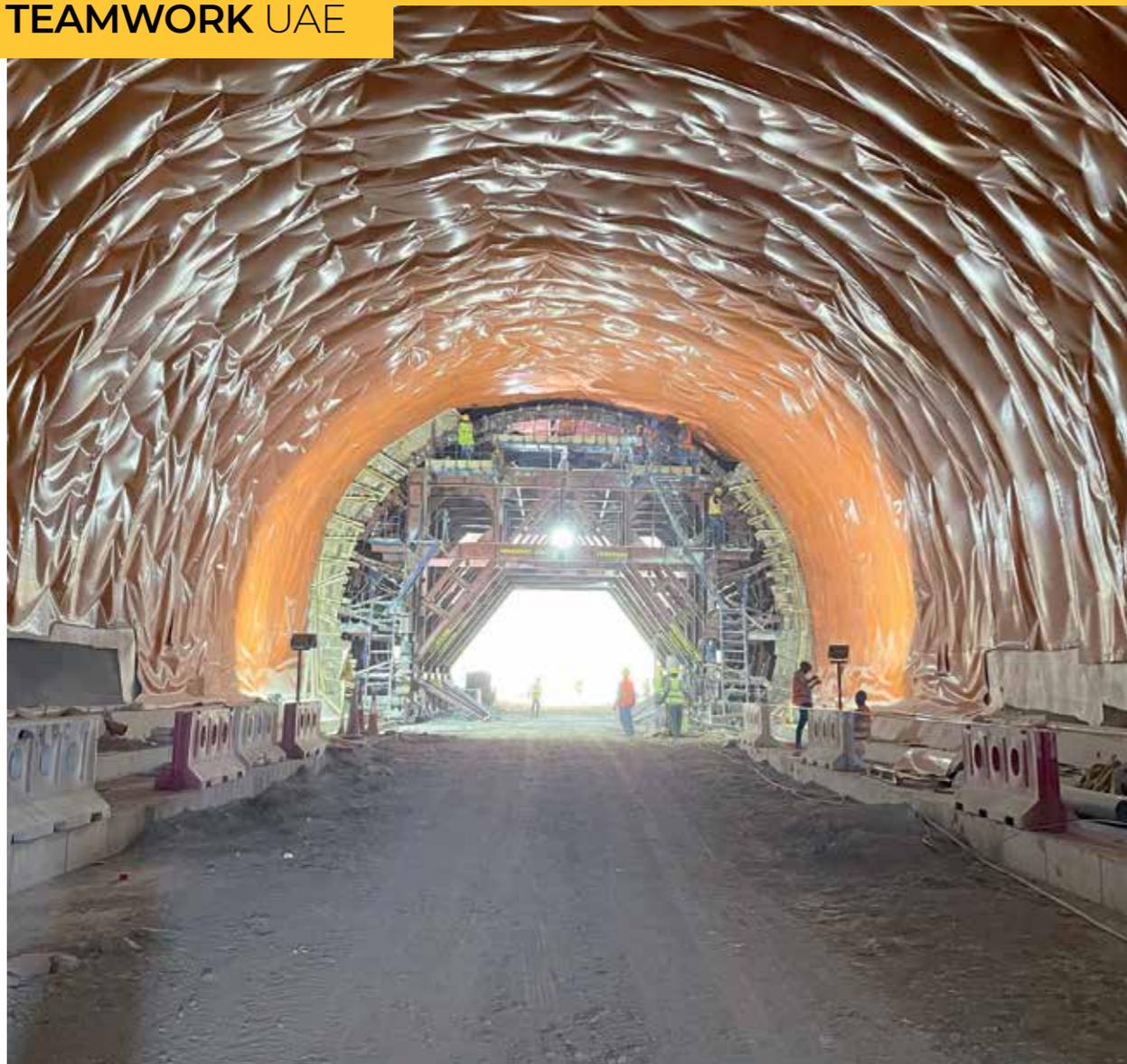
A total of 10 billion US dollars was allocated to infrastructure projects in 2021, and of this amount, the biggest spends were allocated to rail (5

billion US dollars), roads and bridges (1.5 billion US dollars), and utilities (0.5 billion US dollars).

This provides a great opportunity for Mapei Construction Chemicals, as we continue to play a key role in developing UAE's resilient and eco-friendly infrastructure network, including ports and terminals, roads and bridges, rail, sewerage and waste treatment plants, and utilities.

So far this year, Mapei Construction Chemicals has already made significant contributions to developing infrastructure projects in UAE, below are few examples:

12 billion US dollars will be invested in building railways, roads, ports and terminals in 2022



A tunnel along the Etihad Rail network, where Mapei supplied 27,500 m² of MAPEPLAN PVC membrane system for tunnel waterproofing.

Mapei, which has already contributed to major projects, hopes to play a key role in the country's latest phase of transformation

Ports & Terminals:

- Supplying 28,000 m² of MAPEPLAN PVC membrane system to waterproof the conveyor belt tunnel at a construction raw material handling facility at a new port terminal in Dibba (UAE).
- Supplying 235 tonnes of PLANIGROUT 300 ME and 12,000 cartridges of MAPEFIX EP 385 for repairing of crane rail network at a container handling terminal.

Rail:

- Supplying 27,500 m² of MAPEPLAN PVC membrane system for tunnel waterproofing, part of the Etihad Rail network, which included nine tunnels with a combined length of 6.9 km.

Utilities:

- Supplying concrete and shotcrete admixtures for a new pumped storage hydropower plant in the Hajar Mountains, Hatta (UAE): around 500,000 kg of MAPEQUICK AF-70 alkali-free accelerator for shotcrete and sprayed concrete; 100,000 kg of DYNAMON SP4000 superplasticizing admixture; 145,000 kg of MAPEPLAST RP220 SA retarding plasticizer.

With infrastructure spend projected at 12 billion US dollars in 2022, most of which will be focused on rail, ports, terminals, roads and bridges, Mapei looks forward to continue playing its role in making the UAE a better connected country.

MAPEI CONSTRUCTION CHEMICALS

THE GROUP'S HEADQUARTERS FOR MIDDLE EAST AND EAST AFRICA

Mapei first began operating in the United Arab Emirates in 2008 when its subsidiary "Innovative Building Solutions" was set up in Dubai.

After a few months' marketing the mother company's products in the country, local manufacturing of building materials began in 2009 in a plant located in Dubai Investment Park. Initially the subsidiary focused on products for installing ceramic and stone materials, products for the building industry, and admixtures for concrete and cement additives: a segment of the market producing the best results in the short term on a market dominated by the competition.

Since then, the subsidiary, now called Mapei Construction Chemicals, has gained the confidence of companies on the local building market, extended the range of products it supplies and manufactures locally, overcome the 2009 economic recession, boosted its human resources

(now employing a total of 148 staff from 25 different nations) and increased its revenue (reaching a figure of 41 million Euros in 2020) and been involved in the construction of numerous architectural works, including the most prestigious in the Arab Emirates such as Burj Khalifa skyscraper incorporating Armani Hotel, Dubai Metro, Dubai and Abu Dhabi airports, Ferrari World Theme Park and Louvre Museum in Abu Dhabi.

Mapei Construction Chemicals is also the Group's regional headquarters in the Middle East and East Africa. Over recent years it has helped extend Mapei's presence in neighbouring countries like Qatar (Mapei Doha was founded in 2015), Saudi Arabia and even Africa in the form of Mapei Egypt for Construction Materials and Mapei East Africa, two subsidiaries that have boosted the Group's operations in 2018-19 on a continent where Mapei South Africa and Vinavil Egypt have been operating for a number of years.



Dubai Route 2020

CERAMIC TILES AND ENGINEERED STONE INSTALLED IN THE NEW STATIONS ALONG THE METRO RAILWAY LINE RUNNING TO THE EXPO SITE



The aim of the “Route 2020” project was to extend the Red Line of the Dubai metro railway system connecting the city to the Expo site. Thanks to an investment of 2.9 billion US dollars, the new stretch is now 15 km long (11.8 km of elevated railway and the remaining 3.2 km underground) and runs from Jebel Ali station to the Expo area, near Al Maktoum International Airport. As a result, this new infrastructure makes it easier to access the exhibition area and, because it passes through various densely populated areas of the city, it is also a fast, safe method of urban transport for many inhabitants of Dubai.

4 of the 7 stations in total were opened to the public on 1st January this year (Jebel Ali Station, The Gardens, Discovery Gardens and Al Furjan), whereas Route 2020 became operational a little later on 1st June along the section running to the Expo site.

Route 2020 is now ready to guarantee the journey of the 35,000 visitors/day expected during the week and 47,000 at weekends during the months of the Expo. The construction work also included three main power supply stations and an additional traction power supply station.

Mapei's contribution

Mapei was involved in the excavation works of the new metro line, supplying products for underground works to the Expolink consortium, made up by Alstom, Accio-

na and Gülermak. The company provided solutions for building a 2.5 km long, 10 m diameter tunnel, which was excavated with TBM (Tunnel Boring Machine). Mapei supplied chemical products used for TBM excavation works such as the grout systems for the backfill of the TBM segment (MAPEQUICK CBS SYSTEM 1 and MAPEQUICK CBS SYSTEM 2, MAPEBENT CBS 2); the foaming agent POLY-FOAMER FP for the TBM cutterhead and the sealants MAPEBLOX T and MAPEBLOX H. Besides, LAMPOSILEX and RESFOAM 1 KM were used to close the water leakage in the tunnel.

The company also took part in the construction works for the new Route 2020 by supplying materials for the screeds, to prepare substrates and for the installation of stone inside all the stations along the line. To cope with the constantly increasing passenger levels, the stations have larger access ramps to the platforms compared with those along the existing stations of the Red Line.

TOPCEM special hydraulic binder was used to create normal setting, controlled shrinkage and rapid-drying screeds in all the stations along Route 2020, for a total surface area of 70,000 m².

In four of the stations, slabs of engineered stone were installed using GRANIRAPID adhesive, which allowed the site teams to install the material in difficult climatic conditions, at temperatures of more than 30 °C. The stone

covering was made up by engineered agglomerate so, following extensive tests in Mapei R&D laboratories, this adhesive system was especially selected, to avoid any stains or moisture-related problems to the final surfaces. Besides, fast-track products like TOPCEM and GRANIRAPID helped the application teams meet the tight timeline. The stone was then grouted with KERACOLOR FF cementitious mortar mixed with FUGOLASTIC admixture. The product chosen to seal the expansion joints was MAPESIL LM which helps prevent the formation of marks and stains on the surface of stone.

In the service areas of the stations, ceramic tiles were installed with KERAFLEX MAXI S1 adhesive before grouting joints with KERAPOXY. Given the high level of vibration caused by the movements of the trains, KERAFLEX MAXI S1 was chosen due to its high deformability.

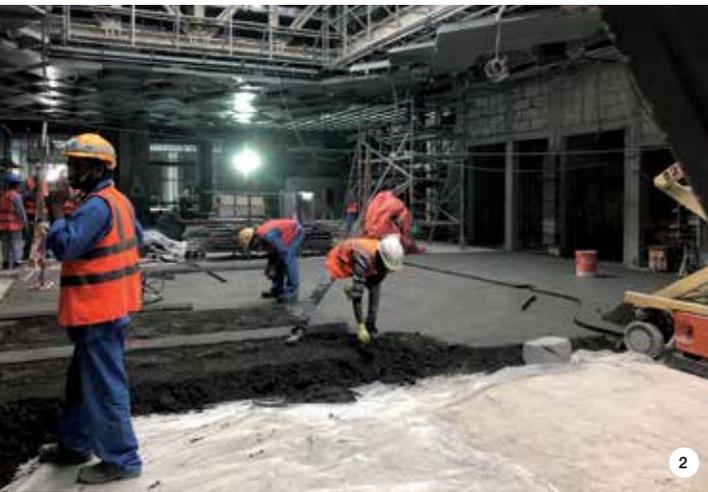
For the four buildings that house the electric controls for the trains the MAPETHERM SYSTEM was used, an external thermal insulation system for facades that prevents rooms inside buildings from heating up excessively, thereby reducing energy consumption, improving the level of comfort and the sustainability of the structures. Apart from bonding rockwool insulation panels with MAPETHERM AR2 mortar, the materials chosen for this work were MAPETHERM AR1 adhesive and skimming compound and MAPENET 150 mesh. In all buildings, the insu-



The new Route 2020 is an extension to the Red Line of the Dubai metro system and runs for 15 km from the city to the Expo 2020 Dubai site.



1



2



3

1. TOPCEM hydraulic binder was used to create the rapid-drying screeds in the stations.
2. In the stations, the engineered stone flooring was installed with GRANIRAPID before grouting joints with KERACOLOR FF + FUGOLASTIC.
3. The walls of some of the buildings that house the electric controls were insulated with the MAPETHERM system before finishing off the surfaces with QUARZOLITE BASE COAT and QUARZOLITE TONACHINO.
4. Mapei also took part in the excavation work of the Red Line by supplying products for TBM and underground works.

lated surfaces were then treated with QUARZOLITE BASE COAT coloured acrylic undercoat before applying QUARZOLITE TONACHINO, a textured coating of 1.5 mm grain size. Using the ColorMap® automatic tinting systems, which is also available in the UAE, enabled the right shade of grey to be obtained from amongst the more than 1,000 colours of the Mapei Master Collection.

