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

Architectural creativity and industrial innovation

Following the special issue on the restoration of the historical heritage, the focus of this issue of *Realtà Mapei International* is on the restoration of modern and contemporary buildings. This is a fascinating (and at the same time complex) subject, both from the point of view of academic/intellectual debate and also from the more practical perspective of projects aimed at protecting “new monuments”.

As Fulvio Irace (Professor of the History of Architecture and Design) points out in the opening article of this special issue, it is only recently that theoretical assumptions and work methods have been set down to readjust restoration guidelines to accommodate modern buildings. “Studying the specifics – so Irace wrote - that make modern architecture different from pre-industrial architecture has also encouraged companies operating in this sector to turn over a new leaf in the quest to come up with products compatible with original materials”. This change in approach is needed both to avoid any danger of maltreating our historical heritage and, at the same time, to adapt newly developed materials to the latest regulations and living conditions that have gradually changed over the years.

Mapei is an exemplary case of this emerging trend. By means of laboratory research and the application of its results on building sites, Mapei has experimented with systems of products (from repairing concrete to the renovation of façades) suitable for upgrading modern buildings.

Mapei's portfolio of works includes the restoration of some of the great icons of architectural design such as the Solomon R. Guggenheim Museum in New York or the Pirelli skyscraper in Milan, not to mention the more recent renovation and restoration of Santa Maria Annunciata Church (designed by Gio' Ponti) in Milan.

So, the “Restoration of contemporary architecture special” provided the opportunity to retrace Mapei's contribution in this field of architecture with examples ranging from German Bauhaus to Italian rationalism.

On the subject of architecture, the decision to award the 2022 Pritzker Prize to Diébédo Francis Kéré, the first architect of African descent to receive this prestigious international award, was also significant.

Mapei's latest products for open urban spaces, the result of research and specialisation, are also being showcased in this issue with the help of a testimonial by the landscape architect Andreas Kipar.

The familiar “Teamwork” section is dedicated to Romania, where Mapei's subsidiary has expanded its operations in many sectors of the building industry and is counting on further growth in connection with its plans to invest in infrastructure.

There is also a brief overview of Mapei's commitment to culture. The company is sponsoring an exhibition entitled “Maddalena, il mistero e l'immagine” (Magdalene, Mystery and Image) currently being held at San Domenico Museums in Forlì (Central Italy).

Enjoy your reading

RESTORING MODERN BUILDINGS: WORK METHODS AND TECHNIQUES

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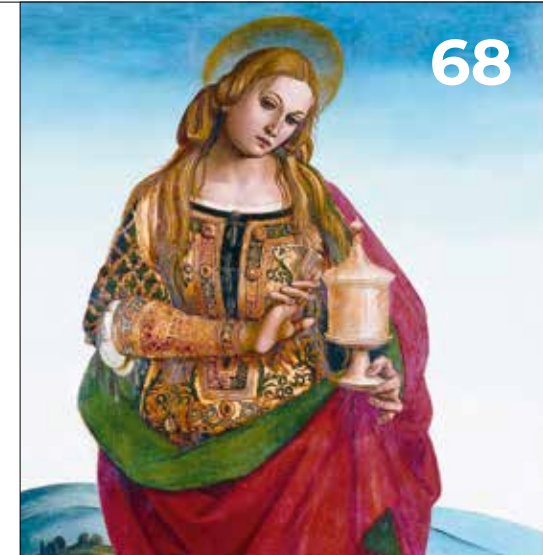
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Cover story

The focus of this issue is on the restoration of modern and contemporary buildings. This provides the opportunity to retrace Mapei's contribution in this field with examples ranging from German Bauhaus to Italian rationalism. In the photo on the cover, the Pirelli Tower in Milan which was restored using Mapei products.

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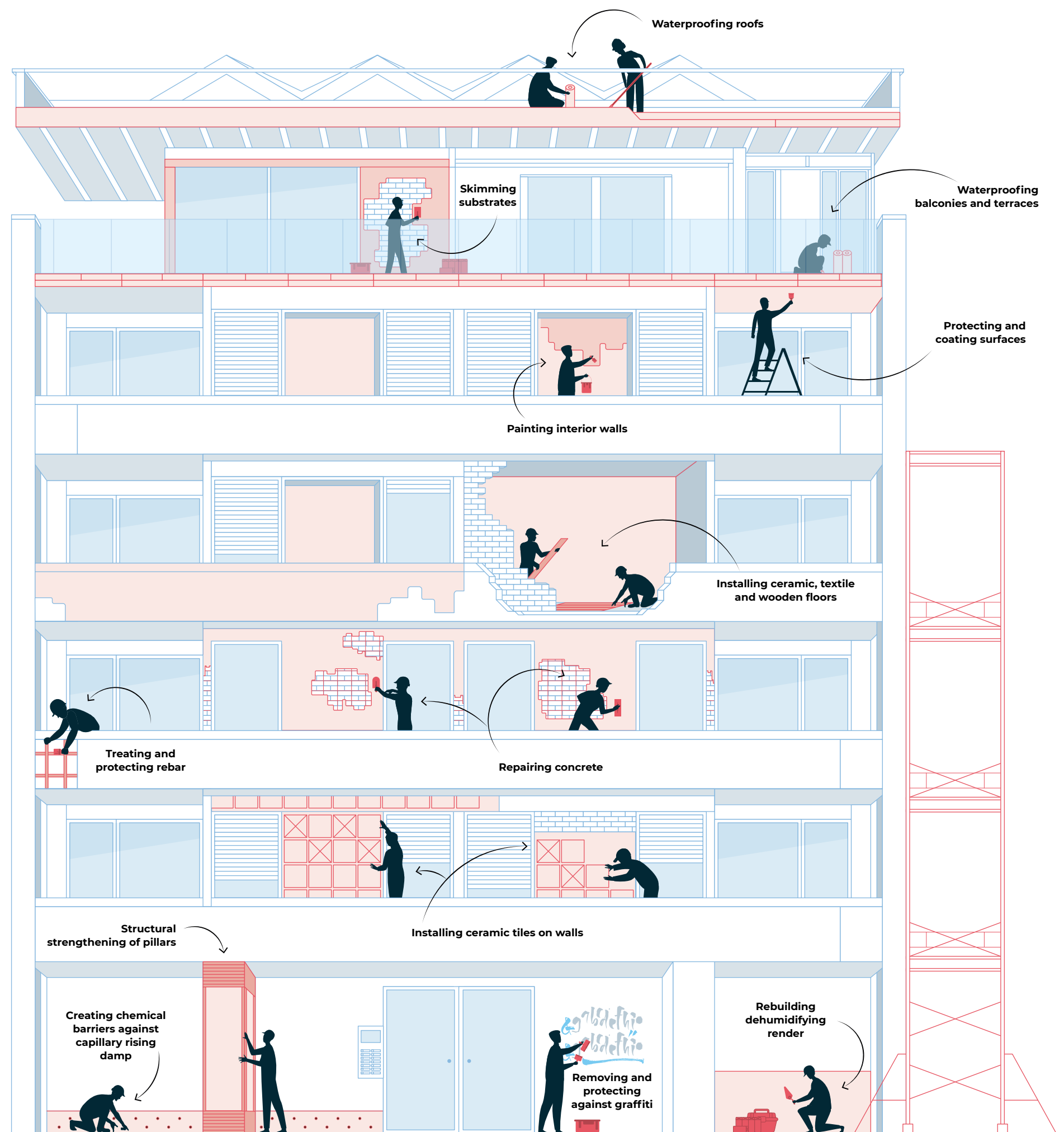


Even modern architecture is upgrading

How can a modern building showing signs of deterioration must be restored? We will try to answer this question over the following pages, well aware that this type of project calls for methods and techniques that are often very different from those used for historic buildings (see the Restoration Special in *Realtà Mapei International* 90).

We often find ourselves working on concrete buildings - that may also incorporate steel, cementitious mortars and other materials - as part of projects that have, over time, led to a rethinking of the concepts of conservation and renovation. These projects require the use of compatible materials, studied and tested in the laboratory to consolidate, conserve and protect structures and surfaces while maintaining the functionality and aesthetic appeal of the original design. Mapei offers a wide range of products designed for structural strengthening, repair, renovation (including conservative renovation) and restoration that take into account the history and specific features of individual buildings.

In this special report, we present a series of projects and interviews aimed at exploring a subject of great interest in modern-day architecture.





by Fulvio Irace

The paradigms for safeguarding new monuments

THEORETICAL ASSUMPTIONS, TOOLS AND APPLICATION METHODS REDEFINED TO ADAPT RESTORATION CODES TO MODERN CONSTRUCTIONS, UNIQUE DOCUMENTS OF ARCHITECTURE

1988 marked the founding in the Netherlands of the association Docomomo International (Documentation and Conservation of Modern Monuments) with the aim of promoting more awareness by governments and public opinion of what was a relatively unknown topic at the time: the conservation of modern architecture. In fact, up until then, listed buildings tended to be those from the past and the theories and methods mentioned in the various Restoration Charters focused exclusively on historic buildings and structures considered as typifying an expression of collective identity. An example of this attitude occurred in Brussels in 1964 with the demolition of one of the icons of Art Nouveau – the Maison du Peuple by Victor Horta – because the entire movement was considered to be an insignificant style phenomenon, excluded from traditional codes of official historiography.

Poor understanding and knowledge of documents from the industrial era of the 19th and 20th century only served to encourage its declassification: in fact, it wasn't until there was renewed interest in historical research that the architecture of Eclecticism, Liberty and, finally, the legacy of Rationalism started to be acknowledged as important testaments to the art of building and worthy of being preserved. This was still only partial recognition because the focus tended to be concentrated on a rather limited number of particularly famous and iconic examples: but at least it was a start.

Besides, while it may be true that the title itself of Docomomo placed the emphasis on the rather restrictive notion of “monument”, it's just as true that, for the first time, Modernity was also credited with giving birth to buildings with the ability to transcend the limits of their time and become eligible for the heroic category of “monument”.

Even the foundation date of Docomomo was not just a coincidence: the 1980's and the incursion of Post-Modernism made it possible to break away from the

past into the light of a different perception of history. There was a widespread feeling that the ideological and aesthetic battles that had signalled the advent of twentieth century avant-garde had now become of little significance and that everything could co-exist on the same level: the Parthenon, for example, alongside Ville Savoye by Le Corbusier or the Neue Nationalgalerie by Mies van der Rohe.

The concept itself of Modern – for so long tied almost exclusively to notions of newness, of progress, of constant transformation – acquired a more inclusive meaning because, as the philosopher Gianni Vattimo wrote, “...the

essence of modern only becomes really visible from the moment in which the mechanism of modernity detaches from us”.

In the same decade there were two important events that should be signposted, in that they were significant markers in this change in

perspective: in Barcelona a group of Spanish architects and historians promoted the reconstruction of the mythical Pavilion, erected by Mies van der Rohe for the International Exhibition in 1929 and then dismantled once the event was over. Its echo, however, survived the passage of its historic time and discovering that traces of metal pillars that formed one of its most representative elements were still in place was like a springboard for its reconstruction which, in reality, was more of an ex-novo replica than a re-composition.

In more or less the same period in Germany, a pilot experiment was launched: the restoration of the Weissenhof district, built in 1927 in Stuttgart, an initiative of the Deutscher Werkbund (German Association of Craftsmen) to manifest a new way of living, which had become unrecognisable following decades of decay and brutal alterations. If, on the one hand, this initiative nourished a strong drive to become more appreciative of Modernist heritage, on the other hand it highlighted the inherent theoretical and technical difficulties with the restoration of modern architecture, whose

contradictions were not slow in being manifested in experiments on individual sites. It was no coincidence that, more than 30 years after these initial experiences, with the autonomy acquired by the restoration of Modern architecture (including in academic terms) compared with the more consolidated discipline of the restoration of ancient architecture, the need to redefine its theoretical assumptions, tools and operational methods could no longer be put back, by readapting the codes of restoration applied to our historic constructions to the realities of modern constructions: in so doing, the realities of site work led to a reflection on the peculiarities that make modern architecture so different to that of the pre-industrial era. As is well known, rationalist architecture has always been presumed to be universal and, therefore, replicable, never mind the concept of uniqueness we tend to attribute, on the other hand, to architecture of the past; we know, however, and notwithstanding these theoretical presumptions, that a good part of its legacy consists of unique pieces with powerful aesthetic connotations: the double house by Le Corbusier in Stuttgart (Germany), just to limit

ourselves to a few more recent and widely known examples, or the living quarters of the Bauhaus masters in Dessau (Germany), the low-income housing in the rationalist areas, etc. were created with the intention of establishing a “type” that could be replicable by including a few variants and, in part, transformable in the future.

They were, in other words, “documents” which, through changes in critical perspectives, became genuine “monuments”: so restoration work needs to take this new condition into consideration, together with the difficulties with their preservation which entails modifications, upgrades and conservation work, unless we wish to completely cancel their true function. Something which, however, has also stimulated industries operating in this sector (from the production

Industries have also been stimulated to focus research work into new materials compatible with the original ones

of new types of concrete to coating solutions for façades) to focus intense research work into new materials compatible with the original materials.

Not only have the ways of using spaces changed, there is also the need to adapt to the continuous changes in energy and environmental sustainability standards in a drive to adopt thermal insulation materials and methods that, if applied according to current applicable parameters, would radically revolutionise the appearance of buildings that really need to be safeguarded.

What is more, if you add increasingly stringent urban regeneration policies, you can understand how extending safeguards and protections would, at the same time, lead to an inevitable selection and adoption of non-standard procedures in order to avoid completely altering buildings and structures.

A problem by no means less thorny regards architecture that has acquired the monument status: case in point is the well-known Ville Savoye in Poissy (France), a manifest to Corbusian purism from the 1930's which, today, seems more of a masked fetishism due to the

repeated restoration works (between 1963 and 1998) that tended to favour maintaining its iconic aura rather than the material and historic reality of the building. To maintain the building in an unreal state of perfection, its “mask” has been maintained, cancelling the patina of

time which the Restoration Charter has acknowledged as being of extreme importance in maintaining a true historic picture.

Fortunately, there is no lack of comforting examples of a correct approach and many of them can be found right in Italy: in 1986, at the end of the 50-year period established by the conservation laws at the time, the Ministry for Cultural Heritage issued a protection order for the Casa del Fascio designed by Giuseppe Terragni (and inaugurated in 1936 as the local office of the National Fascist Party) in Como, recognising it as being



The Neue Nationalgalerie in Berlin, designed by Mies van der Rohe.

an important part of our historic and artistic heritage. This made it possible to launch an attentive and respectful restoration project for its surfaces in marble and its characteristic glass-block walls. It was a ground-breaking restoration project because, for the first time, specific questions were asked about the problem of renovating architecture of the Modernist Movement for which, as we said previously, no protocols or work methods existed.

To mark the progress made over the last three decades, we just need to remember the restoration work carried out on another icon of post-war Modernism, the Pirelli Tower by Gio Ponti and Pierluigi Nervi in Milan. On 18th April 2002, a light aircraft crashed into the front of the building causing considerable instability and, as a result, triggered a debate about possible restoration and repair actions. A watchdog was set up that put the historic and material comprehension of the tower at the centre of every action, supported by direct inspections and in-depth knowledge gleaned from records in the archives: its reconstruction was authentic and respectful of the historic material, especially the curtain wall and the ceramic tile covering.

This approach allowed the Local Heritage Authority to successfully adopt the same scrupulous method for restoration work on the ceramic façades of another important building in Milan by Gio Ponti, the Church of Santa Maria Annunciata at San Carlo Hospital. And again in Milan, another work that raised the bar was the very recent restoration work on the glass church in Baranzate, a masterpiece originally designed by Mangiarotti, Morassuti and Favini: this ingenious reinterpretation

of the theme of a transparent façade – whose original material was badly deteriorated – is a wonderful demonstration of how design is the key to carrying out restoration work that does not wish to be a betrayal of its historic testimony.

And similarly, the restoration work on the renowned Villa Tugendhat by Mies van der Rohe in Brno (Czech Republic) is living proof of how, whatever the theory tells us, an in-depth analysis of the “meat” of architecture (with the reality of a site very often quite different to the drawings issued by their authors) is the only path to follow in order to preserve the spirit (and not just a plasticised image) of a building and, in so doing, project it as something alive and vibrant in our contemporary times.

FULVIO IRACE

Professor of History of Architecture and Design at Milan Polytechnic until 2020 and visiting professor at the Academy of Architecture in Mendrisio (Switzerland), Fulvio Irace was the national coordinator of the PRIN (Project of National Importance) 2008 project, launched by the Italian Ministry of University and Research, entitled “The design of cultural heritage: history, memory and knowledge. The Intangible, Virtual and Interactive as “the subject matter” of projects during crisis times”.

Architectural editor of the magazines *Domus* (1980-86) and *Abitare* (1987-2007), he has worked with leading Italian and international magazines in the sector and was awarded the Bruno Zevi Prize for Architectural Criticism in 2005. Particularly interested in historiographical issues related to Italian architecture between the wars, he has organised a number of exhibitions and published books on these subjects.



Ville Savoye in Poissy (France) was designed in the 1920s by Le Corbusier.



di Davide Bandera

Knowledge and awareness: the foundations of restoration work

THE PREMISE TO SAFEGUARDING CONTEMPORARY ARCHITECTURE
IS A THOROUGH SURVEY OF THE BUILDING FROM A HISTORIC,
MATERIC AND CONSTRUCTION PERSPECTIVE: MAPEI'S PROPOSAL

Firstly, let's clarify the topic: what do we mean by the restoration of “modern” architecture and what are the differences with respect to an intervention to repair concrete?

If by restoration we mean any intervention carried out on monuments, architecture, works of art and other objects of artistic, historical or anthropological interest following its completion, then we can safely say the same approach should be adopted when restoring a modern building as when we are faced with a building or structure recognised as being of historical and architectural interest. The real difference is only “technological”, which means the construction methods and materials used in the construction of a modern building whereby the materials used are mainly reinforced and non-reinforced concrete and the elements used to build it are very often perforated bricks or blocks. When deterioration involves rebar, a building's structural properties can drop off very quickly and its stability can be seriously compromised. When deterioration affects the surface of exposed-finish concrete on the other hand – such as decorative concrete with coloured aggregates, for example – any work to reinstate or refurbish the concrete will affect its aesthetic characteristics. These types of problems are not normally found with historic buildings where the masonry was made from solid bricks, stone and/or tuff, or were covered with render that “aged” along with the building, but at the same time protected the structure from bad weather and atmospheric aggression. At the start of the 20th century reinforced concrete became a game-changer, as did the construction of increasingly slender structures, where the concrete was left with an exposed finish to exalt the patterns left by formwork, often in wood. It was only later that people realised that the materials used, initially thought to be resistant and long-lasting, could deteriorate quite easily if not protected sufficiently, mainly due to oxidation of the rebar. And this is when the idea of refurbishing and

restoring reinforced concrete was born – conceived as the reintegration and protection of the parts that had deteriorated and, in parallel, the restoration of modern buildings – on those structures designed by illustrious architects and engineers. The restoration of modern architecture, however, cannot be based on recipes passed down through the experience of restorers because the materials are so different. Lime-based mortars were no longer being used, but rather cementitious materials, which meant having to adopt different intervention and application methods. The common denominator, however, is still that of preserving existing buildings, be they part of our heritage or a modern listed building.

“ The guidelines that need to be followed, that have an influence on which materials should be chosen, are also aesthetic and differ from those applicable to historic buildings

What are the rules in order to develop and plan a restoration intervention of this type correctly?

Whether you are dealing with an historic building or a more recent build, when carrying out an upgrade, the main types of intervention regard structural strengthening, refurbishment and renovation (including conservative renovation), as well as restoration work. As already mentioned, while with restoration work on ancient buildings you could rely on recipes passed down through the experience of old restorers, when restoring modern and contemporary architecture it is a more scientific approach involving lab technicians rather than craftsmen who, just like we have already

“ Mapei’s Renovation and Restoration Line provides a technical consultancy and support service for designers and contractors

been doing for many years at Mapei, formulate specific, certified products that guarantee a certain level of adhesion when applied in thin layers, resin-based materials and organic primers that guarantee protection for rebar within the structure, that create a powerful bond between the new repair mortars and the original cementitious structure, including when applied in layers just a few millimetres thick.

The guidelines that need to be followed, that have an influence on which materials should be chosen, are also aesthetic and differ from those applicable to historic buildings. The rigours of time lend an air of poetry and authority to ancient buildings, whereas with modern buildings they become more like a sign of deterioration and poor maintenance. With restoration work on modern architecture, the form and original appearance prevail over the effects of time. And this is why maintenance work and specialised engineers and contractors are also fundamental components when the time comes to intervene on a modern listed building.

How important is it to understand modern architecture and to be familiar with its materials and structures to come up with a really effective design proposal?

An essential aspect of any activity focused on safeguarding and conserving any type of building or structure - be it ancient, modern or contemporary - are surveys, research and expanding our knowledge and awareness of value and quality, the foundations to successfully tackling any type of restoration work. Going more into detail, the conservation and restoration of our modern architectural heritage requires analytical knowledge of the consistency of the building or structure which, within its very materiality, incorporates historic, artistic and cultural values. A direct comparison with the technical aspects is extremely important when dealing with buildings and structures from the 20th century because experimental technical solutions, that had not been fully tested, were often adopted



ABOVE. Top of the page: the "Clover" building, designed by Gio Ponti, at Milan Polytechnic. Below: Milan Central Railway station. Both buildings were restored with Mapei solutions.

which at times, over the years, proved to be deficient or fragile. The process regarding the safeguarding of contemporary architecture always presupposes a certain level of knowledge of the building from an historic, materic and construction perspective and covers aspects such as aligning it with structural safety standards and the requirements of conservation work.

What is Mapei proposing for the restoration of modern buildings?

As I said several times previously, there aren't any substantial differences between restoring an ancient masonry building and restoring more modern buildings. Once the cause or causes of the problem or the deterioration of one or the other types of building or structure have been clearly identified, Mapei's strength is the availability of an extensive range of products to help specifiers, designers and installers identify which are the most suitable materials to use for the conservative renovation and restoration of each type of building. Mapei's Renovation and Restoration Line has a team of specialists that provides a daily consultancy service to perform site surveys, draft work reports and technical specifications and carry out cost analyses as a support for specifiers, designers and contractors, including those specialised in restoration work. And last but not least, the team interfaces with experts from local heritage bodies to discuss the purely technical aspects.

One of the strong points of Mapei is that it works

alongside architects, designers and specialised contractors, including during the delicate diagnostic phase which focuses on investigating not only the chemical and physical composition of the materials originally used in the construction of a building, but also the causes that triggered the momentary state of deterioration. After completing this diagnostic phase it is then possible to identify the correct approach and choose the most suitable materials and systems in order to proceed with the work and finally apply the aforementioned materials and systems, whether working on historic buildings or more modern ones.

Mapei, through its products, plays a key role in the restoration of important and "iconic" modern or contemporary buildings all over the world. Would you like to tell us about some of them?

As far as modern and contemporary architecture are concerned, amongst the many examples of restoration works carried out with the technological contribution from Mapei, one of the most significant is undoubtedly the restoration of the Solomon R. Guggenheim Museum in New York designed by Frank Lloyd Wright in 1943, one of the most important works of architecture from the

20th century.

Mapei's Milanese spirit could not have been better expressed than through the conservation of a host of modern buildings in the city that witnessed the birth of the company back in 1937. These include buildings designed by Giò Ponti such as the Pirelli Tower, the Church of Santa Maria Annunciata at San Carlo Borromeo Hospital, the "Ship" and "Clover" buildings at Milan Polytechnic (the latter being "The most beautiful main lecture hall in the world" according to the architect Renzo Piano), as well as the former Pavilion 3 at the Milan Exhibition Centre, the city's first ever "Sports Centre" designed by the engineer and architect Paolo Vietti Violi and inaugurated in April 1923.

Completed in 2010, important restoration and redevelopment works with Mapei products again playing a leading role, were those carried out on Milan Central Station, designed by the architect Ulisse Stacchini and inaugurated in 1931.

Corporate Product Manager, Restoration systems for historical and modern buildings, Mapei SpA (Italy)



The Solomon R. Guggenheim Museum in New York was restored with Mapei solutions.

Mapei and the Pirelli Tower

CONTRIBUTION TO BOTH THE CONSTRUCTION OF THE TOWER
IN MILAN AND THE FIRST EVER LARGE-SCALE RESTORATION PROJECT
ON CONTEMPORARY ARCHITECTURE IN EUROPE

"It seemed crazy and audacious at the time. It's true, we were all well aware that the building would change the profile of the city, that it would become an icon. It had the first ever linoleum and rubber floors bonded on panels of masonite. It was so exciting to be working on it again after forty years: supporting and strengthening the damaged structures, especially the pillars and ceilings; adopting measures to make the façades safer and installing new flooring using identical materials to the original ones, sheets of bespoke yellow and black linoleum and rubber. For me, the "Pirellone" symbolises the bond and the continuity of the relationship my family and I have

with Milan". This is what Giorgio Squinzi, former CEO of the Mapei Group and Milanese to the core, had to say about his relationship with the Pirelli Tower (also called "Pirellone" by Milanese people) in Milan: a mixture of affection and pride, due also to having supplied Mapei products for the building's construction at the end of the 1950's and then again for its restoration between 2003 and 2005.

Linoleum and rubber for the internal flooring

In the late 1950s Mapei took part in the construction of the Pirelli Tower, inside which 80,000 m² of bespoke linoleum and rubber flooring (manufactured according to a design by Gio Ponti)

was installed. The flooring was installed on masonite panels – a wood-chip, bark and wood-fibre conglomerate reduced to pulp and then laminated into sheets used for thermal insulation and soundproofing applications – with ADESILEX 3 (a natural resin-based adhesive no longer in production and used also to install the masonite panels on Pianolina, a gypsum-based skimming compound with very good mechanical properties to guarantee excellent compressive strength and resistance to wear over time). This was, incidentally, the first example of a floating floor in Italy. Mapei also supplied ISAMITE bituminous paint, which was applied prior to Pianolina to optimise adhesion of the skimming and levelling compound to the existing substrate.

A 360° restoration project

Where possible, the restoration work carried out between 2002 and 2004 aimed at conserving the building's technical and architectural characteristics.

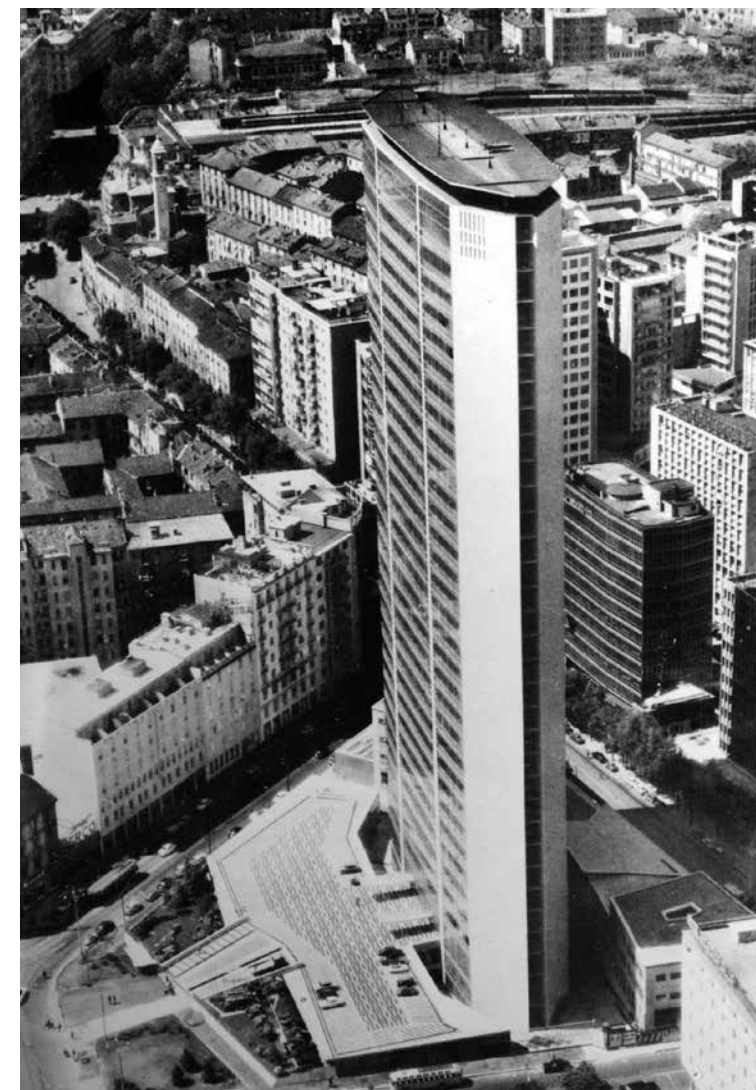
This intervention could be considered the first ever large-scale restoration project on contemporary architecture in Europe if you consider the scale of the work involved: more than 10,000 m² of glass and aluminium façades and the consolidation of 12,000 m² of ceramic tiles used to cover the façades.

Mapei solutions were chosen for various interventions, first and foremost for the restoration of the façades. In the areas where the installation mortar had become detached from the layer of concrete

used to level off the substrate, Mapei Technical Services recommended injecting EPOJET LV epoxy resin. The new mosaic tiles were then installed on the façades with KERAQUICK (later superseded by KERAQUICK SI) adhesive mixed with LATEX PLUS latex admixture while the joints were grouted with ULTRACOLOR high-performance mortar.

Following the incident in 2002, when a light aircraft crashed into the tower, static consolidation work was also needed on the central zone of the floor decks damaged in the impact. Various products were used for this intervention, such as STABILCEM SCC cementitious binder to repair the concrete, as well as CARBOPLATE E 170/50 pultruded plates made from high-strength carbon fibres and MAPEWRAP PRIMER 1 for structural strengthening operations.

Mapei solutions were also used to repave the external courtyard. After carrying out repairs on the substrate with PLANITOP 400, the surface was skimmed with ADESILEX P4. Work then proceeded with the installation of porcelain tiles using KERAFLEX and the bonding of rubber tiles with GRANIRAPID. In the entrance to the conference hall Carrara marble slabs were installed with KERAQUICK. The final part of the work was on the internal flooring, where 22,000 m² of linoleum was installed using ULTRABOND ECO 540 adhesive on cork sheets bonded with ULTRABOND ECO V4 SP. ULTRABOND ECO V4 SP was also used to install the rubber floorings (around 5,000 m²). Vinyl coverings were installed on the walls with ADESILEX MT32.



BRIEF HISTORY OF AN ICONIC BUILDING

The history of this building dates back to the beginning of the 1950's when Alberto and Piero Pirelli, owner at the time of the multinational tyre manufacturing company Pirelli SpA, decided to build their new corporate office block near Milan Central Station. The architect Gio Ponti was commissioned to carry out the work and he proposed a cutting-edge design: a building with truly audacious lines which, over the years, became an expression of the new entrepreneurial spirit rising from the ashes of Milan following the tragic years of World War II. For the structural part of the project Ponti wanted to work alongside the greatest experts from the sector at that time, the engineers Pier Luigi Nervi and Arturo Danusso. The building, which completely "shook up" the Milan skyline because of its sheer height (the tallest at that time in Italy at 127 m with 30 storeys) and its volume of 122,000 m³, immediately fascinated the residents of Milan due to its lightweight structure. It was inaugurated on 4th April, 1960 and then later purchased by the Lombardy Regional Government in 1978. In 2002 a light aircraft crashed into the building, resulting in it being seriously damaged. Restoration work commenced the following year and in 2005, upon completion of the work inside the building, it became home for the Lombardy Region offices.



New rubber and linoleum floorings were installed with Mapei products during the 2002-2004 restoration.



by **Nicola Berlucchi**

Site work starts in the laboratory

FROM CRAFTSMEN TO LABORATORY TECHNICIANS: THE EVOLUTION OF SKILLSET AND TECHNIQUES FOR RESTORATION

Over the last few years, the concept of listed buildings, generally applied to ancient constructions from a certain historical or architectural era and built with the same techniques for centuries using lime, stone or bricks, has been turned completely upside-down: reinforced concrete became one of the materials worth conserving in its own right, as did glass bricks, cementitious mortars, ceramic and steel structures. The concept of restoration and conservation took on a much broader meaning and new paradigms were introduced, along with a new concept of the term "conservation" and, perhaps, a new methodological approach.

With historic buildings there is a structure and there are architectural surfaces created generally in render, the so-called sacrificial material, or carved stone, whereas with modern architecture the structure is also part of the architecture and the material has a dual function, load-bearing and aesthetic, and its ageing could compromise both. These considerations are even more important in the case of steel structures where oxidation is like a cancer that undermines their stability and safety. Maintenance, therefore, is a more pressing issue than with ancient materials.

A new approach to restoration

The restoration sector now has a new branch of this discipline, which differs in terms of the methods that need to be adopted and the skill-set restorers need to

possess, as well as for its theoretical approach, which can no longer take into consideration just the conservation of the patina or the layers from the various interventions over the years; it must also take into consideration the designer's initial design concept.

You could even say, albeit in maybe a simplistic and provocative way, that with the restoration of modern architecture the wish of certain restoration architects to "return a building to its original splendour" is now achievable. In fact, when restoring modern architecture, which generally means working on buildings without layers that have been added over the years and that were constructed in one single phase, it becomes possible to think about its actual beginning as a point of reference: be it the design, often still present, or its inauguration.

It is not a question of "reneging" on having respect for the original materials or the passing of history, nor is it an attempt to push restoration towards the refurbishment in a kind of pseudoscientific reinterpretation of the initial design concept. It means acknowledging the transient nature of new construction materials and, in many cases, of their inadequateness for current energy, structural and safety standards; new terms have been introduced such as retrofitting, plant system upgrades and repurposing, with the risk of losing sight of the finality of the restoration project: respecting the original material and design concept while guaranteeing a useful service



Palazzo delle Scintille was inaugurated in 1923 in Milan as a building devoted to exhibitions. The last intervention ensured proper restoration of the façades.

life and purpose in contemporary society with the minimum intervention.