In several areas ULTRAPLAN ECO 20 levelling compound, which is produced and distributed on the local market by Mapei Construction Chemicals, was used to level off the substrates, after treating them with PRIMER G.

On raised floors, on the other hand, the system chosen to level any irregularities was made up by PRIMER SN, mixed with QUARTZ 1.2 ME (which is distributed on the UAE market by Mapei Construction Chemicals), and ULTRAPLAN MAXI.

In some areas vinyl floor coverings were installed with ULTRABOND ECO 375 adhesive.

Various building materials distributed on the local market by Mapei Construction Chemicals, such as MAPEGROUT ME05, MAPEGROUT ME06, MAPEFILL GP-ME and MAPEGROUT T60 ME, also found a use in the construction work for the various structures of the Route 2020 project.



Find out more
TOPCEM

MAPEI PRODUCTS

Products for underground constructions: Mapequick CBS System 1, Mapequick CBS System 2, Mapequick CBS 2, Polyfoamer FP, Mapeblox T, Mapeblox H, Lamposilex, Resfoam 1 KM
Building screeds: Topcem
Preparing substrates: Primer SN, Ultraplan Eco 20*, Quartz 1.2 ME*, Ultraplan Maxi, Ultraplan

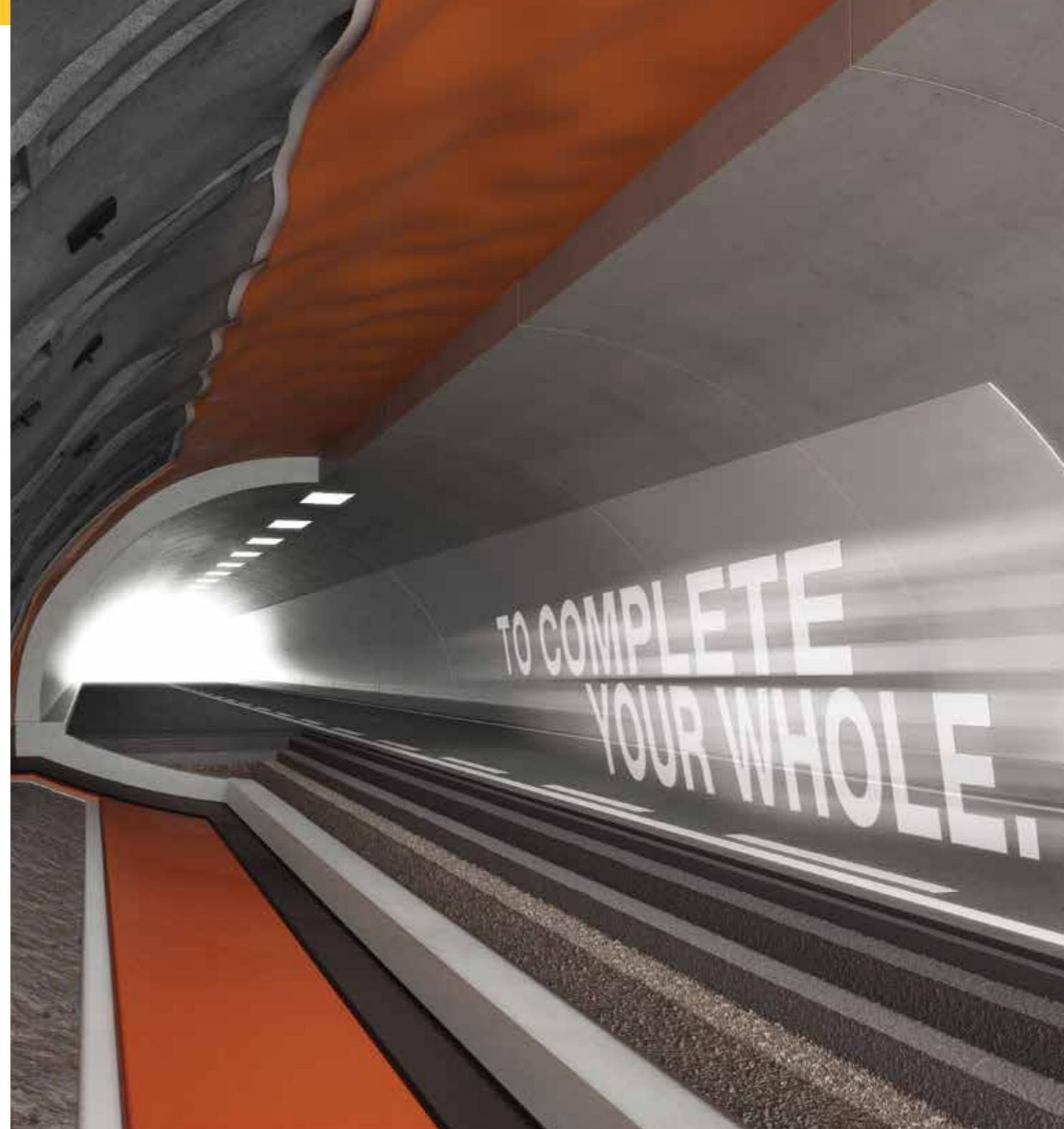
Fiber Kit*
Installing ceramic tiles and stone materials: Granirapid, Keraflex Maxi S1
Grouting joints: Keracolor FF, Fugolastic, Kerapoxy, Ultracolor Plus
Sealing expansion joints: Mapesil LM
Installing vinyl floors: Ultrabond Eco 375
Thermal insulation: Mapetherm AR1,

Mapenet 150
Wall coatings: Quarzolite Tonachino, Quarzolite Base Coat
Products for building: Mapefill GP ME*, Primer G, Lamposilex, Mapefill SP ME*, Mapegrout T80, Polyfond Kit Drain, Resfoam 1 KM Flex, Resfoam 1K-M, Resfoam 1K-M AKS, Eporip, Lamposilex, Mapegrout

ME 05*, Mapegrout ME 06*, Mapegrout T60 ME*, Planigrout 300 ME*, Planitop 110 ME*

*These products are manufactured and distributed on the UAE market by Mapei Construction Chemicals (UAE)

For further info on products see mapei.com and mapei.ae



TECHNOLOGY FOR UNDERGROUND CONSTRUCTION

- Alkali-free set accelerators for shotcrete
- Products for mechanized tunneling: foaming agents for soil conditioning, polymers, sealants, lubricants
- Products for grouting and consolidating

- Products for concrete repairing, protection and coating
- Products for waterproofing: synthetic waterproofing membranes, waterproofing accessories



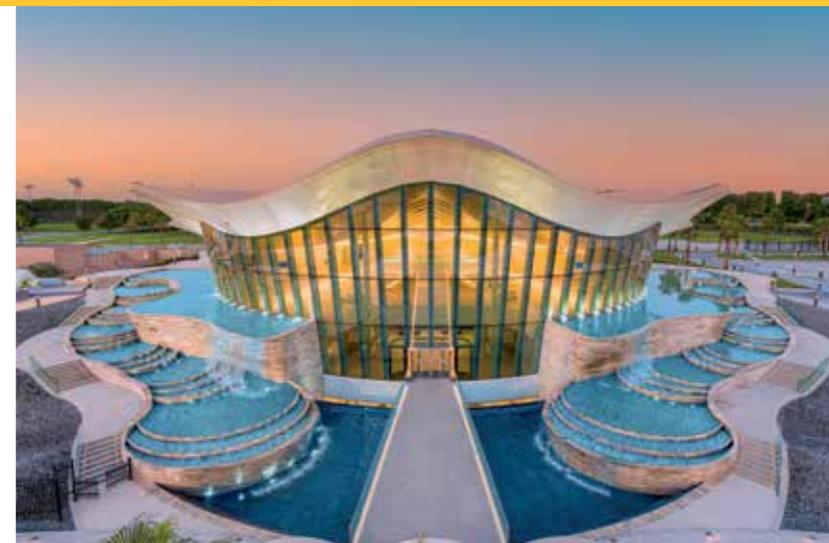
Learn more on
utt.mapei.com
hq.utt@utt.mapei.com





LEFT. The new 60 m (196 feet) deep pool in the Deep Dive Dubai complex is the world's deepest swimming pool for diving.

RIGHT. The pool is hosted in a building styled like an enormous oyster to honour the United Arab Emirate's pearl diving legacy.



Dubai

Deep Dive Dubai

RELIABLE, HIGH TECH PRODUCTS ENSURE A SAFE PLUNGE INTO THE DEEPEST POOL IN THE WORLD AND IN NEARBY UNDERWATER SPACES

The latest addition to the city's thriving sports and adventure activities scene, Deep Dive Dubai is the place to be for all aqua enthusiasts. Opened in July 2021, the recreational centre's 60 m-deep pool is certified by Guinness World Records as the world's deepest swimming pool for diving.

The pool, part of the new Deep Dive Dubai attraction, has stolen the record from Poland's Deepspot, which has a depth of over 45 m.

Besides, it holds 14.6 million litres of freshwater, enough to fill six Olympic-sized swimming pools.

Deep Dive Dubai is located in Dubai's Nad Al Sheba neighbourhood and features a sunken city (complete with an abandoned streetscape, an apartment, garage, arcade) that divers of all levels can explore, guided by mood lighting and ambient music.

The building's facade is styled like an enormous oyster to honour the United Arab Emirate's pearl diving legacy and the Emirati pioneer's bravery. With an onsite dive and gift shop, a restaurant and meeting spaces that can host up to 100 guests, Deep Dive Dubai also promises to become a dynamic new venue for events.

Deep experience for a deep pool

Due to its long-time experience in building materials for sports venues and swimming pools, Mapei was involved in the construction works and supplied products for waterproofing the substructure of the building, as well as completing the water features and the indoor and outdoor facilities. Moisture sensitivity tests were conducted in Mapei laboratories resulting in adhesives of a certain class being recommended. KERAFLEX and KERAFLEX MAXI S1 were chosen as the most suitable adhesives for bonding stone coverings in common areas and outdoor areas. For the installation of mosaic tiles on marine plywood in the changing rooms, KERALASTIC T two-component, polyurethane adhesive was chosen due to the nature of the substrate. The mosaic tiles in the pool were bonded with KERAPOXY adhesive. The special white and yellow gold coloured glass mosaic called for an attractive and high-quality finish, so Mapei proposed a special system made up of KERAPOXY DESIGN decorative, acid resistant epoxy grout, and MAPEGLITTER metallic coloured glitter, to grout joints. As for the other areas of the pool, joints were grouted with KERAPOXY epoxy grout.

Waterproofing below ground level

A few viewing galleries of the pool are located deep below the ground level and needed perfect waterproofing. The challenge of these operations, which had to be completed below ground level, were successfully met by using MAPEPLAN TU S, a synthetic waterproofing membrane manufactured by Polyglass (a Mapei Group's subsidiary), and IDROSTOP PVC BEC 32 ME, a PVC waterstop distributed on the UAE market by Mapei Construction Chemicals.



Find out more
KERAPOXY DESIGN

MAPEI PRODUCTS

Bonding stone and mosaics: Keraflex Maxi S1, Keralastic T, Keraflex, Kerapoxy
Grouting joints: Kerapoxy Design, Mapeglitter, Kerapoxy
Waterproofing below ground level: Idrostop PVC BEC 32 ME, Mapeplan TU S by Polyglass (Mapei Group)

mapei.com, mapei.ae

Works in the UAE

FROM TUNNELS TO DESERT RESORTS, MAPEI SUPPLIED BUILDING SOLUTIONS FOR DIFFERENT KINDS OF PROJECTS



Nakheel Mall - Dubai

With 300-plus outlets, Nakheel Mall is the new soul of Palm Jumeirah island in Dubai, featuring everything from family fun to fine dining, from toy shops to trampolines, cinemas to supermarkets. Depachika Food Hall is considered one of the centre pieces for the Mall and the designer's choice for the floor was a white floor with a "terrazzo alla veneziana" effect. Mapei proposed its ULTRATOP system. This ensured the creation of resistant, polished floors by applying ULTRATOP, self-levelling, ultra-fast setting cementitious mortar. The system also involved the use of PRIMER SN, QUARTZ 1.2, and ULTRATOP STUCCO.

Sharjah Mosque Sharjah

The Sharjah Mosque is the largest mosque in the Emirate of Sharjah. It was inaugurated by His Highness Sheikh Dr Sultan bin Muhammad Al Qasimi, Supreme Council Member and Ruler of Sharjah. It reopened its doors in 2019, after 5 years of building works.

It can accommodate up to 25,000 worshippers. Surrounded by gardens and water fountains, the complex looks imposing in its grandeur. White marble slabs were bonded inside 5 external landscaped structures with KERAFLEX MAXI SI adhesive.

All the water feature areas have been waterproofed with MAPELASTIC SMART. Joints were grouted with KERAPOXY epoxy grout in the fountains and with ULTRACOLOR PLUS cementitious grout in the water sliding area.



Al Sidra tunnels - Khor Fakkan-Sharjah

Al Sidra tunnel, with its 2.7 km length, is the longest covered tunnel in the Middle-East, part of the highway that connect the cities of Khor Fakkan and Sharjah. Five twin tunnels stretch along the highway, all featuring a 9.6 m width and 8.5 m height. The project for the Al Sidra tunnel requested the use of innovative technologies which Mapei was able to supply. A waterproofing system was installed on the whole perimeter of the tunnel and involved the use of MAPEPLAN TU S 20 and MAPEPLAN DISK supplied by Polyglass (Mapei Group). Mapei also supplied 800 tons of alkali-free accelerator MAPEQUICK AF 70 for the shotcrete used for the entire length of the tunnel.

Al Wathba Luxury Collection Resort and Spa - Abu Dhabi

Deep within the desert landscape of Abu Dhabi, Jumeirah Al Wathba Desert Resort & Spa is an intimate retreat located deep in the desert 50 km to the south east of Abu Dhabi and is spread over 20,000 m². The resort comprises 90 rooms, 13 villas, a 1,000-m² pool, six restaurants and bars. Mapei supplied the ULTRATOP system for completing 10,000 m² of decorative and resistant cementitious floors for the reception, rooms and villas. The system involved the use of PRIMER SN, QUARTZ 1.2, ULTRATOP, MAPECRETE STAIN PROTECTION, and MAPELUX OPACA.





Abu Dhabi Ghadan 21

AN AMBITIOUS GOVERNMENTAL PROJECT IS BEING IMPLEMENTED TO TRANSFORM URBAN AREAS IN ABU DHABI

The AED 50 billion (1.6 million US dollar) three-year "Ghadan 21" programme, envisioned and launched in 2019 by HH Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, Deputy Supreme Commander of the UAE Armed Forces and Chairman of the Abu Dhabi Executive Council, focuses on economy, knowledge and community.

The Executive Committee of Ghadan 21 has already launched more than 50 projects in its first year, with a slew of additional initiatives set to be implemented within 2021. In response to the global economic problems of 2020, the Executive Council developed an economic stimulus package to expedite major measures aimed at increasing business ease and lowering living costs. With an investment 1.5 billion Euros, the Ghadan 21 initiative aims to improve Abu Dhabi's competitiveness in four areas: business and investment, society, knowledge and innovation, and liveability. The UAE capital's development plan also includes thriving communal areas, revitalized streets, and a city-wide cycling network.

Colourful and safe urban areas with MAPECOAT TNS RACE track

Mapei contributed to this key project thanks to its long-time experience in designing and creating safe, resistant and beautiful urban areas. The company supplied MAPE-

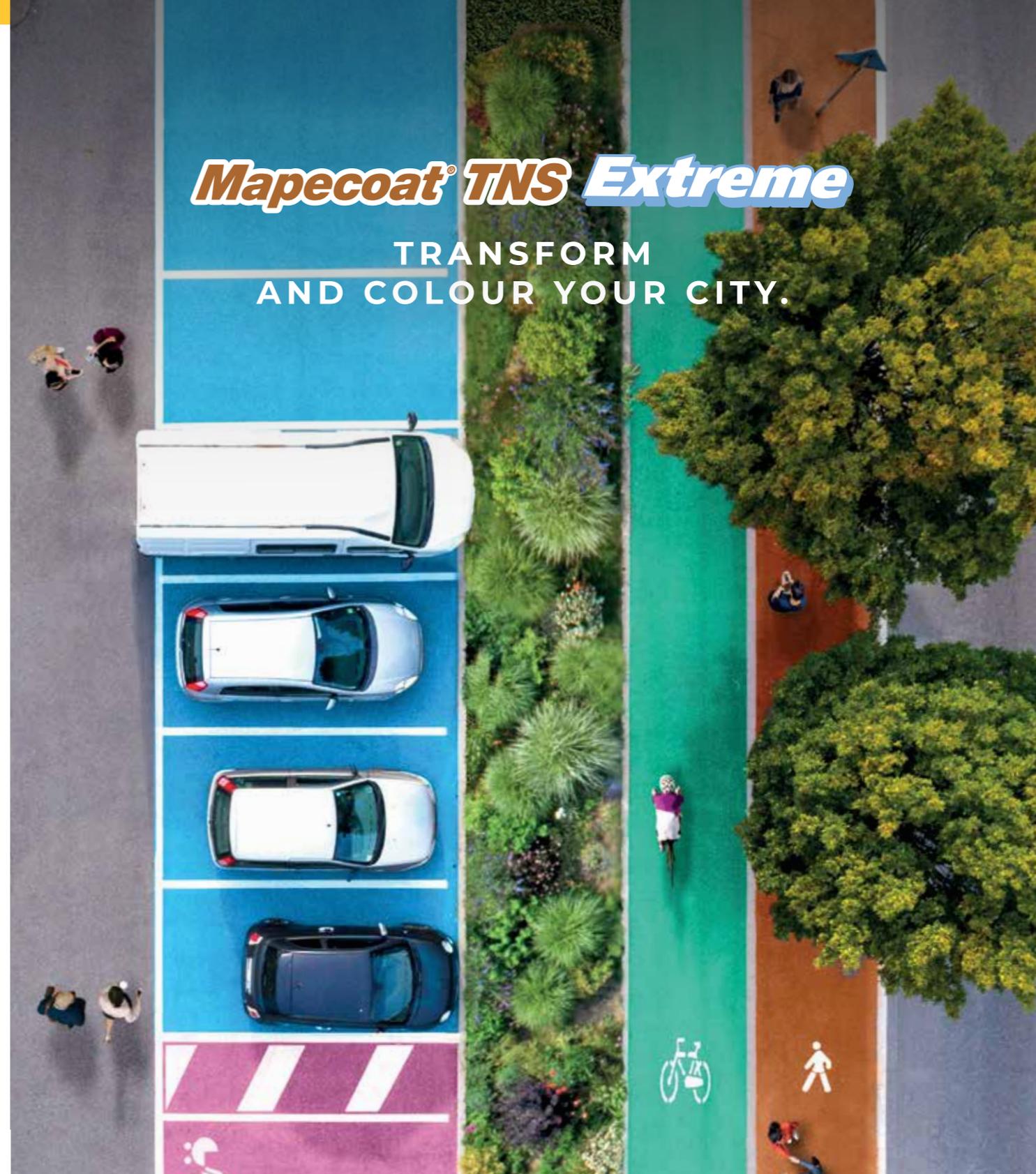
COAT TNS RACE TRACK to create long running/walking tracks, a kids play area, sport courts and parking areas in Abu Dhabi.

MAPECOAT TNS FAST TRACK is an acrylic waterborne, rapid film-forming, coloured coating with excellent physical and mechanical characteristics which is especially suitable to protect concrete and asphalt surfaces subject to a high level of footfall, such as racetracks, cycle lanes, pedestrian areas, playgrounds, access/exit routes in sports facilities, parking areas, etc, due to its special formulation. It may be used as a finishing coat on external flooring requiring a high level of slip-resistance. It allows highly durable, non-slip surfaces to be created that maintain their surface roughness over the years, including in wet conditions. The wide range of colours available, along with the other shades available using the ColorMap automatic colouring system, means that personalised colours may also be created.

In the Abu Dhabi project, MAPECOAT TNS RACE TRACK was applied after treating the substrates with MAPECOAT TNS PRIMER EPW two-component epoxy primer



Find out more
MAPECOAT TNS RACE TRACK



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.**

EVERYTHING'S OK
WITH MAPEI

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



Partner of Italy Pavilion at Expo 2020 Dubai

The best products for sustainable building

RECOVERY IN THE NAME OF SUSTAINABILITY AND HIGH STANDARDS OF LIVING

Following the enforced break due to the pandemic, the 38th edition of the International Exhibition of Ceramic Tile and Bathroom Furnishings, which was held in Bologna from 27th September to 1st October, met the expectations of everybody who was hoping for a rapid revival and recovery.

The event drew a large international audience with 38% of the total number of exhibitors coming from abroad. There were almost 63,000 visitors (24,000 from abroad) during the five-day trade fair, while the overall figure for people taking part was 56% of the number recorded for the 2019 show.

"The trade fair - so Giovanni Savorani announced, the President of Confindustria Ceramica (Association of Italian Manufacturers of Ceramic Tiles and Accessory Materials) - reasserted its importance on both the national and international stage for distributors, architects, installers and real-estate agents. The ceramics industry has been performing well for several months on various markets

thanks to such distinctive traits as healthiness, hygiene and environmental sustainability that are an intrinsic part of our materials but also due to a growing focus on high standards of living".

Environment sustainability and high living standards are issues that also guided Mapei in its selection and presentation of various new products. Visitors could find out about all these new products with the help of the realistic settings, stratigraphics and packaging on display at the main stand in Gallery 25-26 and another space in Hall 32.

Special attention was focused on the work of installers, not just by showcasing new adhesives and grouts but also through a selection of ancillary products and innovative accessories designed to help and simplify installation work. Useful tools for carrying out work to the highest possible standard paying attention to the most minute details. Mapei currently covers every aspect of installation work, supplying products for every stage in the process.



FROM LEFT. Mapei had its own space in Hall 32 at Cersaie and a large stand inside Gallery 25-26, which was visited by footballers from Sassuolo's men and women teams.



MAPEI AT YOUR SIDE THROUGHOUT THE ENTIRE INSTALLATION CYCLE





CERSAIE Grouts with unique performances



“ At Cersaie we presented various new grouts for joints. The first one was KERAPOXY EASY DESIGN: a certified, mould-resistant, easy to mix epoxy grout with improved workability, a smooth finish and a really soft, creamy consistency that makes it easier to grout and clean joints from 1 to 15 mm wide. The 40 colours available for KERAPOXY EASY DESIGN combine perfectly with the colours of Mapei cementitious grouts, particularly ULTRACOLOR PLUS. There is also a neutral version available, called Translucent, which is used in mixes containing MAPEGLITTER metallic coloured glitter or with the new product MAPECOLOR METALLIC, also presented at Cersaie: a metallic-effect powder pigment available in 5 different colours.



Enrico Geronimi.
Corporate Product Manager, Grouts and Ultracare Line, Mapei SpA (Italy)

Kerapoxy Easy Design

Grout with shining performance, colours with style.

Kerapoxy Easy Design is a two-component, versatile, decorative, acid-resistant epoxy grout, with very low emission of Volatile Organic Compounds (VOC), a bacteriostatic agent and BioBlock® technology. It is easy to apply and clean, ideal for grouting joints of ceramic tiles, glass mosaics and stone materials, that can also be used in combination with **MapeGlitter** and **Mapecolor Metallic**. It is ideal for joints from 1 to 15 mm wide and can also be used as an adhesive.

Kerapoxy Easy Design, the epoxy grout with shining performance, is available in a range of 41 shades that brings out the best from any tile system.



Ultracolor Plus

A grout that withstands time. New colours for every room.

Ultracolor Plus, the high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar, free from Portland cement, with water-repellent DropEffect® and mould-resistant BioBlock® technology, is ideal for grouting joints up to 20 mm wide. It is now available in a renewed range of 40 colours which bring out the beauty of any ceramic surface and add a touch of originality to any setting.



“ Another new release at Cersaie 2021 was the introduction of 12 new colours for the ULTRACOLOR PLUS range, which passes from 34 to 40 colours (even if we deleted 6 colours) to be even more in line with the latest trends in the ceramics industry. The product maintains all the characteristics that have made it such a favourite amongst cementitious grouts for joints of ceramic tiles, stone and mosaics, with its anti-efflorescence, anti-mould, rapid-setting and drying and water-repelling properties. We have also introduced new packaging featuring a photo of its most characteristic area of use, all with the aim of making it that much easier for end users to choose the right product.”



Enrico Geronimi. Corporate Product Manager, Grouts and Ultracare Line, Mapei SpA (Italy)

Professional cleaning for tiles

“ The products from the ULTRACARE line have been created to protect, clean and maintain surfaces, from preparation work to post-installation cleaning and to routine and non-scheduled maintenance work. The ULTRACARE range completes the traditional Mapei lines to provide a more complete offer: products for use in industrial, commercial and residential settings, and all suitable for restoring and maintaining surfaces. The ULTRACARE line offers a range of versatile, reliable cleaning products, integrating well-known products such as KERANET in its various versions for cleaning ceramic flooring after grouting with cementitious mortars, and KERAPOXY CLEANER, which is used for the same type of operation after grouting joints with epoxy mortars. Mapei, leader in the ceramic and stone installation sector, is taking on this new challenge armed with innovative, sustainable products and fully aware of the professionalism and competence that have always been synonymous with the Mapei brand. ”

Enrico Geronimi.
Corporate Product Manager, Grouts and Ultracare Line, Mapei SpA (Italy)



UltraCare Line

The new system for cleaning, protecting and maintaining surfaces. Versatility, reliability, innovation.

Next to the well-known products KERANET and KERAPOXY CLEANER, the new UltraCare line made its market debut with new cleaning products to be used once installation has been completed and then for the routine and non-routine maintenance of ceramic tiles, stone and glass mosaics; products that meet a whole host of cleaning needs on different types of worksites. Ready-to-use products available in concentrated solutions, and in both liquid and spray form, they can be used neat or diluted with water according to specific requirements.