If you think about the approach we have become almost naturally used to when we restore a façade or conserve the different layers of render applied over the centuries, maybe characterised by various layers of lime, it is understandable how the restoration of modern architecture is a different sector with its very own rules. Rules that have yet to be well defined and theorised, rules that require a much more scientific approach to products and operational methods that leaves no room for improvisation.

A conservative approach remains valid, nonetheless, when considering an architectural design in its entirety and its original substance, such as respecting window fittings or ceramic coverings, an example of which is represented by the exemplary restoration work carried out on the Pirelli Tower (see the following article). Much more complex is the restoration of exposed-finish concrete: concrete is made from a well-defined mix of materials, with a precise binder/aggregate ratio and a precise grading envelope, that have

reacted with each other to form a kind of artificial stone. Its surface may then be coated with paint or rinsed intentionally to leave an exposed-aggregate finish. It generally suffers from deterioration phenomenon, which can reach as far down as the rebar that forms its skeleton and guarantees its structural capacity.

These are all problems you don't come across in historic buildings, in which deterioration advances very slowly and, if well managed, is simply a sign of age. Surfaces were maintained at regular intervals by applying new layers of render, which had the function of improving the building's appearance, but also, and above all, protecting the masonry.

The restoration of modern architecture can no longer be based on old recipes passed down through traditions; restoration has passed from craftsmen to laboratory technicians who formulate specific, certified products that guarantee a certain level of adhesion when applied in thin layers, new materials made from resin and organic primers to protect rebar and guarantee their bonding strength over the years.

In recent years composite materials have gained a foothold and guarantee structural properties much higher than those of steel. They include a matrix, usually made up of epoxy resins, and strengthening elements made up carbon, glass or aramid fibres. They only need to be applied in very thin layers and have quite a complex manufacturing process; materials that allow you to consolidate structures without altering their volume, but also materials that have nothing "natural"

Reinforced concrete, ceramic and steel structures have joined the materials worth conserving and need new formulations



For the restoration of the Artists' House, one of the first buildings (1909) constructed in Milan using the brick and concrete method, it was decided to conserve the original structure and to insert an internal steel exoskeleton to give it the static and anti-seismic properties required by current standards. Mapei supplied products for the refurbishment, conservative restoration and protection of the masonry.

about them. Restorers as we know them no longer have any control over these products: they have to reach out to specialised companies with their own laboratories and with the backing of chemical companies, and because these materials have extremely high performance properties, a mistake during their installation or

in their formulation can invalidate the effectiveness of an intervention in a short space of time and also compromise structural integrity: making the right choice is fundamental.

And lastly, there is also an aesthetic aspect that differs from historic buildings: does it make any sense to talk about the patina of time on a modern building designed to be clean, sharp and linear? What would be the point of considering the wonderful restoration of the Mysterious Baths Fountain by Giorgio De Chirico without its loud colours? Or the façades of the INAIL Palace in Venice designed by Giuseppe Samonà without the garish inserts in blue, yellow and orange, or the surfaces designed by Carlo Scarpa without the characteristic exposed-finish concrete deliberately washed or with the imprints left by the wooden formwork?

The marks left over the years, with dark crusts and consumed render which lend such an air of poetry and authority to historic buildings, just give the impression of poor maintenance in the case of modern buildings.

Studio Berlucchi Srl, Brescia (Italy)

Milan (Italy)

The Church of Santa Maria Annunciata

FAÇADE RESTORATION AND SAFETY MEASURES IMPLEMENTED ON THE UPPER PART OF A PLACE OF WORSHIP DESIGNED BY GIO PONTI



The Church of Santa Maria Annunciata, designed by Gio Ponti and built between 1964 and 1966, is located in San Carlo Hospital in Milan.

The renowned architect's idea was for it to become a place of worship and, above all, in the words of Gio Ponti himself: "An ark where man and God can come together".

The church is joined to the hospital by a kind of "gangplank", similar to that of a ship in dock, and can hold up to 600 people. The North façade and its symmetrical counterpart on the South side are joined by two lateral pinnacles that give the church its characteristic form of a ship. Preceded by a trapezoidal staircase, the North façade is punctuated by three rows of hexagonal windows and is covered externally with ceramic in an alternating pattern of diamond-shaped tiles – that reflect and refract the light – and flat tiles framing the openings in the façade.

This church by Gio Ponti differs from traditional churches in its use of materials and the structure itself and is coherent with one of his precise concepts: "Don't conserve ideas of ancient styles; rather, conserve the ancient Italian energy of constant transformation. Let's conserve the manner of the ancients, and by that, I mean the virtues: but not the styles".

Effective restoration solutions and safety measures

After almost sixty years following its construction the Church of Santa Maria Annunciata underwent important conservative refurbishment work on the façade, which included the use of numerous Mapei products. Apart from refurbishing the clinker covering, maintenance work was also

carried out on the upper cornice and its protective metal flashing, which had become badly deteriorated due to carbonation of the rebar, resulting in the displacement of the concrete around the rebar.

The first step was to remove the deteriorated concrete and mortar used to bond the point-shaped tiles. The rebar was then treated with MAPEFER 1K one-component, corrosion-inhibiting cementitious mortar.

The surfaces from where concrete had been removed were then re-integrated with MAPEGROUT 430 fine-textured, fibre-reinforced thixotropic mortar, the ideal product for repairing concrete structures.

Because of the amount of concrete that had been removed, Mapei Technical Services recommended creating new additional reinforcement by fixing steel elements on the healthy layer of the concrete. Once the areas of missing concrete had been re-integrated, structural render was created by applying PLANITOP HDM MAXI – two-component, ready-mixed cementitious mortar for "reinforced" structural strengthening applications – in two layers, with MAPEGRID G 120 alkali-resistant, glass fibre mesh embedded between the two layers.

After waiting 10-15 days for the structural render to cure, the ceramic covering was bonded back in place with KERAFLEX MAXI S1 deformable, cementitious white adhesive and grouted with KERACOLOR FF high performance, polymer-modified, water-repellent cementitious mortar which is used for joints up to 6 mm wide. To improve performances, KERACOLOR FF was admixed with around 20% of FUGOLASTIC liquid polymer admixture.



1. After removing the ceramic covering, the rebar was treated and protected with MAPEFER 1K corrosion-inhibiting mortar.

2. View of the ceramic covering after restoration work.



Find out more
KERACOLOR FF

TECHNICAL DATA

Santa Maria Annunciata Church, Milan (Italy)

Period of construction: 1964-1966

Period of the Mapei intervention: 2021

Intervention by Mapei:

supplying products for concrete repair and installing ceramic tiles

Italian Ministry for Cultural Heritage and Activities and Tourism: Daniela Lattanzi and Mari Mapelli

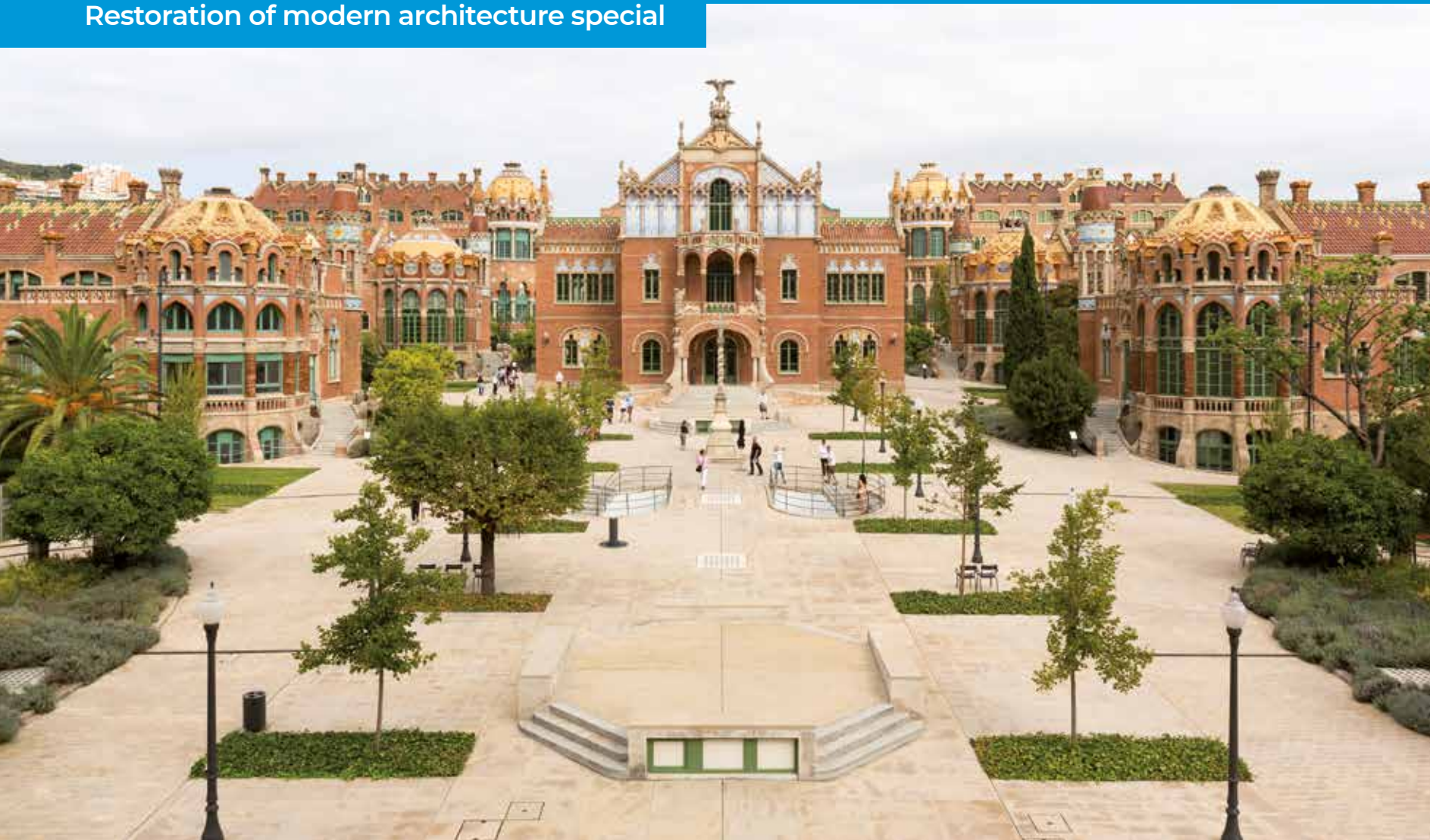
Main contractor:

Laboratorio San Gregorio

Mapei coordinators: Davide Bandera and Alessio Rizzo, Mapei SpA (Italy)

MAPEI PRODUCTS
Concrete repair:

Mapefer 1K, Mapegrout 430, Planitop HDM Maxi, Mapegrid G 120
Bonding and grouting ceramic tiles: Keraflex Maxi S1, Keracolor FF, Fugolastic
mapei.com



Barcelona (Spain)

Hospital de la Santa Creu i Sant Pau

STRUCTURAL STRENGTHENING AND NEW CEMENTITIOUS FLOORS IN THE LARGEST MODERNIST COMPLEX IN EUROPE

Built between 1902 and 1930, Sant Pau Hospital is one of the icons of Catalan Modernism. Conceived by the architect Lluís Domènech i Montaner as a "city within a city", for 80 years it was a healthcare centre for the people of Barcelona. It is one of the most important modernist complexes in Europe and, at the same time, a symbol of Barcelona and, because of its architectural and artistic significance, one of the city's major tourist attractions. In 1997 it became a UNESCO World

Heritage Site for the originality of the construction techniques used and for its artistic value. Once all healthcare services had been transferred to other sites, restoration work started on the pavilions which were converted to host administrative or business activities. The last restoration intervention of the buildings in the complex was carried out between 2011 and 2014 and was based on three main principles: restore the original spaces, convert the pavilions into more

functional surroundings suitable for the new type of use and the application of sustainability and energy saving criterion. Climate control of the internal areas is via a geothermal system fed from 400 wells, each one 100 m deep, to help reduce CO₂ emissions. The complex is now home for companies and organisations specialised in sustainability, healthcare services and education, all with the common objective of improving the quality of life of the city's inhabitants.

LEFT. Hospital de la Santa Creu i Sant Pau was designed by the architect Lluís Domènech i Montaner and recently restored with Mapei solutions.

BELOW. In the Administration Pavilion PLANITOP HDM RESTAURO and MAPEGRID G 220 were used to strengthen the arches, vaulted ceilings and walls. New cementitious floors were created by using ULTRATOP.

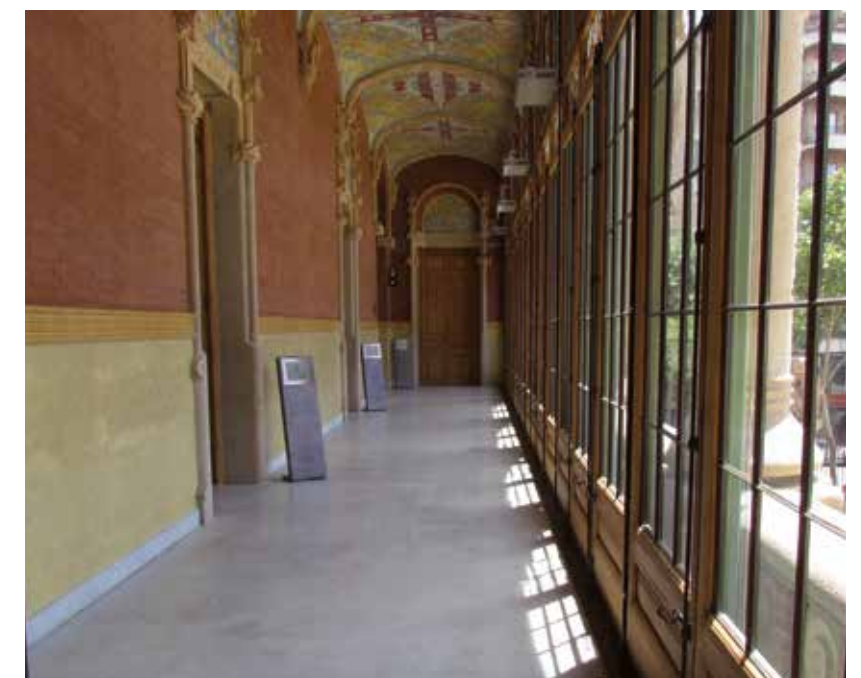
ADMINISTRATION PAVILION

This is the largest and one of the most ornately decorated buildings in the entire complex. Built between 1905 and 1910, it was originally conceived as the main entrance to the complex and used for hosting the main management and administration offices of the hospital.

In 2013 work was carried out to restore the pavilion and to create polyfunctional, versatile spaces with the most up-to-date equipment, while preserving the artistic value of Lluís Domènech i Montaner's work. It is now used for conferences and events and is also home of the hospital's historic archives.

"Reinforced" structural strengthening work was carried out on the masonry arches, vaulted ceilings and walls of this building using PLANITOP HDM RESTAURO mortar and MAPEGRID G 220 glass fibre mesh to guarantee a high level of durability and excellent mechanical performance.

New cementitious flooring was created in several areas using ULTRATOP cementitious self-levelling mortar, after building new screeds with TOPCEM hydraulic binder and treating their surface with PRIMER SN and QUARTZ 0.5, and before applying a final protective finish of MAPECRETE STAIN PROTECTION coating.



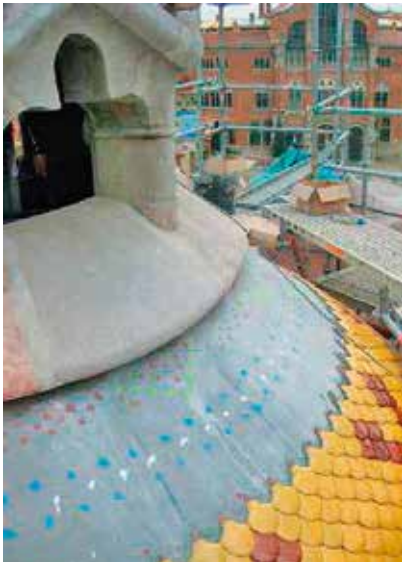


SANT LEOPOLD PAVILION

The vaulted ceilings of this pavilion were constructed using a technique which was widely adopted in Catalonia and Valencia at the beginning of the 20th century. A system was chosen to strengthen their structure consisting of PLANITOP HDM RESTAURO mortar and MAPEGRID G 220 glass fibre mesh. Cracks in the masonry were repaired with EPORIP epoxy adhesive and EPOJET epoxy resin while several concrete and masonry features and elements were repaired with MAPEGROUT HI-FLOW shrinkage-compensated, fibre-reinforced mortar.