UltraCare Multicleaner
UltraCare Multicleaner Spray
UltraCare HD Cleaner
UltraCare Keranet
UltraCare Keranet Easy
UltraCare Keranet Crystals
UltraCare Acid Cleaner
UltraCare Kerapoxy Cleaner
UltraCare Epoxy Off Gel



The best choice for installing tiles with less effort

Ultralite Flex Line

The "light" choice for all types of tiles, including large-size ones

The **Ultralite Flex** range of adhesives is the best choice for installing all types of ceramic tiles (including thin and large-size tiles) with less effort. It is the new product family of unique and innovative lightweight cementitious adhesives whose characteristics make the installer's job on site easier and effortless.

These high performance products are ideal for installing large-format porcelain tiles, also thin tiles, and suitable for installing all types of ceramic tiles, mosaics and natural stones.



Ultralite Flex
Ultralite S1 Flex
Ultralite S2 Flex
Ultralite S1 Flex Quick
Ultralite S2 Flex Quick

“ This year at Cersaie we improved our offer of ULTRALITE FLEX adhesives: both innovative and lightweight, they help make installers' day-to-day work that much easier. The range is made up of ULTRALITE FLEX, for routine installation of medium to large format ceramic tiles, ULTRALITE S1 FLEX, for installing large format tiles in both interiors and exteriors, and ULTRALITE S2 FLEX for more difficult applications such as installing tiles on façades, as well as ULTRALITE S1 FLEX QUICK and ULTRALITE S2 FLEX QUICK rapid-setting adhesives that are ideal when surfaces need to be put back in service immediately. One of the main characteristics of the range is that a standard bag contains only 15 kg of product but is enough to install the same m² of ceramic covering as with a traditional adhesive. All the products in the range have excellent workability, a creamy consistency and are very easy to apply. Thanks to the Low Dust technology, they give off much less dust during mixing. Apart from these advantages, they also adapt to the needs of designers and contractors looking for products of the highest quality. ”

Emanuele Rodolico.
Corporate Product Manager, Tile and Stone Adhesives, Mapei SpA (Italy)



CERSAIE

Safe installation with levelling systems and tile spacers



MapeLevel EasyWDG System

For a faster and easier tile installation.

Easy to install, **Mapelevel EasyWDG System** enables to obtain perfectly flat floor and wall coverings, even in the most difficult cases, such as the installation of large format tiles.

Just two components and one simple movement are enough to quickly and accurately prevent lippage between adjacent tiles. It does not need the use of pushing pliers. The right product for perfect installation in less time.



MapeLevel Easy System

Quick-thread screw levelling system for ceramic and stone coverings on floors and walls.

MapeLevel Easy System has been developed to help installers during tile installation, enabling them to prevent lippage between adjacent tiles and to obtain perfectly flat ceramic covering on floors and walls. It is highly versatile and is suitable for use with tiles in a wide range of thicknesses.

It includes a complete range of screw spacers in order to adapt to all installation patterns and offers lower consumption rates compared with traditional wedge systems.



Mapei Tile Spacer

Tile spacers for ceramic tiles and stone materials.

This is a range of spacers to be used when installing ceramic and stone tiles of various sizes, thicknesses and formats, on floors and walls. It is available as X-shaped spacers for straight patterns; T-shaped spacers for running/staggered patterns; Y-shaped spacers for hexagonal tiles; and wedge spacers to rectify and level-off small lippage when installing ceramics and stone.

They can be used in conjunction with the levelling systems from the **MapeLevel range**.

Mapei Tile Spacer X
Mapei Tile Spacer T
Mapei Tile Spacer Y
Mapei Tile Spacer Wedge S



MapeLevel Pedestal System

Paving support system for raised floors.

Versatile and quick to install, raised floors are the ideal solution to create easily removable floors or to house pipework and cable runs, and to install ceramic tiles on balconies, terraces and other external surfaces quickly.

The **MapeLevel Pedestal System** for the installation of raised floors is easy to apply and comprises a complete range of items.

MapeLevel Pedestal System supports have a self-levelling head, are adjustable in height and easy to install, enabling the creation of perfectly flat floors. Thanks to the wide range of pedestals available in different

heights and with the addition of the extension tubes, it is possible to compensate for any unevenness.

The innovative product features and the accessory items completing the system provide the best solution for a precise application in any technical details.

MapeLevel Pedestal
MapeLevel Pedestal XS
MapeLevel Pedestal XS-FH
MapeLevel Pedestal Clips
MapeLevel Pedestal Perimeter Clip



“ MAPELEVEL PEDESTAL is the Mapei solution for installing raised flooring: the system is available in five different heights and includes a range of accessory items consisting of extension pieces, heads in different shapes and sizes and smaller support pedestals up to 1,2 cm of thickness.

MAPELEVEL PEDESTAL supports are adjustable in height using the special adjustment key. They have self-levelling, floating heads that, if required, can also be blocked in position using a handy locking mechanism.

The supports come with heads in two different sizes (with 2 or 4 mm spacer tabs), as well as L-shaped heads for use when installing raised joisted flooring. The head has a rubber surface on the top moulded directly to the head to help installers as much as possible when carrying out their work on site and to have a product that can meet all and any type of need.

Andrea Annoni.
Corporate Product Manager, Complementary Products and Tools, Mapei SpA (Italy)



Mapeguard Board: a multipurpose panel

“ MAPEGUARD BOARD is the multi-purpose, lightweight waterproof panel by Mapei available in different sizes and thicknesses, from 7 mm thick measuring 60 cm x 130 cm up to 48 mm thick measuring 60 cm x 260 cm. This is a multi-purpose panel and a useful solution for many problems commonly encountered on site, such as levelling off uneven walls: a good example is masonry with traces of old adhesive that needs to be straightened up or waterproofed. MAPEGUARD BOARD is the solution

that could help in this case, but it can also be used to quickly create partition walls or furnishing features in internal surroundings such as bathrooms, kitchens, hallways, access areas, etc. MAPEGUARD BOARD is also very easy to handle and move around on site. And, what is more, it is very light, easy to transport and to cut. ”

Andrea Annoni.
Corporate Product Manager, Complementary Products and Tools, Mapei SpA (Italy)

Mapeguard Board

A multi-purpose, waterproof and lightweight panel, to be used as load-bearing substrate for installing all types of ceramic coverings.

The product is used in interiors for levelling walls and for creating room partitions, counter-walls and furnishing elements. The advantage of using **Mapeguard Board** lies in its fast and easy use in substrates levelling. The versatility of the panels guarantees maximum design freedom, allowing to create unique and entirely customised projects.



Mapeguard® Board

THE QUICK AND SIMPLE SOLUTION
TO DESIGN YOUR PERFECT ENVIRONMENT.



Mapeguard Board is the new handy and lightweight multi-purpose, waterproof panel that allows you to design and create internal settings with complete freedom: partition walls, wall linings, supports for furnishing elements, levelling off deteriorated masonry, and so much more. Surfaces may then be covered with ceramic tiles, mosaics and natural stone.



EVERYTHING'S OK
WITH MAPEI

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



ITALIA
LA BELLEZZA UNISCE LE PERSONE
BEAUTY CONNECTS PEOPLE
الجمال يجمع الناس



Gold Coast (Queensland, Australia) Jewel residential complex

MAPEI SOLUTIONS HELPED THIS LUXURY RESIDENTIAL COMPLEX TO OBTAIN A 5 STAR GREEN RATING

Jewel is a luxury development of three crystalline towers constructed on the internationally renowned Surfers Paradise beachfront, Gold Coast, in Queensland, Australia. It consists of 513 apartments and a 169-room luxury hotel: a first of its kind on the Gold Coast. The design for Jewel was inspired by the crystalline volcanic hook that forms the underlying structure at the coastline and, in particular, the Gold Coast's iconic hinterland. The all-encompassing towers boasts luxury resident facilities across all three buildings, including a Michelin Star restaurant, a grand ballroom, and 812 car spaces.

Sustainable products

for an award-winning project

The Green Building Council of Australia awarded the Jewel complex with a 5 Star Green Rating for the project's commitment to sustainability. Part of achieving this award included the use of building products with very low emission levels of volatile organic compounds (VOC) such as those supplied by Mapei.

The company's solutions helped complete the installation of porcelain tiles in the public areas, travertine in the apartments, mosaics on the walls in the public amenities, and cobblestone in the

outdoor areas.

KERAFLEX MAXI S1 deformable cementitious adhesive with extended open time and no vertical slip was chosen to bond porcelain tiles. Tile joints were grouted with KERACOLOR FF cementitious grouts while expansion joints were sealed with MAPESIL AC sealant to colour-match the grout.

Travertine tiles were installed in the luxury apartments on both walls and floors using KERAFLEX MAXI S1 as an adhesive and ULTRACOLOR PLUS as a grout for joints. The same system was chosen for the installation of large-size ceramic tiles in the lobby and podium area.



In the demanding environment of the kitchen, porcelain tiles were installed on the walls with MAPEMASTIC EASY, a paste adhesive manufactured and distributed on the Australian market by Mapei Australia. To ensure durability and utmost hygiene, ceramic tiles were installed on the floors with KERABOND PLUS adhesive mixed with ISOLASTIC latex additive. Joints of both coverings were grouted with KERAPOXY acid-resistant epoxy grout. The above-mentioned adhesive system was also used for bonding mosaic tiles in the spa and sauna, before grouting joints with ULTRACOLOR PLUS.

Outdoor areas were covered with stone installed with KERABOND PLUS + ISOLASTIC before grouting joints with KERACOLOR GG to ensure good compressive and flexural strength, good abrasion resistance, low shrinkage, and excellent cost-performance ratio.

1. A view of the Jewel complex comprising 513 apartments and a 169-room luxury hotel.
2. Stone was installed in the external areas with KERABOND PLUS + ISOLASTIC, before grouting joints with KERACOLOR GG.
3. In the lobby and podium areas large-size ceramic tiles were installed with KERAFLEX MAXI S1 and joints were grouted with ULTRACOLOR PLUS.



Find out more
KERABOND PLUS

TECNICAL DATA

Jewel, Gold Coast (Queensland, Australia)
Design: Arcadis, DBI Architects
Period of construction: 2018-2019
Period of Mapei intervention: 2019
Owner: Yuhu Group

Main contractor: Tilecorp Pty Ltd
Installation company: Scribed Flooring
Project management: Thinc Projects Australia Pty Ltd
Photos: Dyorn Taylor and Mindi Cooke
Mapei coordinator: Dyorn Taylor, Mapei Australia

MAPEI PRODUCTS

Installing ceramic tiles and stone materials: Kerabond Plus, Isolastic, Mapemastic Easy*, Keraflex Maxi S1
Grouting joints: Ultracolor Plus, Keracolor FF, Keracolor GG, Kerapoxy, Isolastic
Sealing expansion joints:

Mapesil AC, Mapesil LM

*This product has been manufactured and distributed on the Australian market by Mapei Australia

For further info on products:
mapei.com
mapei.com.au

Bolgar (Republic of Tatarstan, Russian Federation) Kol Gali Resort & Spa

CUTTING-EDGE SYSTEMS FOR A 25 M POOL IN A DREAM-LIKE SPA

Kol Gali Resort & Spa, a five-star hotel & wellness centre, was opened in 2018. The hotel is situated on a picturesque bank of the River Volga in the city of Bolgar, Republic of Tatarstan. The total area of the complex is around 25 hectares. Environmental friendliness, naturalness, care for the health of guests and the environment, combining the culture and traditions of the East with European hospitality – all this underpins the hotel's philosophy.

There are 147 Standard, Suite and Royal Suite rooms in the complex. The hotel has walking and cycling paths, a multifunctional sports ground, two tennis courts, a playground, an artificial lake, an am-

phitheatre, an outdoor swimming pool, summer terraces, a private beach. It is surrounded by forest and borders on a UNESCO World Heritage Site.

In the right wing of the hotel, there is a three-storey spa-complex, Dreams of Zuleikha, with a total area of 4,200 m², which is equipped with a 25-m swimming pool, hydro massage area, hammam, children's pool, gym, salt therapy room, cold plunge pool, a thermal zone with five types of baths, beauty parlour, SPA-cafe and vitamin bar.

Mapei's solutions

Mapei took part in the construction of the 25-m swimming pool in the Dreams of Zuleikha spa, supplying

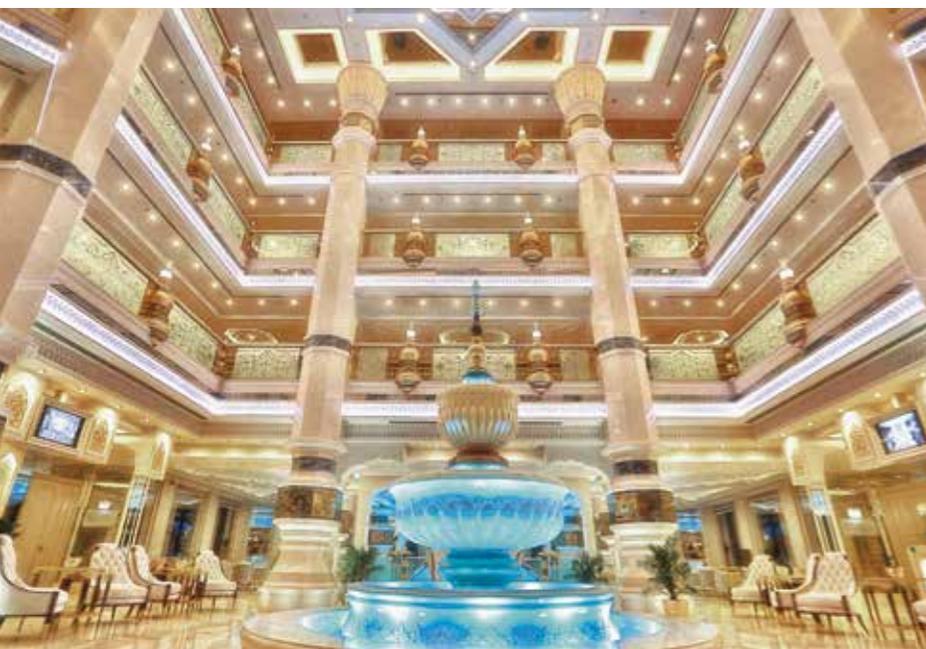
RIGHT. Kol Gali Resort & Spa is a five-star hotel & wellness centre, opened in 2018 on a bank of the River Volga.