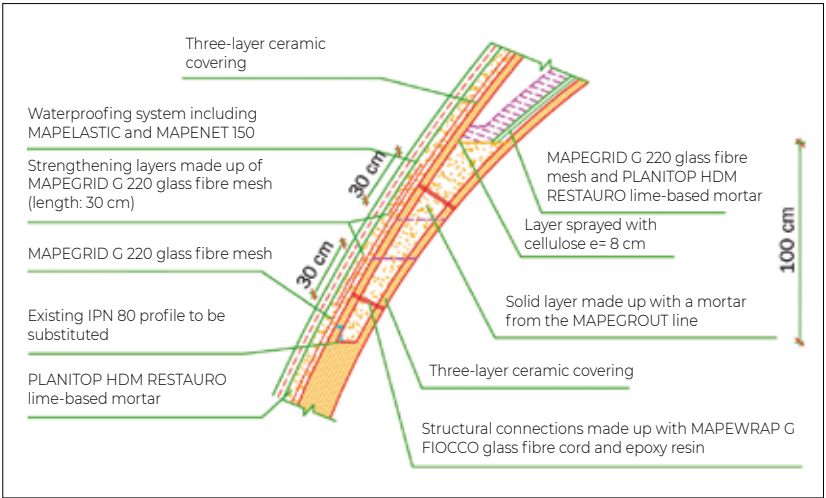
SANT RAFEL PAVILION

The cupola of this pavilion was also strengthened with Mapei solutions. After removing the external ceramic roof, a system based on FRG (Fibre Reinforced Grout) materials included the positioning of MAPEGRID G 220 glass fibre mesh on the metal profiles. The strengthening system also included the use of PLANITOP HDM RESTAURO and MAPEWRAP G FIOCCO unidirectional, high strength glass fibre cord. The surfaces were waterproofed with MAPELASTIC SMART and strengthened with MAPENET 150 mesh before finally installing ceramic tiles using KERAFLEX adhesive.



ABOVE. In the Sant Rafael Pavilion the ceramic covering was first detached and then bonded again with KERAFLEX on the cupola after strengthening its structure with MAPEGRID G 220, PLANITOP HDM RESTAURO and MAPEWRAP G FIOCCO. **LEFT.** The layout of the strengthening system chosen for the Sant Rafael Pavilion.

The strengthening system by Mapei



SANT MANUEL PAVILION

One of the semi-cupolas of this building had cracks and the covering material had become detached in various points. To overcome these problems a strengthening system was applied based on the use of composite materials, consisting of PLANITOP HDM RESTAURO mortar and MAPEGRID G 220 glass fibre mesh. The system guaranteed excellent chemical and elastic/mechanical compatibility with the masonry substrates. On the internal face of the vaulted ceilings, the surfaces were treated with MAPEGROUT T 40 medium-strength (40 MPa), fibre-reinforced, compensated-shrinkage thixotropic mortar for restoring concrete. Also, because of infiltrations of water in certain areas of the vaulted ceilings, after grouting the cracks with LAMPOCEM, MAPE-ANTIQUE F21 slurry was injected to fill the gaps created by the cracks through which water had been passing through. Some areas of the flooring had underfloor heating systems installed after creating screeds made from TOPCEM, which are ready to be put into service after 4 days.



**Find out more
PLANITOP HDM RESTAURO**

TECHNICAL DATA

Sant Pau Hospital,
Barcelona (Spain)

Period of construction:
1902-1930

Original designer: Lluís Domènech i Montaner
Period of restoration:
2011-2014

Owner: Fundació Privada Hospital de la Santa Creu i Sant Pau

Design and works direction for the pavilions: ONL Arquitectura (Administration Pavilion);

Bernúz Fernández Arquitectes (Sant Rafel Pavilion); Josep Ramon Calonge i Vallbona, José Luis González (Sant Leopold Pavilion), Moreno-Navarro y Albert, Casals i Balagué, Alicia Doctor Navarro, Esther García Mateu, Kerstin Nething y Belén, Onecha Pérez (Sant Manuel Pavilion)

Main contractors: Constructora de Calaf, S.A. (Administration Pavilion); Natur System (Sant Leopold Pavilion); SAPIC

(Sant Rafel Pavilion); UTE Xèdex-Rècop (Sant Manuel Pavilion)
Installation companies: Pavindus, CREB
Mapei coordinators: Joan Lleal and Toni Catllà, Mapei Spain

MAPEI PRODUCTS:
Structural strengthening: Mapegrid G 220, Planitop HDM Restauro, MapeWrap G Fiocco, MapeWrap 21
Creating screeds: Topcem
Waterproofing substrates: Mapelastic Smart, Idrosilex

Pronto; Mapenet 150
Laying cementitious floors: Ultratop, Primer SN, Mapecrete Stain Protection
Bonding and grouting: Keracolor FF
Restoring masonry: Lampocem, Mapegrout Hi-Flow, Mape-Antique F21
Repairing cracks: Eporip, Epojot

For further info in products visit mapei.com, mapei.es

Berlin (Germany)

Buchtal House

A RESIDENCE BUILT IN THE 1920'S ACCORDING TO THE PRINCIPLES AND STYLE OF THE BAUHAUS MOVEMENT

Buchtal House was built between 1922 and 1923 and is one of the few examples of expressionist architecture in Berlin. Designed by the Luckhardt brothers, Hans and Wassili, and their collaborator Franz Hoffmann, the building has a rather complex story, which came to light in 2015, when the owner at the time released details about the events involving its previous residents. Research was also carried out on the archives in London and Berlin, where information was gathered and then used for restoration work, which aimed at turning Buchtal House into an incarnation of the architectural style of the period in which it was built.

The first owners and inhabitants of the house were Thea and Eugen Buchtal, a Jewish couple with an interest in avant-garde. On the walls there were works by Lionel Feininger, Wassily Kandinsky, Emil Nolde and other artists from the same period. In 1928 they commissioned the architect Ernst Freud, the son of the father of psychoanalysis, to create a house according to the principles of the "New Objectivity" movement and in the style of Bauhaus. In 1945 the new owner, the opera singer Dietrich Fischer-Dieskau, had some modifications carried out on the

house. After his death in 2012, his heirs sold the house to the current owners and it was only in 2016 that restoration work got under way.

Installation of wooden flooring

During the restoration work on Buchtal House, around 420 m² of new wooden flooring was installed. In line with the principles of safeguarding this historic building, a type of parquet was chosen which, after being heat-treated, had a very similar dark colour to the original parquet. The new wooden elements were installed in two patterns: herringbone and a chequered composition.

Mapei products were used to install the new flooring which helped overcome several problems that emerged while carrying out the work. For example, the old substrate, made up of a screed and OSB panels, also needed to incorporate a layered heating system.

The first step was to consolidate the substrates with ECO PRIM PU 1K TURBO, quick drying, solvent-free, moisture curing polyurethane primer with very low emission of volatile organic compounds (VOC). To make sure absorption was uniform and that the next layer would form a suffi-



IN THE FACING PAGE.

Buchtal House was built between 1922 and 1923 in the style of Bauhaus.

ABOVE. New wooden floors were lately installed with Mapei products such as the adhesive ULTRABOND ECO S968 1K.

ciently strong bond, the surfaces were treated with ECO PRIM T PLUS universal acrylic primer. Once the substrates had been prepared, the heating system was installed. To make sure the surfaces were even and flat, ULTRAPLAN MAXI was applied in the areas with a screed and PLANITEX D15 was applied in the areas with OSB panels. These are both self-levelling products with very low emission of VOC, the second of which is manufactured and distributed in Germany by Mapei GmbH. The levelling products were able to flow freely through and around the elements and adhere sufficiently to the substrates.

Once the surfaces had dried, the wooden flooring was installed with ULTRABOND ECO S968 1K one-component, solvent-free, silylated polymer-based adhesive with very low emission of VOC (in compliance with TRGS 610) and certified EMICODE EC1^{Plus} by GEV. This adhesive is suitable for installing all types and formats of pre-finished and solid parquet flooring on any type of substrate, including heated screeds. It is compliant with ISO 17178 ("hard" category) and guarantees extended workability time, easy application and excellent rib stability.



Find out more
ULTRABOND ECO S968 1K

TECHNICAL DATA

Buchtal House, Berlin (Germany)

Original design: Ernst Freud

Period of construction: 1922-1923

Period of restoration: 2016

Period of the Mapei

intervention: March-November 2016

Design: LenzWerk Holding

GmbH, Ursula Seebach-Hannan

Main contractor:

LenzWerk Holding GmbH

Intervention by Mapei:

supplying products and technical assistance for installing wooden floors on heated screeds

Mapei distributor: W. & L. Jordan GmbH, Berlin

Mapei coordinator:

Florian Korn, Mapei GmbH (Germany)

Photos: LenzWerk Berlin

MAPEI PRODUCTS:

Preparing substrates: Eco Prim T Plus, Ultraplan Maxi, Eco Prim PU 1K Turbo, Planitex D15*

Installing wooden floors: Ultrabond Eco S968 1K

*This product is manufactured and distributed on the German market by Mapei GmbH (Germany)

For further info in products visit mapei.com and mapei.de





Salgótarján (Hungary) Workers' Village

THERMAL INSULATION AND DECORATIVE COATINGS TO RESTORE
THE HOMES OF WORKERS FROM THE LOCAL STEELWORKS



At the end of the 1920's in the city of Salgótarján in north-east Hungary, Rimamurány-Salgótarján LLC, the largest steelworks in the country at the time, commissioned the construction of a residential complex for blue-collar workers employed at the local steelworks. These were the first multi-storey buildings in the city and provided inhabitants with much better living conditions than the average local houses.

Even though they are not listed as buildings of historic interest, the local authorities added these buildings (formerly known as "beggars' houses" because of the low "symbolic" rent the workers who lived there had to pay) to the list of structures with conservation orders. They also launched a restoration programme which, thanks to an investment of almost 300,000 Euros, restored the complex to its former glory after a good 95 years.

LEFT: The façades were protected and decorated with QUARZOLITE BASE COAT and QUARZOLITE TONACHINO after installing the MAPETHERM thermal insulation system.



Thermal insulation and protection for the façades

Mapei Kft., the Hungarian subsidiary of Mapei Group, was also involved in the restoration work on the façades through the supply of a thermal insulation system and finishing products for 4,500 m² of façades. The system included the application of MAPETHERM RAGASZTÓTAPASZ adhesive, distributed on the Hungarian market by Mapei Kft, to bond and skim MAPETHERM EPS expanded polystyrene panels. After applying a second coat of MAPETHERM RAGASZTÓTAPASZ, MAPETHERM NET alkali-resistant glass fibre mesh was embedded in the surface to reinforce the skim-coat.

To complete the insulating system, MAPETHERM FIX metal anchors were also used, along with profiles from the MAPETHERM PROFIL line.

The insulated surfaces were then treated with QUARZOLITE BASE COAT coloured acrylic undercoat and QUARZOLITE TONACHINO acrylic coating, which is used to decorate and provide adequate protection for walls and to cover surface imperfections, including on buildings that have already been painted.

The result of all this work was to have thermally insulated façades with a highly attractive decorative finish, in line with the expectations of the client: to improve the overall appearance of this area of the city and the quality of life of its residents.



Find out more
QUARZOLITE TONACHINO

TECNICAL DATA
Koldus Palota,
Salgótarján (Hungary)
Period of construction: 1920's
Main contractor:
Nógrád Kas LLC
Period of restoration:
2014-2015

MAPEI PRODUCTS
Thermal insulation:
Mapetherm EPS,
Mapetherm Net,
Mapetherm Ragasztótapasz*,
Mapetherm Profil,
Mapetherm Fix
Wall coatings:
Quarzolite Base Coat,

Quarzolite Tonachino

For further info on products: mapei.com, mapei.hu

*This product is manufactured and distributed in Hungary by Mapei Kft.

Shanghai (People's Republic of China)

Residence of Shi Liangcai

MASONRY RESTORED AT THE FORMER RESIDENCE OF AN IMPORTANT FIGURE FROM CHINESE HISTORY USING A COMPLETE CYCLE OF MAPEI SOLUTIONS

Shi Liangcai (1880-1934) was a prominent figure on modern China's industrial, historical and political scene. Renowned educator and entrepreneur in the textiles sector, he is particularly remembered for his role as editor of one of the leading newspapers in the Chinese Republic: *Shen-bao*. Under his guide the paper took on a more radical reformist, liberalist and anti-Japanese stance, something that then led to the death of Shi Liangcai at the hands of an assassin sent by Chiang Kai Shek.

His residence, built in 1916, is still standing and open to visitors in the Sonjiang district of Shanghai. After being rebuilt in 1926 in typical Qing dynasty style, it then underwent restoration work on several occasions before being officially declared a Chinese Heritage Site in 2000.



In 2021 further restoration work was carried out, this time using a complete and specific masonry restoration system supplied by Mapei.

Restoration work to the highest standard

The primary aim of the 2021 project was to safeguard the authenticity of the building and to restore it to its original condition. Restoration of the masonry was an important part of the project and, unlike what is still a widely used practice in China, hydraulic lime-based mortar was chosen instead of cementitious mortar. This type of product was employed to prevent the risk of cracking and detachment caused by shrinkage, often connected to the use of cementitious products leading, not uncommonly, to the deterioration of masonry.

In the case of the former residence of Shi Liangcai, the masonry was rebuilt using MAPEWALL MURATURA FINE high-strength, fine-textured, natural hydraulic lime-based, transpirant mortar with very low emission of volatile organic compounds (VOC) and ideal for building masonry, including reinforced masonry, and for touching-up and plumbing walls. Thanks to its particular composition almost no hygrometric shrinkage occurs, which drastically reduces the risk of cracks forming in the mortar. It also has properties that make masonry resistant chemical and physical aggression phenomena.

MAPESTOP was then applied to prevent any further damage due to the presence of rising damp in the internal walls: a concentrated, silane and siloxane-based micro-emulsion that creates a chemical barrier against rising damp.

Before applying MAPESTOP, the masonry was treated with MAPE-ANTIQUE RINZAFFO cement-free, salt-resistant, lime and Eco-Pozzolan-based transpirant mortar, used as first layer when creating de-humidifying, transpirant and "structural" renders.

MAPE-ANTIQUE MC was then applied over the surfaces, a cement-free, lime and Eco-Pozzolan-based mortar used to create macro-porous dehumidifying render and to restore old masonry, including in buildings, as in this case, of historic significance. This product has properties that protect masonry against various chemical-physical ag-



gression phenomena, such as soluble salts, freeze/thaw cycles, the leaching action of rainwater, alkaline-aggregate reactions and the formation of cracks from plastic shrinkage.

The final step was to apply a layer of MAPE-ANTIQUE FC cement-free, fine-grained, lime and Eco-Pozzolan-based mortar to skim the render to perfection.

Thanks to the use of innovative and reliable Mapei materials, the restoration work left this historic building in optimum condition with spaces that more than do justice to the memory of its former owner.



Find out more
MAPEWALL MURATURA FINE

1. The former residence of Shi Liangcai, built in 1904, is located in the Sonjiang district of Shanghai.
2. The internal walls, damaged by the effect of rising damp, were restored with MAPESTOP.
3. MAPE-ANTIQUE MC and MAPE-ANTIQUE FC were applied on the masonry to create de-humidifying render and restore the masonry.
4. The external masonry was restored with MAPEWALL MURATURA FINE high performance, natural hydraulic lime-based breathable mortar.

TECHNICAL DATA

Former residence of Shi Liangcai, Shanghai (People's Republic of China)

Period of construction: 1916

Period of the restoration intervention: 2021

Intervention by Mapei:

supplying technical support and products for restoring masonry and renders

Main contractor:

Shanghai Shanshun Environmental Protection Building Technology Co.,

Ltd.