BELOW. The hotel encloses a 25 m pool completed with Mapei products. For instance, ceramic tiles were installed inside the pool with ULTRALITE S1 adhesive.

products for building and waterproofing, as well as for installing ceramic tiles. The areas used for embedding floodlights and nozzles were sealed with MAPEPROOF SWELL. This is a special, single-component, hydro-expansive paste developed for elastic sealing of cracks in reinforced concrete and precast concrete elements subject to water leaks. When in contact with water, its volume increases and, if well confined, is resistant to considerable hydrostatic pressure.

MAPEFILL, a high-flow, non-shrink, cementitious anchoring grout, was used for fixing the elements in the embedding areas. When mixed with water, it forms a fluid grout without segregation that is able to fill intricate spaces. Due to its expansive agent, is characterized by a total absence of shrinkage in its both plastic and hardened phases and develops very high early flexural and compressive strength.

The concrete surface inside the pool was smoothed using NIVOPLAN PLUS, indoor and outdoor levelling mortar for walls and ceilings, mixed



with PLANICRETE synthetic-rubber latex to improve its adhesion. The same products were used to treat the surfaces in the outdoor pools. MAPELASTIC waterproofing membrane was then applied, with MAPENET 150 alkali-resistant fibre-glass mesh embedded in it to reinforce the waterproofing layer. ULTRALITE S1, a one-component, high-performance, flexible, lightweight, cementitious adhesive with extended open time, was chosen for bonding glass mosaic in the swimming pool. Due to its thixotropic properties there is no vertical slip when installing on walls, even with large-sized tiles.

All tile joints were grouted with KERAPOXY DESIGN decorative epoxy grout with excellent mechanical strength and durability.

ULTRALITE S2, a one-component, highly deformable, lightweight adhesive with extended open time, was recommended for bonding large porcelain tiles in public areas inside the hotel. The product is specifically developed for large-sized tiles to be laid on large surface areas without double buttering. Besides, because of its high buttering capacity on the back of tiles, it is particularly suitable for laying any type of thin porcelain tile using the double buttering technique.



Find out more
ULTRALITE S2

TECNICAL DATA Kol Gali Resort & Spa,

Bolgar (Republic of Tatarstan, Russian Federation)

Period of construction: 2018-2019

Period of the Mapei intervention: 2018-2019

Design:

Tatinvestgrazhdanproekt.

Main contractor: Gran

Installation companies:

Mapei distributor: LLC Stroy

Gip

Mapei coordinators: Sergey

Kuznetsov, AO Mapei (Russian Federation)

MAPEI PRODUCTS

Products for building:

Mapeproof Swell, Mapefill

Levelling substrates:

Nivoplan Plus, Planicrete

Waterproofing:

Mapelastic, Mapeband,

Mapenet 150

Installing ceramic tiles:

Ultralite S1, Ultralite S2

Grouting joints: Kerapoxy Design

Sealing expansion joints:

Mapesil AC

For further info on products see mapei.com and mapei.ru

COMPLETE SYSTEMS
FOR INSTALLING
STONE AND
ARCHITECTURAL
STONE PAVING



Marble: Italian exports on the rise again



The 56th edition of Marmomac, the international trade fair showcasing the stone manufacturing industry, drew to a close on 2nd October in Verona (Northern Italy). It attracted 756 exhibitors (427 from Italy and 329 from abroad) representing a total of 39 different countries.

In general, the industry has seen a 1% increase in exports of both rough and processed marble materials during the first half of 2021 compared to the same period in 2019.

China is the biggest purchaser of Italian marble accounting for over 50% of overall sales worth over 100 million Euros. There has been an 83% increase in exports of blocks of Italian marble during the first six months of this year compared to 2020.

Italian technology for working marble has also boomed abroad: during the first six months of 2021 exports of technology increased by 2.6% compared to the first six months of 2019. United States are the leading importers with a share worth over 75 million Euros, a 58% increase compared to the first six months of 2020.

Mapei's new products for the stone industry

Following the interruption caused by the health emergency, Mapei was back at the trade fair again this year, presenting its complete systems for installing natural stones and other architectural stone paving.

For architectural floors subject

to heavy traffic, Mapei presented MAPESTONE PFS2 FLEX, a preblended mortar with a low elastic modulus and three times greater pull-off strength compared to traditional grouts, properties that allow it to absorb strains and stresses caused by the passage of vehicles over stone paving and to increase the durability of paving.

For upgrading stone floors, even those of notable historical worth, the company presented MAPESTONE CALCIX, a cement-free system perfect for areas subject to light foot/vehicle traffic. It is composed of two preblended mortars, one for the installation bed (TFB) and one for grouting joints (PFS), both of which are NHL-based (natural hydraulic line), inorganic Pozzolan materials, rich in amorphous silica, suitably graded aggregates and specific additives. The company's solutions to safely install all types of stone materials in both interiors and exteriors were also in the spotlight at Marmomac 2021.

Mapei is continuing its partnership with UNI (the Italian Association for Standards): the company even had its own corner about UNI 11714-1 in its booth at Marmomac 2021, providing information about the correct design, installation and maintenance of stone surfaces.



FIND OUT MORE ABOUT
MAPEI SOLUTIONS
FOR MODERN ROAD
SURFACES IN STONE

MARBLE MADE IN ITALY

(Variation between the first six months of 2021 and first six months of 2019)

+1%
INCREASE IN MARBLE
EXPORTS

+2.6%
INCREASE IN EXPORTS
OF ITALIAN TECHNOLOGY
FOR WORKING MARBLE

756
EXHIBITORS
AT MARMOMAC 2021

Assisi (Province of Perugia, Italy)

The new Saint Francis Road at Santa Maria degli Angeli

THE MAPESTONE SYSTEM HELPED REBUILD THE ROAD ALONGSIDE THE BASILICA, "HEIR" OF THE CHURCH WHERE THE SAINT FOUNDED HIS ORDER

The "new" St. Francis road is the central part of the straight around 600 m long running in Assisi (Central Italy) along one side of the Basilica of S. Maria Degli Angeli, the large church wanted by Pope Pius V and built between 1569 and 1679 in Assisi, and today still welcoming worshippers visiting the Basilica for the Pilgrimage of Forgiveness (31st July to 2nd August), the ritual so strongly desired by St. Francis.

The complex incorporates the various structures of the Franciscan convent built around the Porziuncola church, which dates back to the 10th-11th century. Dedicated to S. Maria Degli Angeli, St. Francis relocated to this church in 1205, which he then restored and where he founded the Franciscan Order.

Inside the church there is also the Chapel of Transit, a small room of

the infirmary where St. Francis died on 3rd October, 1226. So it is hardly surprising that the road is dedicated to the patron saint of Italy and is a highly significant transit and connection route, which was also indicated on the most ancient prints and maps of the area.

Durable and resistant floors

The paving, installed between 2004 and 2006 using 10/12 porphyry blocks laid in straight lines, had been in a precarious condition for some time, due to deformations and hollows in the paving units, widespread subsidence, rutting, detached blocks, evidence of localised repair work to the paving with grouting between the blocks using cementitious mortar and even areas patched up by replacing the porphyry paving with bitumen.

The pathway, therefore, was a daily risk to the safety of pedestrians and passing vehicles.

This is why the local council decided to commission a project to carry out targeted maintenance work on the road, and at the same time applied for funds from the relative government ministries to cover the costs.

Their aim was to make the new stretch of road much safer and more durable and to drastically reduce maintenance costs.

The project was split into two phases, starting with the removal and recovery of the old porphyry paving blocks, demolition of the concrete foundation slab and the repair and replacement of the various damaged or deteriorated utilities under the road.

The second phase regarded the installation of the various layers for



The surface of the paving upon completion of the work.

the new paving, which was carried out after compacting the substrate, verifying its load-bearing capacity by load plate testing, and installing a new, properly dimensioned foundation slab by using DYNAMON XTEND W401 R, acrylic super-plasticizer for concrete. The actual paving blocks weren't installed in straight lines as before, but in an overlapping arc pattern in order to re-use more of the old blocks, and the project specified using the MAPESTONE SYSTEM consisting of MAPESTONE TFB 60 for the installation bed and MAPESTONE PFS2 FLEX to grout

joints. Specifically formulated for making cost-effective, durable, urban stone paving with lower maintenance costs, including paving exposed to high levels of traffic, the MAPESTONE SYSTEM includes a range of products in exposure class XF4 that comply with prescriptions and the requirements of both Italian standard UNI 11714-1:2018 and European standard EN 206-1 to guarantee the durability of the paving. Thanks to its resistance to freeze-thaw cycles, de-icing salts and rain, paving made using the

MAPESTONE SYSTEM is a monolithic system that doesn't fail and remains unchanged over time, thereby eliminating the need for maintenance work for a number of years.

The paving blocks, measuring around 5 cm thick on average, were installed using MAPESTONE TFB 60 pre-blended mortar, which was supplied in bulk quantities in silos for more efficient and cost-effective logistics and for the benefits this supply solution brings in terms of sustainability. To grout joints (10 mm wide on average), on



INTERVIEW WITH
DAVID DRAGONI,
DIRECTOR OF WORKS

HOW WE COMPLETED THE JOB IN RECORD TIME

It took less than 9 months to pass from the design stage to delivery of the finished road, in conjunction with the celebrations for the Pilgrimage of Forgiveness. Mr. Dragoni, can you tell us about the key moments and, if there are any, the secrets to completing this work in record time?

We didn't encounter any particularly significant surprises when we were carrying out the work with respect to what we had already taken into consideration during the design

phase, which is why we managed to work within the planned time frames. Also, most of the work was carried out during lockdown so we didn't have any of the obstacles or inconveniences we would have had during the busiest part of the tourist season.

Right from the very start you focused your attention on the technical and executive aspects concerning the mechanical properties and the durability of

the paving package. What points were the most demanding?

Our attention was particularly focused on the installation of the entire package: from compacting the road foundations and verifying them with load plate testing, to the foundation slab which initially was to have fibres only, but was then made with steel reinforcement to guarantee its mechanical properties even further. We also took several measures for the actual paving, such as the inclusion of a series of semi-cir-

cular expansion joints following in the same shape as the paving.

What have you learned from this site from a professional and personal point of view?

That right from the very start it was very important to have created a relationship of synergic collaboration with all those who played a part in the project, from both a technical point of view and from a practical point of view for the skill-set required from the workers who actually in-

stalled the paving blocks.

If a colleague were to ask you for some advice when taking on a similar assignment, what would you say to them?

I would advise them to carry out a preliminary assessment of the actual conditions of the area you will be working on during the design phase and to choose the most suitable solutions according to the traffic conditions specified by UNI 11714-1:2018 standard.



1. Installation of the paving with MAPESTONE TFB 60.
2. Grouting the joints with MAPESTONE PFS2 FLEX.

the other hand, the product used was MAPESTONE PFS 2 FLEX, the new, pre-blended mortar from the MAPESTONE PFS range.

Thanks to its low modulus of elasticity and a pull-off value three times higher than traditional grout, MAPESTONE PFS2 FLEX has the capacity to absorb stresses and strains from passing vehicles more effectively. These properties help increase the resistance of joints when in service, which plays a key role in guaranteeing the durability of paving.

Again in compliance with UNI 11714-1:2018, because the paving blocks were installed on a compact bed, the project also specified the inclusion of perimeter joints where the paving comes into contact with the lateral pavements and expansion joints at regular intervals following the arc pattern. The expansion joints were sealed with MAPEFLEX E-PU 21 SL, a two-component, castable, epoxy-polyurethane sealant with high resistance to chemicals, high mechanical properties and high modulus of elasticity.

Designed in November 2020 and commissioned in January 2021, work on the site started in February and was completed at the end of July, perfectly on schedule and ready to welcome the flocks of pilgrims who, after months of absence, were once again able to start visiting the places of worship of St. Francis.



Find out more
MAPESTONE PFS2 FLEX



Florence (Italy) Piazza dell'Isolotto

“The largest investment ever by Florence City Council on a piazza away from the old part of the city”. This is how local authorities defined the refurbishment and redevelopment of Piazza dell'Isolotto, a square that, over the years, had become a “confusing mess” and lost its identity as a hub bringing residents of the area together.

The result of an intense journey involving local residents, and a winning tender chosen from amongst one hundred bids from professionals from all over Italy, the project was for the design of a new square that would restore the site's role as a commercial and social hub, the beating heart of the local community: home of the local daily market but, above all, a place for people to meet and socialise or hold events.

The stone, in varieties typical of the Florence area such as Florentine Pietraforte and Colombino, was installed

in traditional layouts, such as regular, linear patterns, or in more original patterns, using large irregular, thick blocks.

For the paving package in the areas subjected to the highest levels of traffic, such as the market place and carpark, the project specified the MAPESTONE SYSTEM, which included an installation bed of MAPESTONE TFB CUBE and MAPESTONE PFS2 FLEX to grout joints.

The product used to install the slabs, with an average thickness of around 5 cm, was MAPESTONE TFB CUBE, a pre-blended mortar supplied in bulk quantities in silos.

Because of the shape of the stone elements, their layout, the size of the grout lines and the loads and stresses they would have to withstand, they were then grouted with MAPESTONE PFS2 FLEX pre-blended, low-elastic modulus (25 GPa) mortar.

TECHNICAL DATA

Saint Francis Road, Assisi (Province of Perugia, Italy)
Year of the Mapei intervention: 2021

Intervention by Mapei: supplying products for installing architectural stone paving

Used materials: porphyry blocks from existing paving
Client: Assisi City Council

Main contractor:

Zambelli Srl

Installation company: Zambelli srl

Mapei coordinators: Grazia Signori, Fabrizio Maltoni, Patrizio La Montagna, Renato Cucchiarini, Costanzi F.Ili, Mapei SpA (Italy)

Mapei R&D mobile lab: Giovanni Fusari, Mapei SpA (Italy)

MAPEI PRODUCTS

Installing and grouting

stone paving: Mapestone TFB 60, Mapestone PFS2 Flex

Sealing expansion joints: Mapeflex E-PU 21 SL

Admixtures for concrete: Dynamon Xtend W 401 R

For further info on products visit mapei.com

TECHNICAL DATA

Piazza dell'Isolotto, Florence (Italy)

Period of the intervention: 2020-2021

Intervention by Mapei: supplying products for installing architectural stone paving

Client: Florence City Council

Designers: Rossi Prodi Associati srl, Antonio

Terrana, and Vittorio Frontini

Works direction: Antonio Terrana, Vittorio Frontini

Project manager:

Michele Mazzoni

Main contractor: Jacini srl

Stone installation

company: Alco srl

Stone supplier: Pietra Serena Group srl

Photos: Giacomo Tapinassi

Mapei coordinators:

Marcello Deganutti and Massimo Lombardi, Mapei SpA (Italy)

MAPEI PRODUCTS

Installing stone paving:

Mapestone TFB Cube

Grouting joints:

Mapestone PFS2 Flex

For further info on products visit mapei.com

Augmented Architecture

A PARTNERSHIP BETWEEN MAPEI AND THE ARCHITECT CINO ZUCCHI AT FUORISALONE DESIGN WEEK IN MILAN

There was a feeling of “post-pandemic recovery” at the Salone del Mobile (Milan International Furniture Show) that took place from 5th to 10th September at the Milan-Rho Trade Fair.

The same could be said about the ‘Fuorisalone’, a highly renowned event held in conjunction with the furniture show that sets the city of Milan alight and attracts thousands of visitors to showrooms, exhibitions and events.

Despite the tricky moment, Milan has shown once again that it is a “global platform of design” - as the architect Stefano Boeri noted - accommodating new projects and hosting themes that weave together and interact on an ever deeper level: innovation, sustainability, new lifestyles (notable attention was focused on spaces for agile working) and creativity. Creativity was, indeed, the focus of an exhibition-event which, just like every other year, the magazine *Interni* organised at the University of Milan (this year it was also held at the Botanical Garden in Brera and the Audi City lab in Via della Spiga). The chosen theme was ‘Creative Connections’ referring to the possibility - and perhaps even need - for virtuous connections and relations between leading creative people, designers, businesses and distribution networks to give concrete shape to ideas and projects coming from different places and cultures, all guiding us towards more sustainable scenarios. The installations, bearing the hallmark of leading designers and constructed by companies at the cutting-edge in terms of experimentation, gave their own interpretation to “the dream of a more beautiful and

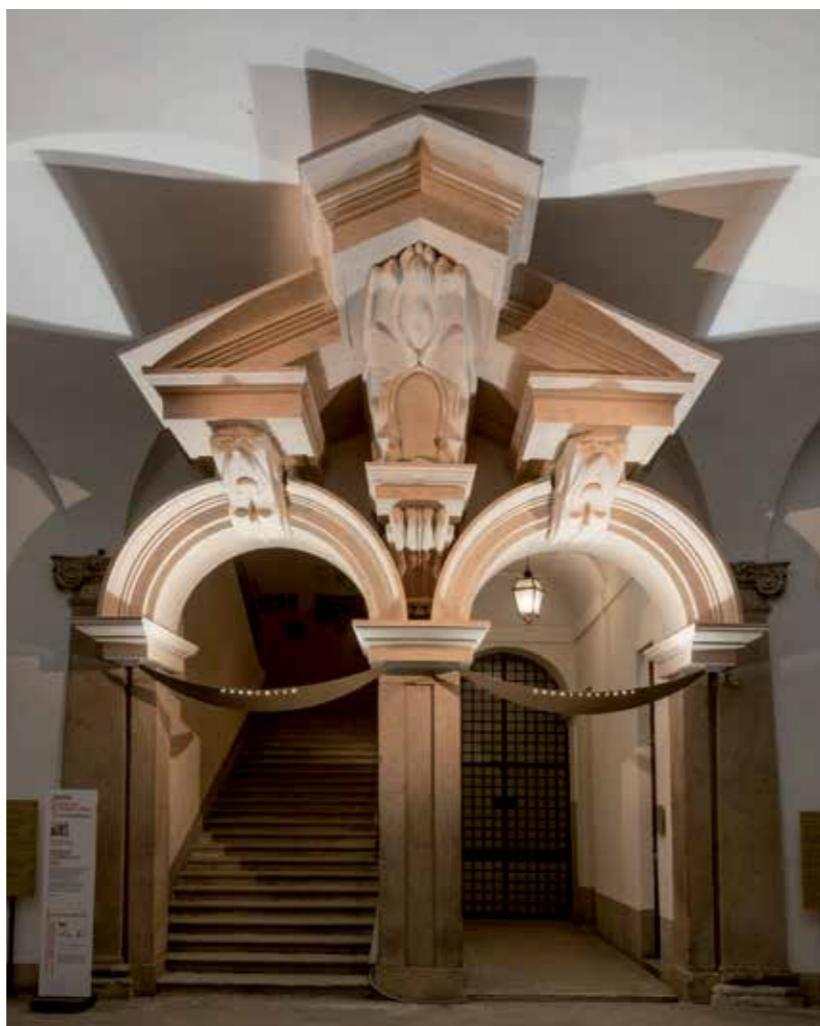
better world in all its linguistic pluralism capable of creating dialogue with people and the environment”, as Gilda Bojardi, the editor-in-chief of *Interni*, emphasised.

Mapei with Cino Zucchi for "Creative Connections"

Mapei was one of those cutting-edge companies that contributed to the exhibition by presenting “Augmented Architecture”, a work designed by the archi-

tect Cino Zucchi and his daughter Chiara, a designer and multimedia artist.

Mr Zucchi designed a simple but highly eye-catching feature at the gateway and north staircase of Richini’s courtyard at the University of Milan: a large mask with a polymeric surface reproducing the top of the gateway itself, magnified six times along its horizontal axis. The top of the gateway had, in this way, been “blown up” and deformed to



focus on its distinctive traits and the features of the mouldings and sculptures.

This resulted in the creation of a highly significant work embodying a creative process that the architect associates with the very essence of Mapei, which binds together different elements to give life to new forms or enhance and restore old ones.

“Augmented Architecture attempts to interpret both the gateway and the company Mapei, looking for a temporary intersection between their important histories and current states - so Zucchi stated -. Mapei products do not have their own form, they act as a means of bringing together



existing constructions or re-readings of them through operations designed to protect, colour or insulate. That is why this work looks so simple and effective, capable of directly conveying the company’s commitment to conserve and reinterpret human environments by increasingly focusing on the concept of durability, recovery and sustainability”.

“Augmented Architecture” was created by first making a 3D scan of the gate, which had previously been studied by the architect Zucchi for one of his books. Finally, the sculpture was suspended from the ceiling and completed with a polymeric coating creating vibrant light effects.

Creativity and a rereading of forms in the installation in the University of Milan

A DIALOGUE BETWEEN INNOVATION AND SUSTAINABILITY

Augmented Architecture was also the subject of a talk that was part of the “Project for Change” series devoted to technological innovation and protecting the environment, which was held at the Academic Senate Hall of the University of Milan on Saturday 4th September.

At this meeting, the architect Cino Zucchi conversed with Veronica Squinzi, Mapei’s CEO, and illustrated the process that led to the creation of this original installation.

She said: “After the interruption due to the pandemic, some difficult moments and plenty of uncertainties, Mapei is once again at the FuoriSalone to support the revival of the furniture and building sectors and reassert Milan’s position at the very forefront of design and industry. We are delighted to be partners with the architect Cino Zucchi, who shares values we hold (such as restoring and conserving the historical-artistic heritage and a commitment to increasingly long lasting and sustainable building) and loves this place and this city as much as us. With incredible sensibility, expertise and an ability to see the essence of the things, in this project Cino Zucchi has managed to embody the very nature of Mapei and its contribution to the building world”.



Veronica Squinzi, Mapei’s CEO, talks with the architect Cino Zucchi during the “Project for Change” series of meetings held at the University of Milan during the Fuorisalone Design Week.

INTERVIEW WITH
THE ARCHITECT
CINO ZUCCHI



Re-proposing the old in a contemporary key

How have you interpreted Creative connections, the theme chosen for the Interni exhibition at Fuorisalone 2021?

What is known today as modern architecture and design was the result of two assumptions that needed to be made at the start of the modern era, which we could put at around 1920. These two assumptions were the cancellation

of traditions and experience and the idea of a standard, that is, the creation of a prototype that could then be reproduced in thousands of examples.

Since then, values have changed to a certain degree: there is the emergency with the environment that wasn't felt in the same way a hundred years ago, but I also believe that, after Andy Warhol,

a new possibility opened up: the manipulation of the existing versus the degree zero of the start of modernity.

The other thing is the rediscovery of craftsmanship, bespoke design, even special designs, as opposed to the theme of industrial-scale production. I believe that these are the two conditions of contemporary architecture and design. We are able to vary, manipulate and, at times, even make a collage of existing things to achieve new results and we can mix industrial production with ways of doing things in a more personalised way or tied to a specific context. These two conditions can then be expressed in a thousand different ways.

Could you "narrate the story" behind your installation?

Thanks to a series of fortuitous circumstances I was commissioned by Mapei for an installation for the so-called "del Richini" gate in the large courtyard of Ca' Granda complex. When I was a young man, purely by chance, in 1989 I published a book about Milan courtyards and I redesigned that gate with the Indian ink. While all the previous installations generally superimposed something over the gate itself, this time

I chose to be in line with the spirit of Mapei, which is a company that binds together those parts of building work that don't have such a strong form, as with other components of building work, but in reality it is what holds things together and often focuses on restoration and consolidation of existing buildings, and so forth. These two characteristics of Mapei – the binder and the concept of continuity of a building – gave me an idea, which is absolutely stunning.

To do a 3D scan of the existing baroque gate, full of mouldings and sculptures, and deform it from one into ten, as if it were exploding so as to emphasise, like in a caricature – like Pinocchio's nose – its salient characteristics and show how operating on something existing can generate a very strong form with new meaning. Instead of covering it, the sculpture is projected towards the spectator.

Was the result of your collaboration with Mapei an interesting experience?

A visit to the Mapei R&D laboratory is a unique experience. The other day I also went there with my daughter, Chiara (in the picture on top of the page), who helps me with my work, so that she could really see the relationship between precision, scientific rigour and the desire for something new. Douglas Hofstadter wrote an essay called "Variations on a theme as the crux of creativity" in which he says that, even in the field of science, sometimes the greatest innovations can start by applying just slight variations to something already known. As if I was to generate a slight deformity and then follow its path, in the sense of Lucretius's atoms theory. It's the famous Clina-men by Lucretius; this is a difficult citation but necessary in order to

define Mapei research, which is a little research and a little cooking, as if with stills or pans you are constantly changing the proportions, sometimes opening completely new paths but there is so much attention paid to guaranteeing results and testing, which is why the union between innovation and rigour is so wonderful.

Which is, after all, what we do in our studio. I often stimulate people to look with their eyes without prejudice, but often I stimulate them to be extremely precise in their outcome.

We seem to be starting up again and we are finally going back to making a connection "with creativity". What are your thoughts on this?

The most wondrous part of Milan's Salone del Mobile exhibition is the FuoriSalone event because otherwise it would be just the same as many of the other exhibitions around the world. My friends come to see it from all around the world as this is an event that involves the entire city and brings different types of public together. It's not just an exhibition for a particular sector, it's a celebration of Milan. The fact that *Interni's* main event is held inside the courtyard of Ca'



The architect Cino Zucchi with his daughter Chiara.