Mapei coordinator: Terry Pu, Mapei Construction Materials (Guangzhou) Co. Ltd

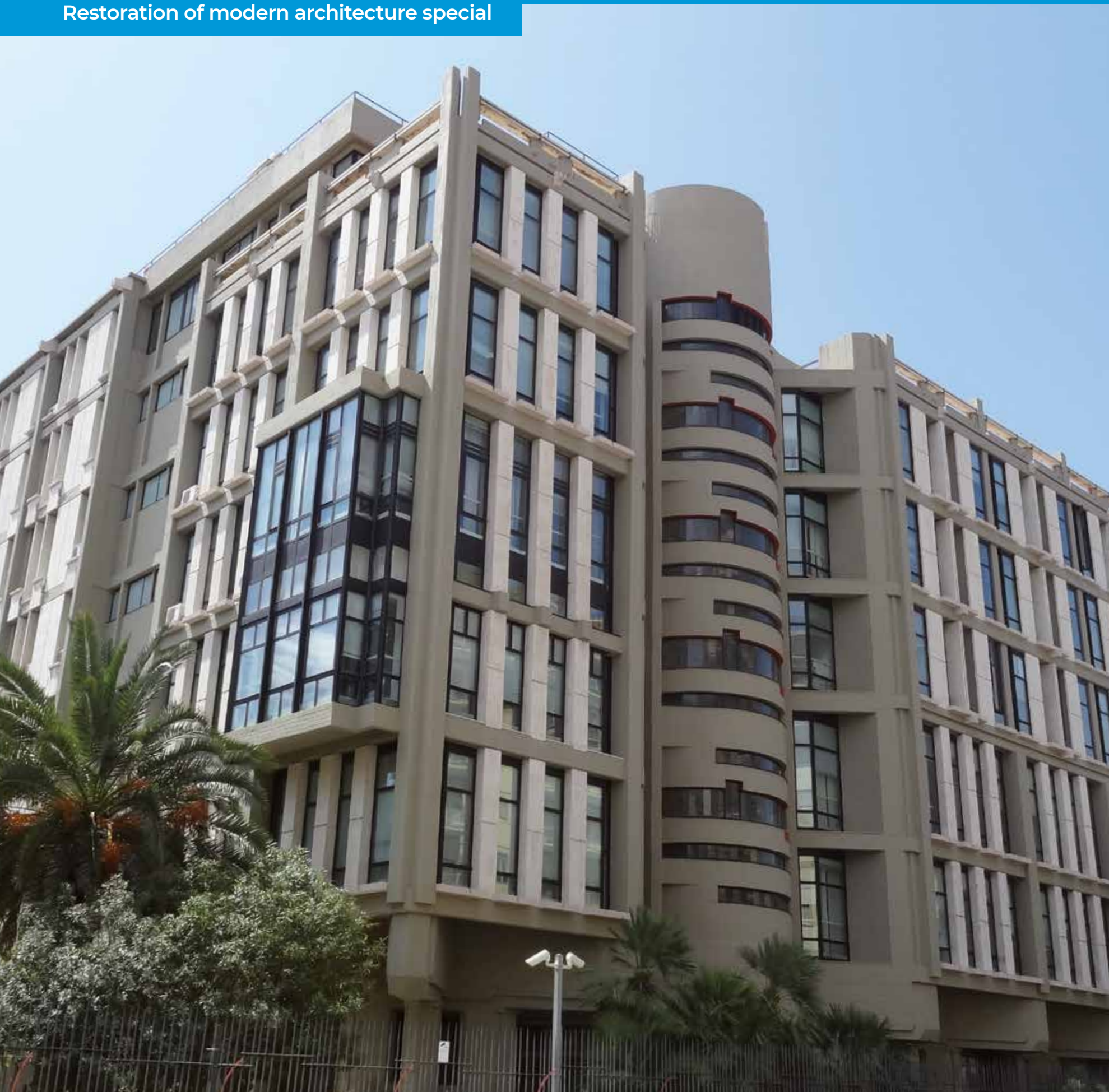
MAPEI PRODUCTS:

Chemical barrier against rising damp:

Mapestop

Restoring masonry walls: Mape-Antique Rinzaffo, Mape-Antique MC, Mape-Antique FC, MapeWall Muratura Fine

For further info in products visit mapei.com.cn



Palermo (Italy)

Enel head offices

CONCRETE REPAIR AND NEW COATINGS
FOR THE RENOVATION OF THE FAÇADES

The building housing the offices of Enel (an Italian multinational manufacturer and distributor of electricity and gas) in Palermo was built in 1963 according to a design by the architect Alberto Samonà in collaboration with his son, Alberto, and Giuseppina Marcialis. It was welcomed by critics as an architectural example of exceptional formality and is one of the most prominent buildings of post-war Palermo.

The volume of the structure is arranged into four buildings of different heights grouped around a courtyard garden, an element that acts as mediator between public space and private space, and open on one side along the main thoroughfare, Via Marchese Di Villabianca. The decision to renounce having a closed-off block is a reminder of Palermo's approach to town planning in the 19th century and serves to adorn Via Libertà with two splendid gardens.

Various influences and linguistic overlaps can be found in the four buildings that host the Enel offices. In fact, according to the architectural historian Manfredo Tafuri, there is a mixture of styles that draw references from Frank Lloyd Wright to Ludwig Mies van Der Rohe and from Giuseppe Terragni to Le Corbusier.

By assembling the elements over multiple vertical floors, and creating windows with an eccentric axis of rotation, the design creates truly dynamic architecture.

Fighting against deterioration

Before the restoration work was carried out, the structure of the complex was in an advanced state of deterioration. The unusual design complexity of the forms and elements, and the very thin layer of concrete cover imposed by the refined slenderness of the elements, exacerbated by the inefficiency of the guttering, were the causes behind the deterioration of the façades.

The structure was more badly damaged in the areas in exposed-finish concrete, particularly those more subject to rainwater runoff and leaching, with the Travertine stone covering damaged by the leaching effect of rainwater, causing the onset of deterioration of its consistency. After a careful analysis of the structure, the deterioration in the reinforced concrete was traced back to oxidation of the rebar, causing it to increase in volume and detach the concrete cover.



Restoration work

The aim of the refurbishment and conservative restoration work was to conserve the front of the building and provide effective protection, while at the same time safeguard its historic and architectural significance by respecting the original typology, forms and structural characteristics of the elements.

The approach to the project was based on the concept of "minimum intervention" and on the principle of the perfect "mechanical, chemical and physical compatibility" of the old materials used for the original structure with the new materials used to integrate the old materials or to carry out repairs.

The most difficult part was choosing which materials to use for the restoration work to ensure the identity and the memory of the building were respected, and whose symbol, still imprinted on the façade, is represented by the marks left by the wooden formwork originally used to mould the raw concrete.

Mapei's contribution

To plan the work and guarantee a high level of durability, and at the same time overcome the problem of restoring exposed-finish concrete, a well-defined procedure compliant with the reference European standard (EN 1504) had to be followed. With technical support from Mapei the work cycle was defined, along with the materials required to meet the requirements of the client. After the first series of tests with mortars, the next step was to test the wall coatings and then the complete cycle proposed for the intervention. The entire system respected the original aesthetic characteristics and guaranteed a good level of protection for the concrete.

Restoration of the ledges

Work was carried out on the deteriorated areas in the protruding part of the ledges by reintegrating the gaps and missing parts in each element to restore them to their original shape, consolidating the existing deteriorated parts and, lastly, treating the elements with protection and finishing systems. After demolishing all the crumbling and unstable areas and any parts of the concrete that had become detached, brushing the rebar by hand and then cleaning all the surfaces, the rebar was passivated by applying by brush two coats of MAPEFER 1K one-component, corrosion-inhibiting cementitious mortar. The deteriorated concrete structures were then repaired by applying MAPEGROUT 430 pre-blended, normal-setting, fibre-reinforced, thixotropic cementitious mortar with a trowel.

The surfaces were skimmed with PLANITOP 210 one-component, water-repellent, normal-setting, fine-grained cementitious skimming mortar.

The product chosen to protect the horizontal surfaces was MAPELASTIC GUARD two-component, flexible, waterproofing cementitious mortar, which forms an effective barrier against the penetration of sodium chloride and calcium and sulphate salts and against the carbon dioxide penetration on concrete substrates.

Refurbishing balconies and exposed-finish beams, pillars, and partition walls

The balconies, made up of three different elements, were restored by repairing the deteriorated areas while maintaining the original look and consistency of the architectural features. This part of the work included the repair of the old concrete and rebar followed by the application of

a protective coating and finish. As with the previous case, after brushing the rebar and cleaning the surfaces, the rebar was protected with MAPEFER 1K and MAPEGROUT 430 was chosen to repair the deteriorated elements.

The surfaces were then treated with MALECH acrylic water-based primer before applying ELASTOCOLOR PAINT, an acrylic resin-based paint in water dispersion.

The same type of work was carried out to restore the structural integrity of exposed-finish, load-bearing elements such as beams, pillars and partition walls.

Painting the façades

The aim of this part of the work on the façades was to even out and protect all the surfaces and to ensure that the old parts and the rebuilt parts would have the same texture, absorption and colour. The coloured coating of the surfaces was again created by applying MALECH primer followed by ELASTOCOLOR PAINT elastomeric paint.



Find out more
MAPEFER 1K

TECHNICAL DATA

Enel offices, Palermo (Italy)

Year of construction: 1963

Period of the

intervention: 2013-2015

Intervention by Mapei:

supplying products for the restoration of façades and

concrete repair

Client: Enel Servizi s.r.l.

Design: 3TI Progetti Italia S.p.A

Technical consultant:

Davide Bugliarelli, Tecnotek s.r.l.

Main contractor: Sicci Sud

Mapei distributor: Sacis

Mapei coordinator:

Salvatore Costa, Ignazio Vallone, Rosario Conigliaro, and Rocco Briglia, Mapei SpA (Italy)

MAPEI PRODUCTS:

Concrete repair: Mapegrout 430, Mapefer 1K

1. The damaged rebar was protected by applying by brush two coats of MAPEFER 1K corrosion-inhibiting cementitious mortar.

2. The deteriorated concrete ledges were repaired with MAPEGROUT 430 pre-blended, normal-setting, fibre-reinforced, thixotropic cementitious mortar.

3. The concrete surfaces of the ledges were skimmed with PLANITOP 210 water-repellent, normal-setting, fine-grained cementitious mortar.

4. On the balconies, the rebar was again treated with MAPEFER 1K and MAPEGROUT 430 was chosen to repair the deteriorated elements.

Skimming surfaces:

Planitop 210

Waterproofing: Mapelastic Guard

Painting façades:

Elastocolor Paint, Malech

For further info in products: mapei.it



Lecce (Italy)

Palazzo BN

FROM BANK TO LUXURY RESORT. A NEW LEASE OF LIFE FOR THE FORMER BANCO DI NAPOLI THANKS TO A COMPLETE RESTORATION INTERVENTION

Built in the 1930's in Lecce, in southern Italy, the former head office of the Banco di Napoli bank is an imposing, austere building in perfect modernist style. For many years the structure was an important chapter in the history of the city from both an economic and monumental point of view and, together with various other buildings, became part of the cultural heritage of the city.

Conservative restoration and modern restyling

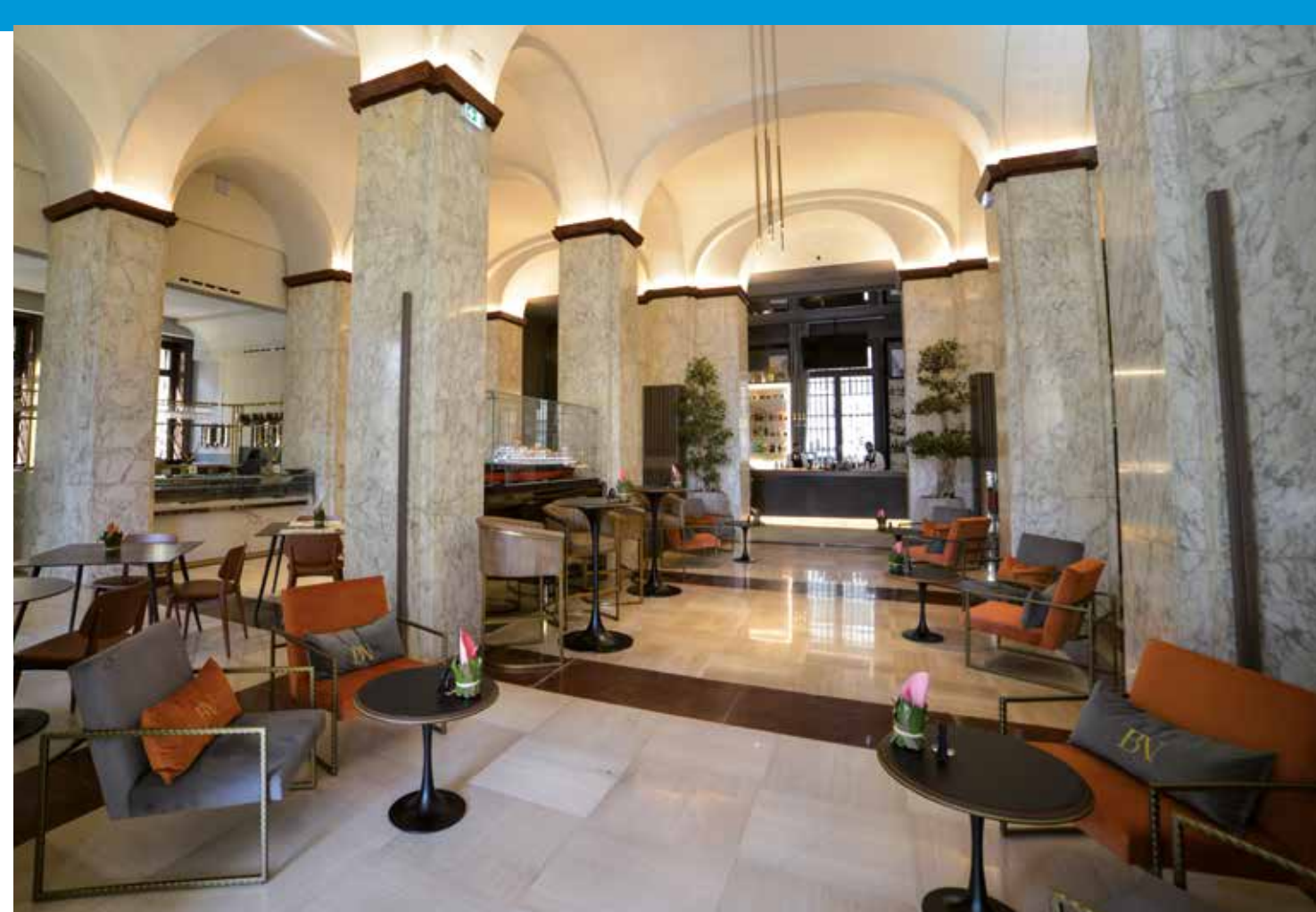
In 2009 Banco di Napoli was transferred to a different site and the building was left abandoned. After 9 years the structure was purchased with a project to turn it into an exclusive hotel with its own spa centre and food court. It took about one year to carry out the conservative restoration work on the structures and restyling of the interior. And now the imposing entrance to the bank and the former area of the cashiers desks is a food court with three lounges, a fish bar, a restaurant and a pizzeria. The offices on the first floor, on the other hand, were converted into 13 luxury apartments of between 40 and

90 m² with a kitchen, two bathrooms and luxurious furnishings. On the top floor there is a terrace with a large roof garden from where tourists and local residents can enjoy a spectacular view of the old part of Lecce. And lastly, a fitness centre has been created in what used to be the vault of the bank.

Working on this type of structure means having to rely on cutting-edge products with excellent performance, but also a technical support service that is reachable at all times and present every day on site. The client, designers and contractor turned to the local Mapei Technical Services team for support for the new flooring in the food court, the spa and fitness areas, the communal areas and in the 13 apartments, as well as for a waterproofing solution for the terrace and for the restoration of the façades.

Installation of large-format porcelain tiles

In the large food court, the spa and fitness centre and other areas, including the apartments (for a total surface



Large-format porcelain tiles were installed on the floors of the food court with ULTRALITE S1 FLEX.

area of around 1,000 m²), the project specified large-size porcelain tiles for the flooring: some of them were even as large as 3x1 m. Special products were suggested for the installation operations, such as ULTRALITE S1 FLEX, one-component, deformable, lightweight, cementitious adhesive. Thanks to its good deformability, extended open time, non-slip properties, high back-buttering capacity, very high yield and good trowellability, this product is ideal for installing thin and large-format porcelain tiles and is classified C2TE S1 according to EN 12004. The joints were grouted with high performance, quick-drying and setting ULTRACOLOR PLUS antiefflorescence, quick-setting and drying polymer-modified mortar free from Portland cement with water-repellent DropEffect® and mould-resistant BioBlock® technology. The expansion joints were then sealed with MAPESIL AC mould-resistant, pure acetic silicone sealant.

Waterproofing for the garden roof

The terrace of the former bank was turned into an open-air city park, not just for guests at the resort but also for

local residents. It is the only one of its kind in the whole of southern Italy and, apart from grass, the roof garden also has centuries-old pomegranate trees as well as mulberry, strawberry and mastic trees.

The old surface (around 700 m²) had an old bituminous waterproofing membrane. The membrane had to be checked for tears, blisters and splits, following which it was patched up with pieces of bituminous membrane before proceeding with the next phase.

After hydro-blasting the surface to obtain a clean substrate with no irregular areas, the membrane was then treated by applying PRIMER P3 polyurethane primer with a roller. PRIMER SN adhesion promoter, fillerized with QUARTZ 0.5, was, on the other hand, applied on the cementitious surfaces.

After the primers had properly cured, PURTOP 1000 pure polyurea membrane was applied by spray. The membrane was applied in a continuous layer over all the horizontal surfaces and along the vertical surfaces, as well as inside the drains positioned at various points in the surfaces. Thanks to its excellent crack-bridging properties, in-



ABOVE. The substrates on the roof garden were waterproofed by applying PURTOP 1000 membrane.

cluding at low temperatures, and to its elongation capacity, its resistance to mechanical stresses and loads and its ability to follow irregularities in substrates, PURTOP 1000 created a tough, elastic, seamless waterproofing layer. The roof garden was then created and planted over this protective layer.

Refurbishment of the façades

After hydro-blasting the façades of Palazzo BN, a finishing coat of ANTIPLUVIOL W, water-repellent, colourless, silane and siloxane-based impregnator in water dispersion, was applied over all their surfaces.

For the stone covering, on the other hand, which forms the wainscoting along the edges of the pavements around the structure, WALLGARD GRAFFITI REMOVER

GEL was used to remove all the graffiti and writing. This product is a gel detergent which, when sprayed on the surfaces with a high pressure cleaner, removes graffiti without damaging the surface. Its gelatinous consistency enables WALLGARD GRAFFITI REMOVER GEL to remain on the surface of the graffiti without transporting the stain beneath the surface. It works in 5 to 10 minutes, after which time it can be removed with water.