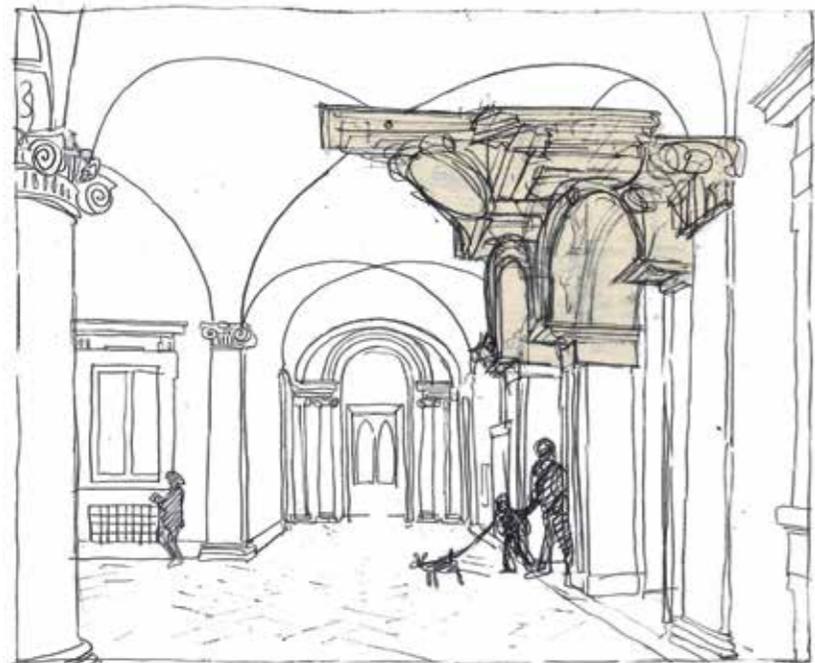
Granda is another wonderful thing. The courtyards of Milan are more beautiful than the piazzas and the way a historic space can also accommodate something more contemporary with enormous generosity is a deeply-felt theme. We could say that, in the same way that we are currently able to live in a Palladian villa while using a Macintosh, we are asking these spaces to accommodate the extremes of innovation. In moments such as these we need to be able to change a little and adapt to things as events unfold without losing sight of the final objective, which is to create connections.

Architects and designers used to be like demiurges, contemplating all their knowledge within, in almost a Leonardo da Vinci's way. Today they are the actual connectors and they are able to take the idea of a chosen field and, by deforming it, come to a different conclusion. I believe in the connection between intelligent people that know their limits but are creative enough to understand the unexpressed resources of other disciplines. This is a marvellous condition for producing design and architecture today.

CINO ZUCCHI

Born in Milan in 1955, Cino Zucchi graduated in Science in Art and Design at the M.I.T. (Massachusetts Institute of Technology) in Boston and in Architecture at the Milan Polytechnic, where he is full professor. He has also been a John T Dunlop Visiting Professor at the Graduate School of Design of Harvard University. Author of articles and books on architectonic and urban theory, he has participated in various editions of the Triennale di Milano and the Biennale di Architettura di Venezia exhibition, where he was curator of the Italy Pavilion in 2014. He also acted as Chairman of the jury for the European Union Prize for Contemporary Architecture/Mies van der Rohe Award 2015.

In collaboration with the Cino Zucchi Architetti studio, he has designed numerous public, residential, commercial and office buildings, master plans and development plans for industrial and historic areas and has participated in numerous national and international competitions. Amongst his most noteworthy projects are the former Junghans industrial site in Venice, the former Alfa Romeo-Portello Nord works in Milan, the master plan for Keski Pasila in Helsinki (Finland), the National Automobile Museum in Turin and the headquarters of Salewa in Bozen (Italy).



A sketch of the work "Augmented Architecture" created by Cino Zucchi for the courtyard of the University of Milan for the Fuorisalone Design Week.



2021 UCI Road World Championships: an amazing atmosphere

FANS FLOCKED TO THE CYCLING EVENT WITH MAPEI AS THE MAIN PARTNER

Mapei's partnership with the International Cycling Union (UCI) continued at this year's UCI Road World Championships held in Flanders, Belgium. For Mapei, a UCI's Main Partner, the World Championships are a wonderful means of communication in so many different countries. Banners, flags, arches and panels displaying the Mapei brand were constantly visible on live TV broadcasts and repeats.

A HUGE LIVE AND ONLINE AUDIENCE

The 2021 Road World Championships in Flanders were a magnificent event watched live by a huge live audience. Over the seven days of competition, two million fans crowded the roads of Flanders enjoying an amazing atmosphere. As usual Mapei SpA and Mapei Sport Research Centre staff attended the event, while the Mapei Benelux Mar-

keting team organised an event for clients held in a hospitality area near the Mapei motorhome. It included plenty of on-the-spot interviews with top riders and hectic activity on social networks. The Mapei Motorhome provided a perfect congregation point particularly on the first day in Bruges and during the road races that finished in Leuven, where a total of 650 guests got the chance to use either the Mapei Hospitality area or the UCI lounge near the finishing line. Beside numerous Belgian guests, there were also guests from the Netherlands, France, Italy and other countries. French fans were overjoyed when Alaphilippe received his gold medal on the top of the winners' podium. Another focal point of the event was the headquarters of the client André Celis. The road races all went past this spot that had its own hospitality area offering a great view of the course.

SPECIAL TESTIMONIALS

Mapei Benelux got two former cyclists of the Mapei Professional Cycling Team involved in their events for the 2021 World Championships: the Belgian cyclist Johan Museeuw and the Italian rider Andrea Tafi, who both starred in adverts and video clips connected with the Championships. These two great



Mapei's guests were welcomed in special hospitality areas in Bruges and Leuven.

former riders helped make five video clips, one about Mapei's close ties with cycling and the other four focused on the different cities where the races began and finished, each linked with a Mapei product. The bikes Museeuw and Tafi used for shooting the videos were signed by the two riders and auctioned off with the takings going to the families of victims of the floods in the Grèce-Hollogne region, thanks to the help of King Baudouin Foundation. "It has been wonderful to represent Mapei at a World Championships in Flanders, the very heart of cycling" so Tafi told us. "Being here alongside Johan has allowed me to enjoy the same kind of excitement I experienced when I raced. Even though the Mapei cycling team stopped racing 9 years ago, the Group still makes a wonderful contribution to cycling in general."

THE UCI ROAD WORLD CHAMPIONSHIPS PARTY

On the eve of the professional road race, the UCI organised a gala dinner to celebrate the 100th anniversary of the Road World Championships that were held for the first time in 1921. 55 former road world champions attended the celebrations in Leuven, including those riders who

won the world title while riding for the Mapei team: Abraham Olano, Johan Museeuw, Oskar Camenzind, and Oscar Freire. The riders also included Cadel Evans, who became Road World Champion in Mendrisio 2009, after being trained at Mapei Sport, and other world champions like Francesco Moser, Alessandro Ballan and Eddy Merckx.

RESULTS: MAPEI SPORT CELEBRATES

The 2021 World Road Championships in Flanders were a wonderful event for Italy right from the first day when Filippo Ganna won the Men Elite Individual Time Trial. Back during his first season as an amateur, when he rode for Viris, Ganna used to undergo testing at Mapei Sport. Ellen Van Dijk won the Women Elite Individual Time Trial and, since she is a member of the Trek-Segafredo team, she takes regular tests at Mapei Sport, too.

The Men Under 23 Road Race was won by Filippo Baroncini, who will be undergoing testing at Mapei Sport from January onwards as a member of Trek-Segafredo team. From January the centre will also help train Elisa Balsamo, who won the Women Elite Road Race in Leuven. "We are delighted to help Elisa – so Andrea Morelli, Head of Analysis Movement Lab at Mapei Sport, noted – who is renowned for her professionalism". Balsamo previously won the junior title at the 2016 World Championships in Doha, when Mapei was again the Main Sponsor of the UCI Road World Championships.

"The junior Manuel Oioli, who also undergoes testing and training at Mapei Sport – so Morelli added – performed really well finishing seventh in the road race, while the Portuguese rider, Antonio Morgado, who finished sixth, also underwent assessment testing at Mapei Sport after the European Championships in Trento. Gradually increasing the training load without taking shortcuts is vital for a junior cyclist. Here at Mapei sport we are keen to maintain this approach".

A gala dinner was organized to celebrate the 100th anniversary of the UCI Road World Championships with 55 former champions taking part.



Betting on our young players. Who will be the new revelation?

THE SPORTS DIRECTOR, GIOVANNI ROSSI: "OUR YOUNG PLAYERS ARE VERY MUCH IN THE SPOTLIGHT, AND WE NEED TO GET USED TO BEING IN THE SPOTLIGHT"

Sassuolo is now playing in its ninth consecutive season in the Italian Serie A under its new team manager Alessio Dionisi. The team has played well so far against tough opposition, although there have been some minor hiccups. "I think that, after just a few matches of the season, it is too early to try and compare the Sassuolo team built up by De Zerbi over a three year long project - so Giovanni Rossi noted, the club's Sports Director - and Dionisi's new team that has only been playing together for three months. There are definitely similarities in the style of play and mentality of both teams, which will inevitably lead to good results in my opinion". The team sponsored by the Mapei Group

had some difficult fixtures at the beginning of this season. "But that is not all - so Mr Rossi went on to say -, we've had plenty of issues to deal with. There were great expectations due to our successful results last season, but the transfer market was tricky and a number of our players took part in the European Championships, playing for either Italy's winning team or other national teams. All the games this season have been won or lost by just one goal".

TRAORE' AND THE RUN OF THE BALL

"We have always been competitive in all our matches - so Mr Rossi added - none of the games were over until the final whistle. For example, we

had no luck against either Roma or Inter Milan. Against Roma Traorè hit the post. If he had scored, we may well have won that game. And in the match against Inter-Milan at Mapei Stadium there was a very dubious clash at the end of the first half when one of our forwards went down after colliding with their goalkeeper Handanovic. We could easily have a few more points".

Nevertheless, Mr Rossi admits that a few points do not really make much difference so early in the season: "The important thing for Sassuolo is to improve, make fewer mistakes and play more consistently. We have always put in good performances, but the results have not always been as good".

Plenty of experts are using the word "revelation" to describe certain Sassuolo players.

"More than any individual player - so he told us - I would rather talk about the team as a whole. Our young players are very much in the spotlight, and we need to get used to it". The midfielder, Davide Frattesi, is definitely one of the revelations so far; Sassuolo had loaned him out to a second division team, but he came back to the club in July. "All the young players in our squad have progressed in their own way and, as regards Frattesi, we here at the club decided that the best option was to loan him out so that he could gain experience elsewhere. Rogerio, Müldür, Lopez, Scamacca, Raspadori, Boga and Frat-



Sassuolo's Sports Director Giovanni Rossi and team manager Alessio Dionisi.

teshi are all young and improving players. I realise that individual players are important, but I prefer to analyse the team as a whole".

NEVER-ENDING TRANSFER MARKET

Transfer market rumours about Sassuolo forwards are continuing well into the autumn. Do you think players like Raspadori, Scamacca and Berardi might be distracted by reading every day in the papers that they are about to move to some new club or other? "They need to get used to it, it's part of the game. If you like being talked about and being in the public eye, then you must accept that transfer rumours will inevitably cause problems. We all have to deal with tricky situations, that is only normal if you want to be at the centre of attention". Manuel Locatelli, who received so much praise for his performances during the European Championship campaign, is no longer with Sassuolo after joining Juventus in August. He

was Sassuolo's midfield general. So, who will now control the midfield? "Manuel deserves to play for Juventus and Italy. I'd like to emphasise that Locatelli was a completely different player in his first season with us then he is now after three seasons with the club. Sassuolo has other important players who can follow in Locatelli's footsteps. The important thing is to keep acting in accordance with the club philosophy".

"THE TEAM IS STILL BEING BUILT"

Sassuolo's new team manager is aware that Sassuolo fans have increasingly high expectations. "I get the feeling much more is expected of Sassuolo than we can guarantee. The team is still being built; we have not made many changes but there have been some, and it will take a while for our results to improve".

Sassuolo is keen to meet its fans' needs after so many matches behind closed doors due to Covid-19 issues. "The love is reciprocated - so Andrea Fabris assured us, the club's Organisational Director -, our hard-core fans are getting behind us again. Mapei Stadium was only half-full with 10,000 fans during the first few games of the season but then the latest anti-Covid regulations allowed us to raise the capacity to 75% or 15,000 fans. Our supporters have not abandoned us and we have tried to help them by issuing "mini" season tickets. They are only "mini" because the anti-Covid rules and regulations keep on changing at the moment. Our most loyal fans certainly deserve a bit of help."



TOP OF THE PAGE.

Davide Frattesi challenged by the Inter Milan player Brozovic.

ABOVE. Müldür taken on by Lautaro and Barella in the same Sassuolo-Inter Milan match.