Find out more
PURTOP 1000

TECHNICAL DATA

Palazzo BN, Lecce (Italy)
Period of construction:
1930s

Period of the restoration:
2019-2020

Intervention by Mapei:
supplying products for
bonding porcelain tiles
in the suites, common
areas and food court;
waterproofing substrates

in the roof garden;
restoring and protecting
façades

Design: Lucia Bianco and
Luciano Ostuni

Client: Palazzo BN Srl

Works direction: Lucia

Bianco and Luciano Ostuni

Contractors: Greco

Construction Srl, Leo

Construction SpA

Contractor for

waterproofing works:

Mi.Dra. Snc

Mapei coordinators:

Achille Carcagni, Gianni

Capriglia, Luca Carcagni,

Alessandro Coscia, Danilo

De Matteis, Rocco Romano,

Mapei SpA (Italy)

MAPEI PRODUCTS

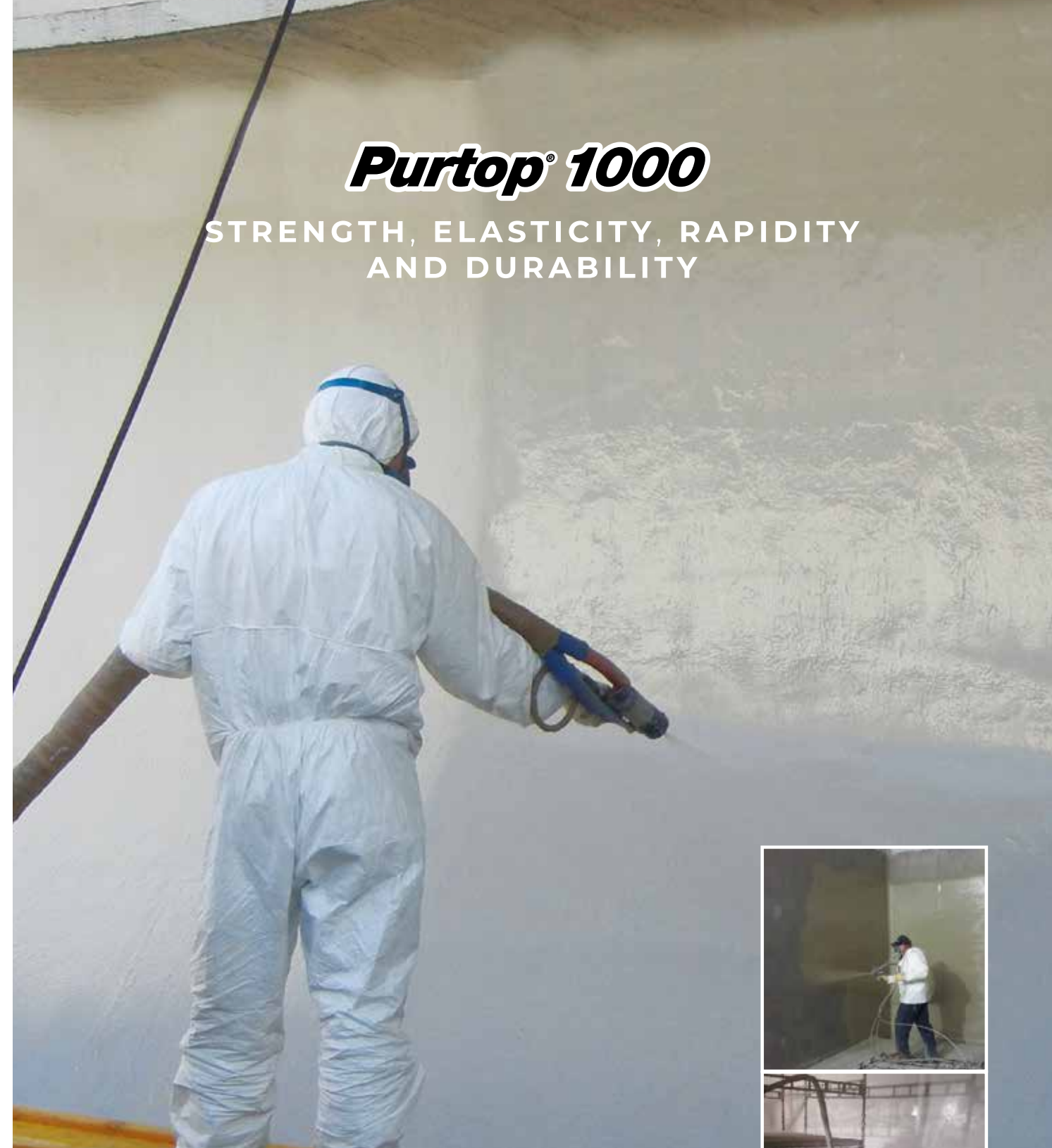
Bonding and grouting
large-size porcelain tiles:

Ultralite S1 Flex, Ultracolor
Plus

Sealing expansion joints:
Mapesil AC

Waterproofing terraces:
Primer P3, Primer SN, Quartz
0.5, Purtop 1000

Repairing and protecting
façades: Antipluvial W,
Wallgard Graffiti Remover
Gel
mapei.com



Purtop 1000 is a solvent-free, spray-applied, polyurea **waterproofing membrane** that enables surfaces to be immediately waterproof and subject to foot traffic. Thanks to its high resistance to chemicals and exceptional elasticity, it may be applied on a wide range of surfaces to create a layer that is elastic, durable and strong.



EVERYTHING'S OK
WITH **MAPEI**

Learn more on mapei.com



Chiavari (Province of Genoa, Italy)

Torre Fara hotel and apartments

BUILT IN THE 1930'S AND CLOSED IN THE 1990'S,
THIS FORMER HOLIDAY RESORT IS NOW A LUXURY RESIDENCE



A change in use and skilful restoration work have enabled this jewel in the crown of rationalist architecture to be rescued after being abandoned for far too long.

The work on the former Fara holiday resort shows just how important it is to restore our modern architectural heritage. Torre Fara is a complex architecture with dynamic, expressionist and futurist elements coming together in the best traditions of rationalist style, with lines that hark back to certain projects by famous architects such as Adalberto Libera and Antonio Sant'Elia. The building is 49 m high and consists of one volume superimposed over a second volume. The lower body runs parallel to the beach and is two storeys high. The upper body rises up vertically and is a tower with nine storeys, characterised by a row of glass windows alternating with sections of masonry.

A brief history of a historic building

Located on the seafront in Chiavari, not far from Genoa (Northern Italy), this holiday resort was designed by Camillo Nardi Greco and the architect Lorenzo Castello. Construction was carried out between 1935 and 1936 and was used initially as a summer resort, after which it was used for several different purposes: a military hospital and barracks, a centre for Istrian refugees, a hotel and a primary school. It was finally closed at the end of the 1990's and left in a state of abandonment. In 2013 the structure was bought at auction by its current owners. Since then, a lengthy process took place resulting in an agreement being reached with the local authorities and a schedule to restore the building. Work got under way in 2015 and lasted more than three years. And now, inside the building there is a luxury hotel and 18 apartments, along with a bistro and lounge, a restaurant, a congress hall and an underground spa centre.

Mapei's intervention

A lot of different areas needed to be worked on throughout the structure which, after years of being left abandoned, required attentive and complex restoration. All the technical choices were decided and agreed upon together with the Local Architectural Heritage Authority and were carried out in full respect of historic construction and conservation criteria according to the building's new area of use.

Concrete repair

The first step was to prepare the substrates of the areas to be repaired by getting rid of any portions of finish and concrete that had been previously poorly anchored to the substrate using power tools and by hydro-blasting. The exposed rebar was treated with a protective coat of MAPEFER 1K, a one-component cementitious mortar with anti-rust properties.

The areas from where concrete had been removed were then integrated with MAPEGROUT T60 fibre-reinforced thixotropic mortar.



Restoration of the façades

A coat of PLANITOP HDM MAXI two-component, fibre-reinforced skimming mortar was applied over surfaces to be restored (around 7,000 m²). MAPEGRID G120 alkali-resistant glass fibre mesh was inserted between this coat and the next and then the façades were skimmed with two even, 4-5 mm thick coats of MAPETHERM AR1 LIGHT one-component, lightweight cementitious mortar.

While the first coat was fresh, MAPENET 150 alkali-resistant fibre glass mesh was applied between the two coats. Once the skim coats had dried, the surface was finished off with pigmented SILANCOLOR BASE COAT siloxane undercoat followed by SILANCOLOR TONACHINO PLUS siloxane plaster on the red parts of the façade. The lighter-coloured parts were finished off with ELASTOCOLOR TONACHINO PLUS elastomeric plaster.

Work on the interior

The client required an efficient soundproofing system to reduce the noise of footsteps. Mapei Technical Services' proposal was to create floating soundproof screeds using the MAPESILENT dry soundproofing system, consisting of MAPESILENT ROLL sheets, MAPESILENT TAPE adhesive tape and MAPESILENT BAND R adhesive strip.

The product chosen to paint the internal walls was DURSILITE modified acryl resin-based washable, water-based paint after applying a coat of DURSILITE BASE COAT. And lastly, the adhesive ULTRABOND ECO S948 1K One-component, solvent-free, silylated polymer-based adhesive with very low emission level of volatile organic compounds (VOC) was used to install teak and oak flooring in the rooms of the hotel and in some of the apartments (2,000 m²), while porcelain tiles were installed with KERAFLEX MAXI S1 and joints were grouted with ULTRACOLOR PLUS.

The substrates on the terraces were waterproofed with MAPELASTIC TURBO and MAPEBAND rubber tape.



Waterproofing the terraces and swimming pool

The terraces were waterproofed with MAPELASTIC TURBO two-component, rapid-drying elastic cementitious mortar strengthened with MAPETEX SEL non-woven, macro-holed polypropylene fabric. MAPEBAND rubber tape was used to waterproof the corners between walls and floors and expansion joints. Slabs of travertine sandstone were installed using KERAFLEX MAXI S1 adhesive while joints were grouted with ULTRACOLOR PLUS. On the cornices, decorative paving with natural aggregates was installed using MAPEFLOOR BINDER 930 polyurethane binder, after waterproofing with MAPELASTIC FOUNDATION. The substrates in the outdoor swimming pool were also waterproofed with MAPELASTIC FOUNDATION two-component cementitious mortar, specific for waterproofing concrete surfaces.

Mosaic tiles were installed using ELASTORAPID adhesive. Joints were grouted with KERAPOXY DESIGN and expansion joints were sealed with MAPESIL AC.



Find out more
PLANITOP HDM MAXI

TECHNICAL DATA

Fara Tower, Chiavari
(Province of Genova, Italy)

Original design: Camillo Nardi Greco and Lorenzo Castello

Period of construction: 1935-1936

Period of the intervention: 2015-2019

Intervention by Mapei: supplying products for concrete repair, restoring façades, waterproofing substrates, installing travertine, porcelain tile and wooden coverings,

Design: Enrico Pinna, Alessio Gotelli (studio Geoide), Cristina Pastor (Local Heritage Authority)

Owner: Fara Srl
Works direction and safety coordinator: Alessio Gotelli (studio Geoide)

Architectural variations: Sonia Serventi

Main contractor: Edilido srl

Mapei distributor: LegnoPro snc

Mapei coordinators: Fabrizio Calò, Davide Di Bari, Giancarlo Foresi, Giuseppe Melcangi, Roberto Checchi, Roberto Aiazzi, Mapei SpA (Italy)

MAPEI PRODUCTS:
Concrete repair: Mapefer 1K, Mapegrout T60
Structural strengthening:

Planitop HDM Maxi, Mapegrid G120, Mapebet 150

Thermal insulation:

Mapetherm AR1 Light
Coating exterior walls: Silancolor Base Coat, Elastocolor Tonachino Plus, Silancolor Tonachino Plus
Building screeds: Topcem Pronto

Waterproofing substrates: Mapeband, Mapelastic Turbo, Mapetex Sel, Mapeelastic Foundation, Mapeproof Sweet
Creating decorative flooring: Mapefloor Binder 930

Installing and grouting travertine and porcelain

tiles: Keraflex Maxi S1
Soundproofing: Mapesilent Band R, Mapesilent Roll, Mapesilent Tape

Coating interior walls: Dursilite Base Coat, Dursilite

Installing wooden floors: Ultrabond Eco S948 1K

Bonding mosaic tiles in the pool: Elastorapid

Grouting joints: Kerapoxy Design, Ultracolor Plus

Sealing expansion joints: Mapesil AC

For further info in products visit mapei.com

FOR THE BEST COLOUR, ONLY THE BEST PAINT WILL DO.



Everybody likes to choose the right colours for their home, but you need to find the correct eco-sustainable product, to guarantee long-lasting beauty. And the **Dursilite range of wall finishes** is the best possible choice to protect and decorate your walls to perfection.

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WITH **MAPEI**

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by Daniele Sala

MAPE-ANTIQUE NHL ECO range

LIME-BASED PRODUCTS FOR AN INNOVATIVE AND SUSTAINABLE FUTURE

"We start from an idea of the future, a future of innovation and sustainability, where constructing means creating shared value and where progress means everyone moving forwards, because the future is our destination"



MAPE-ANTIQUE NHL ECO RESTAURA is a multi-purpose, cement-free mortar made from natural hydraulic lime and Eco-Pozzolan.

Today, sustainability and environmental issues in general are the main focus and objective in the building sector, a sector which is going through a period of profound change. The aim of studying new technologies, and of making more informed choices with regards to materials and adopting innovative construction techniques, is to achieve the maximum efficacy and durability of the solutions implemented and guaranteeing, at the same time, that the whole building process is eco-compatible and sustainable.

Thanks to the company's Research and Development activities, Mapei is paving the way to concrete sustainability, combining the study of materials from the past and innovative technologies, with the aim of supplying materials of the highest quality that remain durable over time and that have less impact on site. We study and propose solutions that guarantee more simple waste management processes and that require less time and energy for their manufacture. To design a sustainable world is a fundamental commitment for Mapei. A commitment that translates into ensuring that innovative, durable products and solutions with a low impact on the environment are available for designers, contractors, users and clients.

The MAPE-ANTIQUE NHL ECO range

Mapei proposes materials made from natural hydraulic lime (NHL) with zero cement content that provide a long-lasting solution to problems encountered on any type of masonry building, including prestigious and listed buildings.

Products from the MAPE-ANTIQUE NHL ECO range embody the concepts of eco-compatibility and sustainability to the full, in that they are made from materials that have a high content of recycled material. What is more, the range is made up of mortars manufactured in highly efficient production plants



with low impact on the environment making use of renewable energy. Another important element that denotes this philosophy of sustainability is the decision to use recyclable paper and cardboard packaging, as testified by the Aticelca logo printed on the bags.

MAPE-ANTIQUE NHL ECO RESTAURA

How do you restore a façade with deteriorated render? You just need to choose products from the MAPE-ANTIQUE NHL ECO range. For example, MAPE-ANTIQUE NHL ECO RESTAURA is a multi-purpose, cement-free mortar made from pure, natural hydraulic lime and Eco-Pozzolan with recycled materials and is particularly recommended for restoring and levelling off substrates, render and mineral coatings on any type of existing buildings, including those of historic and artistic interest and listed buildings.

Here are the main characteristics of this product: Its most important characteristic is versatility, which makes this product a valid solution to a host of problems encountered when working on façades: rebuilding work, pointing substrates, including exposed finishes, and partial or complete refurbishment and levelling off of render and skim coats, including those with old paintwork.

MAPE-ANTIQUE NHL ECO RESTAURA may be applied in thicknesses ranging from 3 to 30 mm.

It is sustainable because it contains less virgin raw materials and any work carried out with this product ensures that the building has a long service life. MAPE-ANTIQUE NHL ECO RESTAURA is the ideal and sustainable product for both new eco-sustainable buildings and existing buildings, included historic and listed ones. Just like the skimming products in the MAPE-ANTIQUE NHL ECO range (MAPE-ANTIQUE NHL ECO RASANTE CIVILE and MAPE-ANTIQUE NHL



Rebuilding brick masonry



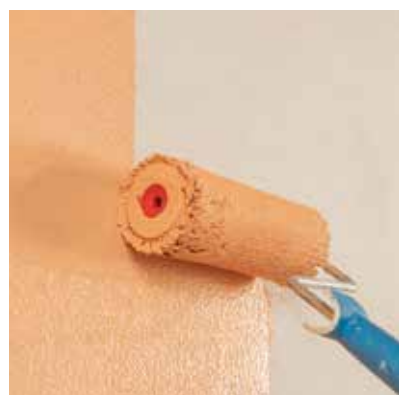
Levelling off and repairing render



Positioning an alkali-resistant glass fibre mesh on the first skim coat.



Rebuilding a construction feature



Painting of substrates rebuilt with MAPE-ANTIQUE NHL ECO RESTAURA.

ECO RASANTE GROSSO), MAPE-ANTIQUE NHL ECO RESTAURA is highly breathable, which means it may be applied on any type of render, including breathable render. It has also been developed to have complete elastic-mechanical compatibility with any type of masonry substrate.

The product complies with EN 998-1 standards and is classified GP: "General purpose mortar for internal/external render", Category CS II. Also, according to EN 998-2, the product is classified as T: "Thin layer masonry mortar", Class M 2,5.

Application and finish

MAPE-ANTIQUE NHL ECO RESTAURA may be applied by trowel or with a spreader after being prepared in a cement mixer, or with an electric drill at low-speed with a mixing attachment for smaller quantities or in a continuous-feed rendering machine when applied with a pump. It may also be applied with MAPETHERM NET alkali-resistant glass fibre mesh embedded in the mortar when used as a skimming mortar to even out existing render and areas of rebuilt render.