THE YOUNGEST IN THE TEAM

PLAYER	DATE OF BIRTH	POSITION
Giacomo Raspadori	18-2-2000	Forward
Hamed Junior Traorè	16-2-2000	Midfielder
Davide Frattesi	22-9-1999	Midfielder
Giacomo Satalino	20-5-1999	Goalkeeper
Mert Müldür	3-4-1999	Defender
Gianluca Scamacca	1-1-1999	Forward

NEWS FROM THE MAPEI WORLD

EVENTS, TRADE FAIRS AND INITIATIVES FROM THE GROUP'S SUBSIDIARIES



USA – SCS INDOOR ADVANTAGE GOLD CERTIFICATION FOR MAPEI CORP.

Mapei Corp., the Group's US subsidiary, has been awarded SCS Indoor Advantage Gold certification for the low emissions of volatile organic compounds (VOCs) for over 375 of its products used indoors, such as sealants, adhesives, waterproofing membranes, coatings and cementitious and resin floors etc. SCS Indoor Advantage Gold certification is officially recognised by such US organisations as the EPA (U.S. Environmental Protection Agency) and GSA (General Services Administration), as well as other prestigious certification systems for eco-sustainable buildings such as LEED v4, WELL Building Standard, BREEAM, Living Building Challenge and NAHB Green Building Standard.



GERMANY – MAPEI GMBH CELEBRATES 30 YEARS IN BUSINESS

Mapei GmbH, a Group's subsidiary based in Germany, celebrated 30 years in business on 1st August. The company has grown constantly since it was first established in 1991 and now has its headquarters in Grobostheim, a manufacturing plant in Weferlingen, 250 staff, and a turnover of approx. 100 million Euros in 2020. It is also involved in prestigious works all over Germany. To celebrate this important date, the subsidiary published a special issue of its company magazine in German language, *Realtà Mapei Deutschland*, and organised a social media campaign and a customer lottery with prizes.



ITALY - MAPEI AMONG ITALY'S BEST EMPLOYERS

In two recently conducted surveys Mapei topped the rankings of Italy's best employers. In the first poll, the German company Statista collected 22,500 direct and over 260,000 indirect opinions. Mapei was classed first in the "Production and transformation of manufacturing and building materials category". It also topped the "Chemicals for Research" category according to the German Institute of Quality Finance (ITQF) in the fourth edition of 'Top Jobs 2021-2022' which, working in partnership with the magazine *La Repubblica Affari&Finanza*, selected the 300 best employers in Italy.

NEW ZEALAND - NEW HEADQUARTERS FOR THE MAPEI GROUP'S DISTRIBUTOR

Since April MBP (NZ) Ltd, the Mapei Group's distributor in New Zealand, has been located in newer and larger premises in Mount Wellington, close to the Auckland motorway network and ideal for customer access. The site comprises nearly 3,000 m² of warehouse space, a showroom and a training facility for up to 60 people to attend the company's product and system training courses. Felicity Bartlett, Marketing Manager for MBP, said "Locating MBP here enables us to offer the best service to our customers and to provide high quality product training and support. It also enables us to carry the stock and product lines required for the growth we expect to see in the coming years."





by Daniele Sala

From tradition to sustainable innovation: using lime to dehumidify with one single product

Sustainability and environmental issues in general are common themes in various manufacturing sectors and a primary objective of the building process, thanks to the increasing level of awareness of public opinion, governments and of all those involved in the process, such as owners, designers, and contractors.

The building sector, which accounts for 50% of raw materials extracted in the whole of Europe, 36% of CO₂ emissions, 40% of energy consumption and 21% of water consumption, has very high margins for change and improvement to become increasingly sustainable. This change, which must involve the entire life cycle of a building (LCA), may be achieved by making specific choices: a different approach to design and being more attentive when choosing which construction methods, technologies and materials to adopt, are undoubtedly important steps towards true sustainability. Using materials that contain a high level of recycled materials, and which are manufactured in efficient plants that use renewable energy, have a low impact on the environment and that have very low emissions of volatile organic compounds (VOC), form the cornerstones of the journey Mapei has undertaken in the field of sustainability.

Mapei, thanks also to its Research & Development laboratories, wishes to combine the study of materials from the past and innovative technology with eco-sustainable building in order to supply materials of the highest quality and more sustainability on work sites thanks to more simple waste management processes and a reduction in the required amount of time and energy.

The products from the new MAPE-ANTIQUÉ NHL ECO Range are a concrete example of this journey, and particularly MAPE-ANTIQUÉ NHL ECO RISANA, a single-product cement-free rendering mortar made from natural hydraulic lime and recycled materials used to restore masonry with rising damp, and particularly recommended for buildings of historical interest.

WITH THE NEW
MAPE-ANTIQUÉ NHL
ECO RANGE,
MAPEI OFFERS
THE RIGHT SOLUTIONS
FOR ECO-SUSTAINABLE
BUILDING



Why should one choose MAPE-ANTIQUÉ NHL ECO RISANA?

This eco-sustainable mortar, which has the most important characteristics of all dehumidifying products (high breathability, macro-porosity and chemical and physical resistance to salts), is compatible with all brick, stone and tuff masonry and may be applied by trowel or with a rendering machine. Also, apart from complying with European standard EN 998-1 (R-CSII – Renovation mortar), it has GEV EMICODE EC1^{Plus} certification label to certify its very low emission level of volatile organic compounds and guarantee excellent air quality, including when applied on internal walls.

What are the advantages on site?

Since this is a single-product dehumidifying product, application is quick and easy. In fact, MAPE-ANTIQUÉ NHL ECO RISANA can be applied directly on masonry without having to apply a scratch-coat beforehand, a characteristic that considerably reduces application

times and costs, as well as the amount of energy required.

Another important feature is the marking on the package used to contain this mortar. In fact, the Aticelca logo guarantees that the paper and cardboard can be recycled, thereby reducing costs and consumption to dispose the packaging.

Who are you looking to engage with through MAPE-ANTIQUÉ NHL ECO RISANA?

Designers from the eco-sustainable building sector, but also technicians who work with historic building, because all the products in the MAPE-ANTIQUÉ NHL ECO Range are made from pure natural hydraulic lime without using cement, in line with constraints often imposed by heritage bodies. Thanks to the growing awareness of sustainability, these products are of great interest to companies operating in both small and big sites and can be easily found at the sales point of retailers/distributors of building materials.

How should I “finish off” MAPE-ANTIQUÉ NHL ECO RISANA?

The MAPE-ANTIQUÉ NHL ECO Range includes two breathable skim products, MAPE-ANTIQUÉ NHL ECO RASANTE CIVILE and MAPE-ANTIQUÉ NHL ECO RASANTE GROSSO, which are also cement-free and are made from natural hydraulic lime. In the near future, Mapei will launch other new innovative and eco-sustainable systems.

Why should you choose Mapei?

Mapei has always been synonymous with quality, innovation and experience. We guarantee full support during each executive phase, thanks to the widespread network of specialists involved on all types of sites and at every level.

What is more, training and an awareness of eco-sustainability are crucial for Mapei, thanks also to the staff dedicated to Research & Development work into this field.



Restoration Line for Masonry Buildings, Mapei SpA (Italy)



Products in the spotlight

GROUTING JOINTS IN ARCHITECTURAL PAVING, REPAIRING TIMBER STRUCTURES, PROTECTING AND COLORING EXTERNAL SURFACES



MAPEWOOD PASTE 140

Two-component, solvent free epoxy adhesive of a thixotropic consistency. It is used for repairing fir, pine, poplar, oak, chestnut and other types of timber beams, trusses and columns that need to be reconstructed by adding timber elements which might need to be anchored to the original element with metal or composite material rods or plates (like MAPEROD or CARBOPLATE). It is ideal for bonding new timber parts to existing timber structures and for filling holes both in the existing timber structural element that needs to be repaired and in the new wood element. Apply the product on the wood surface only after having treated them with MAPEWOOD PRIMER 100 in cases of wood damaged or high-density wood (oak and chestnut).

BONDING NEW TIMBER ELEMENTS AND REPAIRING OLD ONES



MAPECOAT TNS EASY COLOR

Coloured, acrylic resin based, rapid film-forming product with selected fillers used to form a durable anti-slip coating on external floors subjected to a high level of footfall. It is especially suitable for colouring and protecting surfaces of pedestrian zones, cycle lanes, and parking bays in concrete, bitumen conglomerate, ceramic, porcelain, dogbone blocks, stone and architectural decorative concrete; access/exit routes; stairs and access/exit ramps; edges of swimming pools, etc.. Its formula gives surfaces high resistance to slip, wear and prolonged exposure to sunlight, particularly ultra-violet rays. It also limits the effect of agents that could damage or deteriorate the surface, such as carbon dioxide and moisture.

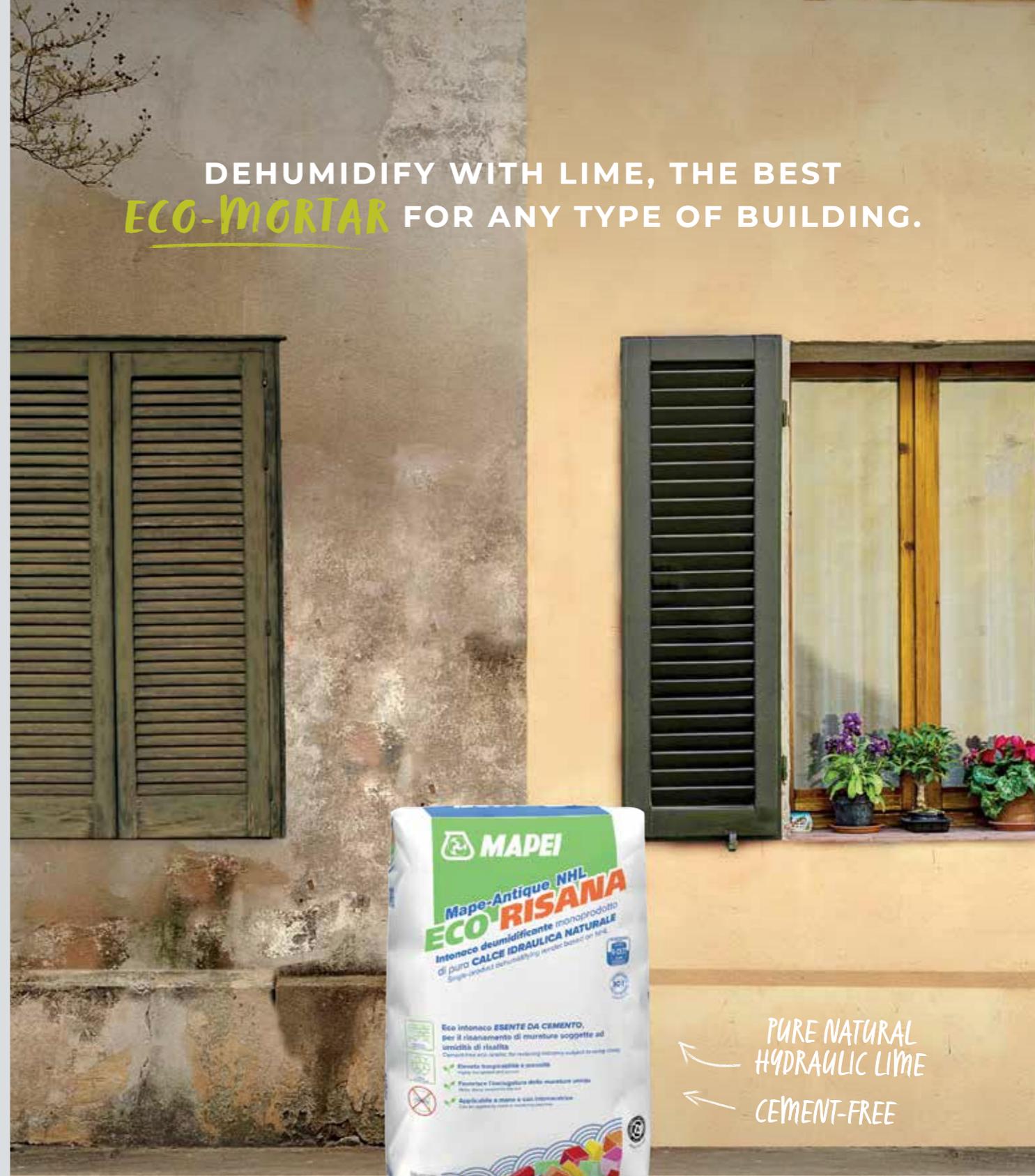
FOR EXTERNAL SURFACES SUBJECTED TO A HIGH LEVEL OF FOOTFALL



MAPESTONE PFS CALCIX

Pre-blended, cement-free, ready to use mortar for grouting joints in architectural paving of squares, roads and pavements in urban environments NOT subjected to heavy traffic. It is ideal for applying cobblestone, small blocks, smaller bricks, paving bricks, thin slabs, blocks or basoli paving stones. The joints grouted with MAPESTONE PFS CALCIX pre-blended mortar have good mechanical properties and are resistant to de-icing salts and freezing weather. The high percentage of recycled materials contained in MAPESTONE CALCIX products means they contribute to international eco-sustainable protocols (LEED and BREEM). Their special formulation also reduces greenhouse gas emissions and consumption of natural resources.

FOR JOINTS RESISTANT TO FREEZING WEATHER AND DE-ICING SALTS



DEHUMIDIFY 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



ITALIA
LA BELLEZZA UNISCE LE PERSONE
BEAUTY CONNECTS PEOPLE
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