Whichever application method is adopted, the surface of MAPE-ANTIQUE NHL ECO RESTAURA may be finished off with hand tools such as a plastic, wooden or sponge float or with a power-float just a few hours after application, according to the surrounding temperature and weather conditions. It may be painted or coated with a coloured, silicate-based (SILEXCOLOR RANGE) or siloxane-based (SILANCOLOR or SILANCOLOR PLUS range) mineral finish, or with any type of finish.

Mapei has always been synonymous with quality, innovation and experience and guarantees a complete technical assistance service for every phase of work. The products from MAPE-ANTIQUE NHL ECO range are increasingly in demand by contractors working on both small and large-scale sites, making it easy to find at the sales points of distributors of construction materials.



Watch the video
MAPE-ANTIQUE NHL ECO RESTAURA

Restoration Line for Masonry Buildings, Mapei SpA (Italy)

REBUILDING AND SKIMMING WITH LIME, THE BEST **ECO MORTAR** FOR ALL BUILDINGS.

PURE NATURAL
HYDRAULIC LIME

CEMENT-FREE

Mape-Antique NHL ECO RESTAURA is the **multi-purpose mortar made from pure natural hydraulic lime** and recycled materials applied in layers 3 to 30 mm thick particularly recommended for rebuilding and levelling off substrates, render and mineral-based coverings in all buildings, including prestigious buildings.



EVERYTHING'S OK
WITH **MAPEI**

Learn more on mapei.com



Our strength: delivering complete solutions

FLORIN CIOBANU, GENERAL MANAGER OF MAPEI ROMANIA: WE ARE AN IMPORTANT PLAYER IN MANY SECTORS OF THE BUILDING INDUSTRY

What are the prospects for the Romanian building industry following the lengthy Covid-19 pandemic?

The Romanian building trade has not suffered significant losses over the last two years affected by the pandemic. We have seen a short-term reduction in the demand for housing that stagnated from February-May 2020, i.e. at the beginning of the pandemic. Sales of building materials also stagnated, especially in the DIY sector, during the period when 'green passes' started to become mandatory, i.e. in September-October 2021. As for the outlook for the future, we expect housing to be affected to some extent by the latest events in Ukraine.

The government in Bucharest plans to invest heavily in infrastructure: what opportunities does this open up for Mapei?

By accessing the European Union's NRRP (National Recovery and Resilience Plan), the Romanian government intends to invest heavily in road and rail infrastructures. Since last year, projects for the construction of important highways and the modernisation of railway routes have already been set underway. This is certainly an opportunity for Mapei Romania

because we can supply complete products/solutions for this type of project: admixtures for concrete (including shotcrete), waterproofing, systems for protecting and repairing concrete, materials for digging tunnels with TBMs (Tunnel Boring Machines).

“ Projects associated with the NRRP to build motorways and modernise railway lines will provide an opportunity for Mapei Romania to grow

Mapei does not have a production plant in Romania: where do the products come from that are then sold on the domestic market and which channels are used to market them?

The products are imported by other Group subsidiaries, such as those in Bulgaria, Poland and Hungary, as well as by the Italian parent company. They are then distributed on the Romanian market through various channels: distributors, DIY chains, large construction companies and professional appliers.

What are the most interesting product lines for Mapei Romania?

The products that have made our brand known on the Romanian market are those for installing ceramic and stone materials (adhesives, grouts, sealants), as well as those, especially in recent years, for installing resilient materials and for the building industry. Mapei is highly esteemed in Romania due to the fact it can supply complete systems to installers of PVC, wood and LVT floors and walls and also applicators of cementitious and resin-based floors, waterproofing specialists and companies handling major infrastructure projects. For example, we supply a full range of structural strengthening systems,

including composite materials, such as glass, carbon fibre and basalt fibres. In addition, we have experts in our team (including engineers) who can assist clients and designers at every stage in their projects, from design to final execution.

Mapei has begun working in the field of education: can you explain its goals and the results it has already achieved?

We have given scholarships to undergraduates and PhD students in construction engineering at prestigious universities around the country, such as those in Bucharest, Iasi, Cluj and Timisoara. These

HISTORY OF THE SUBSIDIARY

Mapei Romania is a subsidiary of the Group that has been operating since 2006, when it started marketing building products in Romania. Its range of products is primarily aimed at three important segments of the building industry: products for installing floor and wall coverings made of ceramic, stone, resilient and textile materials, and wood; building materials, including waterproofing agents, products for underground works and systems for cementitious and resin floors; admixtures for concrete. Its headquarters in Bucharest and warehouses in Bucharest and Brasov allow Mapei Romania to supply customers all over the country through three main sales channels: distributors, DIY chains and direct supplies to

contractors, especially in the case of major building site operations.

Its extensive network of technicians and agents operating in every province means it can guarantee an efficient technical assistance service to professionals in the industry, working with engineers, architects and installers so they can always find the most sustainable product best suited to the needs of any given project.

All this allows Mapei Romania to contribute to the construction of miscellaneous types of projects (residential, commercial, infrastructural) and to increase the visibility and familiarity of a brand that can boast an excellent reputation in the country.

MAPEI ROMANIA

2006

YEAR IT WAS FOUNDED

20.8

MILLION EUROS
REVENUE IN 2021

23

MILLION EUROS
REVENUE FORECAST
FOR 2022

77

STAFF

1

HEAD OFFICE
IN BUCHAREST

2

WAREHOUSES
IN BUCHAREST AND BRASOV



The building housing Mapei Romania's headquarters in Bucharest.

Florin Ciobanu,
General Manager
of Mapei Romania.



RIGHT:
The Mapei Romania warehouse in Brasov in the Transylvania region.



“ Our team is renowned for its commitment to supporting young artists and its partnership with architects and their enterprises

projects were halted during the pandemic, but we intend to resume them as soon as normality returns.

Is the shortage of expert staff in the various realms of the building trade a problem in Romania, as it is in other countries?

The unemployment rate in Romania is one of the lowest in the whole of Europe. In recent years, it has been the European country with the highest number of peacetime emigrants to other countries, which is why we are now having to deal

with a serious lack of skilled labour. So, we have decided to train and develop our human resources in-house. For example, we are running a professional development programme that includes technical training provided by our own professionals. At the same time, we are planning training sessions to be organised by external companies to develop our staff's 'soft skills'.

Mapei and sport: what projects tie the Mapei brand with the world of sport?

Sport has always been one of our interests in line with the Group's corporate philosophy. That is why our team is involved in programmes to sponsor sports competitions such as the Triada MTB race or sports teams like Potaissa Turda handball team.

What partnerships does Mapei Romania have with professional and business organisations and associations in the industry?

Our team is renowned for its commitment to supporting young

talent and artists. We have carried out projects to help students in the Faculty of Art and Architecture in the country's famous universities, such as those in Bucharest and Timisoara. Among the various projects worth mentioning are the UNARTE programme, the only art competition in Romania devoted to the art of mosaics and its role in modern art and architecture. Finally, we work with the Association of Romanian Architects, with which we have various partner projects even on a regional level.

ALL-ROUND COMMITMENT



SOCIAL RESPONSIBILITY

The Romanian subsidiary also supported the MagicHOME project from 2019-2021, which offers free accommodation to families and children suffering from cancer or other serious illnesses. MagicHOME is comprised of a network of 13 shelters in Romania, Moldova and Austria. Mapei Romania helped build the Bucharest centre, supplying products for screeds, waterproofing agents, adhesives and grouts for ceramic tiles. The centre can now accommodate 25-30 people and provide 10,000 meals a day.

SPORT

Mapei Romania has been sponsoring AHC Potaissa Turda since 2018, one of the most important handball teams in the country, which won the European Challenge Cup in 2018. The team's matches are broadcast on national TV twice a week, which helps boost the Mapei brand's popularity among a wide audience of Romanian viewers.



ART AND EDUCATION

In the field of education, Mapei Romania works on such original projects as the "Mapei Color Competition" that involved some of the most talented mosaic art students from UNARTE, the Romanian National University of Art, from 2017 to 2021. They were assigned the task of designing a mosaic work in just three weeks using Mapei products like ULTRACOLOR and KERACOLOR FF grouts for joints.



SAFEGUARDING THE HISTORICAL HERITAGE

Mapei Romania is also closely focused on safeguarding its artistic/ historical heritage, as demonstrated by its contribution to the restoration of Neptune Baths in Băile Herculane. This is a spa complex designed between 1883 and 1886 by architects from the Imperial Court of Austria, which is now in a very poor state of repair. The works include consolidation work, repairs to the plasterwork and reinforcement of the roofs to restore the structure to its original splendour so it can once again be used for its original purpose. Since 2021, Mapei Romania has been providing technical consultancy and products for the restoration of the walls (MAPE-ANTIQUE I) and the construction of a chemical barrier (MAPESTOP KIT DIFFUSION) to prevent water from seeping in.

Sibiu

Baia Populară public baths

MAPEI SOLUTIONS FOR INSTALLING CERAMIC TILES
IN THE POOLS AND WET AREAS

The first ever spa baths in the town of Sibiu were completed in 1840, but it was only at the end of the 19th century that a large public spa centre was built. Baia Populară Sibiu, inaugurated in 1904, was founded under the management of Professor Karl Hocheder from Munich Technical University, a combination of neo-Baroque style and Jugendstil elements. The centre included a large pool, a wet sauna and a dry sauna, 32 cabins for Turkish baths, showers, changing rooms and separate rooms for massages and therapeutic baths. After a

short while, more rooms were added to welcome incoming guests from more distant areas: in 1906 it became the Stadtpark healthcare centre and managed to accommodate up to 5,000 guests every year from all over Romania, Turkey and Germany. Today, Baia Populară offers renovated and extended spaces, cutting-edge equipment and a restored and renovated structure to help maintain the beauty of its centennial history, while at the same time offering modern services to Romanian guests and tourists.

The renovation and extension work has made it much easier to access the various areas of the centre, including for people with special needs, and the range of services available has been extended: from rehabilitation therapies to massages using stones and water, and from anti-stress treatments to gym-based sports activities. There is a large swimming pool available for guests, as well as three saunas, a salt cave, two smaller pools, one with hot water and one with cold water, ample changing rooms and waiting rooms.



1. The Baia Populară spa centre, dating back to 1904, was recently renovated to provide modern spaces and cutting-edge services to its guests.

2. Glass mosaic was installed in the large central pool with the adhesive system KERABOND T-R + ISOLASTIC.

Products safe for use in damp surroundings and pools

Mapei Romania also took part in the renovation work on the spa complex, particularly with the supply of solutions to install glass mosaics in the pools and natural stone and ceramic tiles in damp areas (bathrooms, showers, changing rooms, etc.). Cracks in the substrates were repaired with EPORIP two-component, solvent-free epoxy adhesive, which is particularly suitable for creating monolithic seals in cracked screeds. The substrates were then levelled with a bonding slurry made from PLANICRETE synthetic latex.

The glass mosaic was bonded on the pools surfaces and on the walls of the wet areas with the KERABOND T-R + ISOLASTIC system. KERABOND T-R is a thixotropic cementitious adhesive distributed on the Romanian market by Mapei Romania. ISOLASTIC latex ad-

ditive improves its bond to all types of substrates, as well as its deformability and impermeability.

Natural stone and ceramic tiles were bonded on floors of the wet areas with KERAFLEX MAXI S1 deformable, cementitious white adhesive with extended open time and no vertical slip.

The joints in the ceramic tiles were grouted with KERAPOXY two-component, anti-acid epoxy mortar, which forms extremely durable and hygienic joints with excellent mechanical properties.

Today Baia Populară is an historic spa centre promoting the tradition of "salus per aquam" with modern services, a perfect balance between the past and modernity.



Find out more
KERAPOXY

TECHNICAL DATA

Baia Populară thermal baths, Sibiu (Romania)
Period of construction: 1904

Original designer: Karl Hocheder
Period of renovation: 2020-2021

Design: Guttman Szabolcs

Period of the Mapei intervention: 2020-2021

Client: Sibiu City Council, Public Services Department

Works Direction: Arhitect Service Guttman & Co ARCHITECT; K&K Studio de Proiectare

Main contractor: Euras
Installation company: SC

Aqua Tehnoserv SRL

Mapei Distributor: Arca Cluj

Mapei coordinator: Ovidiu Badea, Mapei Romania
Photos: Alexandra Bendea, K&K Studio de Proiectare

MAPEI PRODUCTS

Preparing substrates: Planicrete, Eporip

Installing glass mosaic: Kerabond T-R*, Isolastic
Grouting joints: Kerapoxy

*This product is distributed on the Romanian market by Mapei Romania.

For further info on products visit mapei.com and mapei.ro

From Bucharest to Brasov: a project portfolio

MAPEI'S CONTRIBUTION IN BUILDING OR RENOVATING COMMERCIAL, INDUSTRIAL, RESIDENTIAL AND SPORT FACILITIES



St. Constantin Hospital Brasov

This hospital in Brasov is one of the most modern private healthcare centres in Romania. With its cutting-edge equipment, a staff of 180 and 88 beds, it provides patients with comfortable spaces and medical care of the highest quality. Between 2016 and 2018, the roofs of the hospital were waterproofed with MAPEPLAN M synthetic membrane. On the terraces, the substrates were prepared with TOPCEM and PLANICRETE and waterproofed with MAPEBAND and MAPELASTIC, before installing granite and ceramic tiles using KERAFLEX MAXI S1 and ADESILEX P9 and then grouting joints with KERACOLOR FF and ULTRACOLOR PLUS. In the bathrooms, the substrates were waterproofed with MAPEGUM WPS and MAPEBAND PE 120, while the water tanks for the firefighting system were waterproofed with PLANISEAL 88.

Herastrau hotel and restaurant Bucharest

The Herastrau complex, situated in a natural park on the outskirts of Bucharest, includes a hotel, a dancehall, a tavern, and a restaurant overlooking the lake of the same name and surrounding gardens. The restaurant, designed in 1930 by Octav Doicescu, recalls the bohemian atmosphere of its origins and can seat up to 500 diners. The hotel, which has 36 rooms and two suites, is situated in the centre of the park on the edge of the lake. Mapei Romania was involved in the renovation work on both structures through the supply of products to treat and level off substrates, such as ECO PRIM GRIP, ECO PRIM T, PRIMER MF EC PLUS and ULTRAPLAN, as well adhesives to install LVT flooring, such as ULTRABOND ECO V4 SP and ADESILEX VZ.



George Enescu International Airport Bacau

This airport is the largest in north-east Romania and is used by more than 420,000 passengers each year. Mapei solutions were used extensively during the extension work carried out in 2016-2017. The substrates in the control tower were treated with PRIMER G or EPORIP and ULTRAPLAN FAST TRACK or ULTRAPLAN ECO and the terraces were waterproofed with MAPEBAND and PLANISEAL 288. In various other areas, stone and ceramic tiles were installed with KERAFLEX MAXI S1, ADESILEX P9 and KERABOND T-R and joints were grouted with KERACOLOR FF and ULTRACOLOR PLUS. The storage tanks for the fire-fighting system were waterproofed with PLANISEAL 88.



Tudor Vladimirescu Stadium Targu Jiu

This new stadium replaces the one built in the 1930's in the city of Targu Jiu. It extends over an area of 37,500 m² and has a capacity of 12,000, as well as a carpark for 150 vehicles. Thanks to an investment of 22 million Euros, a multifunctional structure was built that provides comfortable spaces for spectators, athletes, trainers and journalists.

The foundations of the stadium and underground carpark were waterproofed with Mapei solutions, such as PVC-P MAPEPLAN UG synthetic membrane (manufactured by Polyglass, a subsidiary of the Mapei Group) and POLYDREN PP non-woven geotextile to create compensation, levelling, protection and filtering layers.

Mapei at MyPlant&Garden

NEW SOLUTIONS FOR THE OUTDOORS: FROM SPORT GROUNDS TO PARKS



23-25 FEBRUARY 2022
Milan Rho Fairground

Innovation, sustainability, aesthetics and lots of colour: these are the elements that characterise the dedicated solutions aimed at landscaping, urban décor and sports facilities Mapei brought to MyPlant&Garden, the most important trade fair for professionals from the Italian horticulture, botany, gardening and landscaping sectors held at the Milano Rho Exhibition Centre from 23rd to 25th February.

It proved to be a successful event, with more than 18,000 visitors from the various professions and more than 20% of the exhibitors from abroad.

At the event Mapei cultivated and promoted the "desire for green", proposing systems embracing an extensive range of solutions for outdoor sports, gardening and landscaping in open settings to be

lived and shared: durable spaces requiring very little maintenance thanks to innovative solutions. The MyPlant&Garden trade fair was the perfect occasion to present the multiple different ways of interpreting open-air, public, residential, leisure and sports spaces and Mapei Paving Partner, Mapei's team of specialists that provides support for sector professionals during all the design, executive and maintenance phases of paving and landscaping.

Pervious surfaces in the spotlight

To meet the demand for ways of dealing with rainwater, pervious surfaces have become a key solution in numerous settings. Mapei presented the combined solution consisting of ECO DRENO, a ready-to-use, highly permeable,

eco-sustainable system, formulated with 100% recycled and certified aggregate, with high mechanical properties, available in 4/8 mm and 8/12 mm grain sizes, unique of its kind, with MAPECOAT TNS PAINT, a coloured coating made from made from acrylic resin, available in any color shade required, that has no effect on the drainage properties of paving. And again, on the subject of pervious paving, including highly durable paving, also on show at the event was the tried and tested MAPESTONE JOINT, a solvent-free polyurethane binder for grouting joints in natural stone paving already filled with properly sized aggregates.

Thanks to this technology, it is now possible to create architectural natural stone paving in the formats required that is not only pervious, but also flexible.

Making way for architectural paving

An alternative solution, again for highly durable architectural paving suitable for vehicle use, but in this case a monolithic solution, is the MAPESTONE SYSTEM consisting of pre-blended cementitious installation mortar (MAPESTONE TFB 60) and grouting mortar (MAPESTONE PFS2 FLEX or MAPESTONE PFS2 VISCO) for natural stone, clay brick pavers, engineered stones, interlocking blocks and thick porcelain tiles. A very special solution, similar to the previous one but for areas of particular historical interest, is the MAPESTONE CALCIX System of pre-blended lime-based mortars. As part of the presentation of solutions for architectural stone paving, the trade fair was the ideal occasion for the official launch of MAPESTONE GR-ECO, an innovative product revolutionising the concept of sustainability for external pedestrian and residential paving. This product is a pre-blended mortar with natural fibres of vegetable origin and mineral aggregates. With zero cement and lime content and 95% lower CO₂ emissions compared with traditional mortar, it is the ideal solution for grouting joints in paving in any setting with moderate vehicle use where it is indispensable to meet the demand for natural-looking solutions, such as parks, gardens and green spaces in general. Thanks to this technology, in combination with a pervious in-

stallation bed, it is possible to create paving with filtering properties in natural stone, clay brick pavers, engineered stones, interlocking blocks and thick porcelain tiles in the formats required.

Coloured surfaces for coloured cities

And for those who want to exalt the creativity of surfaces open to vehicles? For them Mapei presented MAPECOAT TNS EXTREME, the new two-component, water-based, rapid-drying, epoxy-acrylic coloured topcoating with selected fillers. Specifically formulated to create a durable coating on surfaces for vehicle use, footpaths and cycle lanes, this special technology has the capacity to create the perfect combination of being both rapid drying and slip-resistant in wet conditions, crucial for pedestrian safety. With excellent mechanical properties and high resistance to potentially aggressive chemicals, this product helps increase the durability of treated surfaces. And what is more, thanks to the ColorMap system by Mapei, it is possible to fulfil any request to upgrade a surface or create a specific aesthetic effect.

For information and more insight, we invite you to contact the technical assistance team at Mapei Paving Partner at the following addresses: sport-technology@mapei.it and pavimentazioniarchitetoniche@mapei.it

A convention on the theme of Landscape

For Mapei, the MyPlant&Garden event was also the perfect occasion to share the technical experience of the company's experts with professionals from the sector, with an appointment organised in the Landscaping Area and Sports Surfaces space.

On Friday, 25th February the landscape architect Andreas Kipar, from the Land landscaping consultancy, introduced the theme of urban landscapes and the contemporary challenges to design at the convention organised by Mapei: "Mapei Paving Partner: the landscape is everything, because everything is part of the landscape!". Moderator at the convention was Marcello Deganutti, Corporate Product Manager for Mapei Architectural Stone Paving Line, with presentations by Elisa Portigliatti, Corporate Product Manager of the Mapei Sports Flooring Line, Grazia Signori and Giuseppe David, specialists from the Mapei Architectural Stone Paving Line, and landscape architect Serena Marinelli. The next few pages feature interviews with both Andrea Kipar and Serena Marinelli.



The importance of breaking the mould

LANDSCAPE ARCHITECT ANDREAS KIPAR: IN RECENT YEARS THE WAY WE THINK ABOUT CITIES HAS CHANGED RADICALLY



“ **The imperative is to recover sociality: to promote urban nature as a safe and healthy refuge** ”

Andreas Kipar, you are one of the international pioneers of landscape design, especially in urban settings. Can you briefly tell us about some of your projects?

We are working on several projects with our team in Italy, Switzerland and Germany: for over 30 years, the concept underpinning all these projects has been the fact that the landscape comes first, it is the starting point of every process, however big or small, short or long term; that is evident in every project: from Piazzale Loreto, where we will work from the spatial concept of a city square to restore this part of the city back to Milan, to MIND (Milano Innovation District) that will transform the Expo 2015 area into an innovation district and reconnect this part of the city with its surroundings, strengthening the very identity of the place itself and its community. Based on the principle "Landscape First", a landscape project becomes a means of generating new urban identities defining an urban ecosystem according to the principles of sustainability and innovation.

The landscape is everything and everything must start from the landscape to achieve sustainable growth. Now that the dialectics between architecture and nature are increasingly pressing and strategic, how do you envisage the role of landscape design in the short and long term?

Over recent years the way we envisage cities has

changed radically as more liveable urban landscapes have been developed with greenery playing a crucial role in building landscape narratives capable of regenerating urban communities and territories through a sustainability approach based on connecting back with nature.

Open space creates urban space, a theory that has already been successfully put to the test in urban areas like Milan with its so-called "green rays" and in the city of Essen in the Ruhr region (Germany) that was made thee Green Capital of Europe in 2017. The imperative is to recover sociality and promote the presence of inner-city nature in the sense of safe and "healthy" refuges. The year 2020 also brought about a profound rethinking of the relationship between building types and urban morphology and has resulted in a real injection in pace in working from home. The consequences of this have included greater functional demands for housing, the call for greater 'proximity' in neighbourhoods and a rethinking of tall buildings for the services sector that increasingly 'visually' characterise services centres. Our mission to "Reconnect people with nature" offers a compromise between the need to create new architecture and the need to create a new cityscape. A return to nature is possible when new areas are made available by building upwards. Our approach to design aims to tackle the dialectics between the verticality of buildings and horizontality of the cityscape: I am in favour of a "holistic" side of the new urban landscape that is based on a return of nature, partly by reclaiming land to be used for cultivation purposes on the roofs of these buildings themselves (as technology now increasingly makes possible), without forgetting the need to genuinely revitalise urban land, which has been mistreated for too long.

One of your mottos is "Let's break it up", let's break with the past and look at things from a different angle. What does that mean for architects, administrators and for all of us inhabitants, not to mention people visiting cities and tourists?

Nowadays, green areas are no longer just decorative, they now serve an infrastructural purpose creating a new image of urban nature. A city can be 'dressed up' differently, but only if its 'body' is considered first, so bringing nature back into the city is no longer just a necessity in terms of the landscape but also structurally

and functionally in relation to urban management and people's wellbeing. From an ecosystem perspective, urban greenery is now a means of managing rainwater, controlling the microclimate, reducing pollutants and providing healthy spaces rich in biodiversity. In city centres, for example, it is also a matter of transforming uninviting squares into more attractive places. This will benefit all city users, because a place with a pleasant atmosphere becomes a real attraction, a place to be.

How crucial is the role played by sustainable technologies and materials?

In the age of ecological and digital transition, the benefits of nature to people must be monitored and quantified. Working with LAND Research Lab®, we started with BIM, Building Information Modelling, to develop LIM (Landscape Information Modelling®). That is to say, to incorporate the issue of the landscape in new design and control tools. LIM allows us to measure the landscape over time; predictions related to a dynamic system by means of digital simulation takes on fundamental importance in our work. It is no longer a question of just planting a tree or creating a new green area, but also of being able to calculate, season by season and year by year, its contribution in terms of reducing pollution, increasing biodiversity and reducing warming. Only then will landscape be taken into account in city/company budgets, raising people's awareness so the motto "Reconnecting People with Nature" can be transformed into real political and economic action.

First people, then spaces and architecture. That is one of the key concepts we see in many of your projects, where, for example, starting with people, a square is no longer just a square, it turns into a community. How is this new approach implemented on a design level?

The landscape is an expression of the public realm in the sense of being a society made up of people. We focus on human beings, who are increasingly expressing the desire to have nature within easy reach. Attention to people necessarily means attention to living space. This is even more true in densely populated cities like Paris, Rome or Milan, where the rediscovery of public space requires a great deal of synergy/governance on a public/private level. In urban regeneration, there is a need to move on from designing green space to genuine

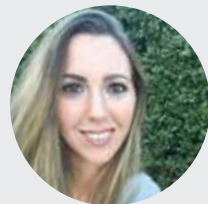


ABOVE. The Porta Nuova area in Milan.

urban landscape design. In the near future, cities will be increasingly populated and "lived in" through their public space, which must, therefore, become a container of across-the-board services. The real challenge is not the number of trees to be planted but the quality that these trees can introduce into public space.

There are lots of young professionals in your team and you devote a lot of energy to training the architectural designers of the future. Based on your experience, what are the most important lessons for them to learn?

In this decade of sustainability, the next generation has a truly crucial role to play. Let's start with 'Fridays for Future': for years various leading figures have been warning us about the implications of climate change. But the real game changer has been the empathic personal/individual involvement of Greta Thunberg. The best thing we can do for young people nowadays is to give them space for their creativity, actions and thoughts, offering them the opportunity to be radical in asking questions and enforcing the UN goals of the 2030 Agenda for Sustainable Development. Our firm, which brings together people from over 20 countries with an average age of 32.5 years, is committed to that: building a platform for future generations, so they can use their imagination, their creativity and, above all, their "Haltung" (their attitude) to act ethically to build the kind of world we need. Respecting nature and reconnecting with nature itself.



Natural elements as key players of projects for open areas

WE SPOKE WITH ARCHITECT SERENA MARINELLI

What is the overall vision you usually adopt when designing a project for an open urban space?

The overall vision I adopt when working on a project for an open space is, first and foremost, to get a proper critical analysis of the area in question. I always try to start by analysing the setting in which the project area is located to understand its relationship with the city and to study in detail any critical points to be eliminated and strong points to focus on.

Over the last two years people's perception of these spaces has changed. Has your approach as a designer also changed?

Over the last two years we have gone through a moment in history that has changed our visions and habits. People have certainly realised the importance of open spaces. My approach as a designer has not changed, because I have always attached great importance to outdoor congregation spaces.

One of your latest projects involved an observation deck in a tourist resort along the Marche coast. What were the key features of that project enabling a dilapidated area to be brought back to life and to attract the local community?

Features like the sea, nature and the landscape were the most important aspects of the restyling project. The key features of my design highlighted these natural elements, which I consider to be the project's real strong points. The main aim, however, was not to completely upturn the area, which is why the layout stayed the same. The goal was to give an identity back to a place in the city that had been lacking one for many years. By studying

and analysing the area's critical points and strong points, I proposed ideas like the construction of a new paving using architectural concrete, the installation of new lighting, which varies according to the type of route (soft along the scenic route to enhance the view, more intense along the tree-lined route), new street furniture (seats, litter bins), new signage, the planting of new grass and shrubs, and making the parapet safe.

Can you mention some good examples of projects, either Italian or international, that guarantee harmonious coexistence between the landscape, nature and community?

One of my favourite projects that brings together the landscape, nature and community perfectly is a project located in the semi-suburban neighbourhood of Nørrebro in Copenhagen: the Superkilen urban park designed by the Danish firm BIG. The project is much more than just an architectural landscape design, it is a true suburban redevelopment project, an authentic architectural, artistic and social experiment. Another project that I find quite brilliant is The High Line in New York designed by the architects Diller Scofidio, Renfro & Field Operations. I think it is wonderful how they drew inspiration from the melancholic and dishevelled beauty of post-industrial ruins and an ecosystem that has just casually developed after years of neglect to transform an abandoned industrial structure into a public park 10 m above the ground. This is a classic example of how a landscape-urban redevelopment operation has given new life to a neighbourhood, transforming what was once an old industrial site into a new business centre and hub of social life.



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Kaunas (Lithuania)

Vienybės Square

THE NEW PAVING TURNED THE SQUARE INTO AN ATTRACTION IN THE CENTRE OF KAUNAS

Vienybės square is a newly refurbished public area in the heart of Kaunas, the second-largest city in Lithuania and an important centre for the country's economic, academic, and cultural life. Full of fountains, pools and ramps for bmx'ers or skaters, the square is surrounded by cafés and restaurants, so citizens and visitors can enjoy a lot of activities there. The renovation of the square was one of the largest investments in public spaces in the whole of Lithuania and intended to make this space one of the city's main attractions.

The challenges of installing paving

One of the main highlights of Vienybės Square is the very large-size granite slabs used for paving the square that is located above a multistorey underground parking. High-quality installation of the very large-size tiles required special care and involved some challenges. Several factors had to be taken into account, such as the compressive and tensile stresses due the constant traffic of pedestri-

ans and vehicles and the combined effects of de-icing salts and freeze/thaw cycles that can cause shrinkage and deformations in the paving. Secondly, proper paving materials and installation technology had to be chosen to guarantee long service life to the surfaces. As mentioned by Artūras Ručinskas, Project Manager of Velve M.S.T. (exclusive Mapei distributor in Lithuania), "Several factors that can cause the decay and erosion of pavements and shorten their service life had to be taken into account."

MAPESTONE for durable and environmentally friendly paving

Considering the specifics and scale of the project, the MAPESTONE system was chosen for the installation of granite slabs. This system allows to create long-lasting monolithic paving, resistant to aggressive environmental conditions, mechanical stresses and de-icing salts. It included the use of MAPESTONE TFB 60 pre-blended mortar for creating installation screeds, CONBIT fast cur-



ABOVE. Vienybės square is a newly refurbished public area in the centre of Kaunas.

BOTTOM OF THE PAGE. The large-sized granite slabs were installed with MAPESTONE TFB 60 and grouted with MAPESTONE PFS 2 VISCO.

ing, waterproof and frost resistant-mortar to prepare a bonding slurry to be applied on the back of the tiles, and MAPESTONE PFS 2 VISCO pre-blended, low viscosity mortar for grouting joints. Both MAPESTONE products feature high compressive strength and chemical resistance, good resistance to de-icing salts, seawater and freeze-thaw cycles, and exposure class XF4 and XS3. According to Jonas Dogelis, Project Manager of the installation company JSC Gevalda, "The fact that all the MAPESTONE mortars are easy to use - they just need to be mixed with water in the ratio specified by the man-

ufacturer – played a key role in choosing this system. The training provided by Velve M.S.T, together with technicians from the Group's mother company and its Norwegian subsidiary, was also particularly useful as it allowed to anticipate and solve problems that might have arisen on site."

Mapei solutions for waterproofing, sealing and strengthening

In the fountain and on the concrete stairs, MAPELASTIC elastic waterproofing mortar was used to protect the substrates before installing granite tiles with ELASTORAPID two-component, high performance,

highly deformable, quick-setting and drying cementitious adhesive. MAPEFLEX PU 40 polyurethane sealant was used for sealing all the elastic joints in the project.

The MAPEWRAP C-UNI-AX structural strengthening system was used for increasing the bearing capacity of columns in the parking under the square without losing precious space in the parking area.



Find out more
MAPESTONE TFB 60



TECNICAL DATA

Period of construction,
2018-2020

**Period of the Mapei
intervention:** 2018-2019

Owner: SBA Group and
Kaunas City Municipality

Design: '3deluxe', JSC
'Giedraitis & architektai'

Main contractor: JSC "SBA
Urban"

Installation company: JSC
"Gevalda"

Project Manager: Artūras
Ručinskas, Velve M.S.T

Mapei distributor: Velve
M.S.T

Mapei coordinators:
Tor Viggo Moen,

Mapei AS (Norway)

Photos: SBA Group

MAPEI PRODUCTS

Installing granite paving:
Mapestone TFB 60, Conbit*

Mapestone PFS 2 Visco

Waterproofing substrates
in the fountain and stairs:

Mapelastic

Installing granite tiles in
the fountain: Elastorapid

Structural strengthening:
MapeWrap C UNI-AX

Sealing joints: Mapeflex
PU 40

*This product is
manufactured by Mapei AS
(Norway) and distributed in
Lithuania by Velve M.S.T.

mapei.com,
mapei.no

Mandello Del Lario (Province of Lecco, Italy)

A new lease of life for Piazza Garibaldi

THIS URBAN SPACE WAS REDEVELOPED THROUGH THE CREATIVE USE OF COLOURED COATINGS



Piazza Giuseppe Garibaldi in Mandello Del Lario, a town on the shores of Como Lake in Northern Italy, has a new look. Thanks to the creative use of a coloured topcoating, a new connection has been created between the town centre, gardens and lakeshore, with a more extensive area of parkland. The aim of the redevelopment project, stipulated by the Local Town Council, was to improve the town's spaces to make them more welcoming and functional by converting parking areas and portions of asphalt into creative solutions for pedestrians.

Through the use of coloured coatings, the space was re-configured to create real islands for people to meet and socialise.

In order for this intervention to be effective not only did aesthetically excellent "paints" have to be used, but the treatments had to also, and above all, be durable and resistant to the aggressive action of the surrounding environment, as well as to wear caused by its actual use.

Durable, resistant coatings with high aesthetic impact

This aim was achieved to the full thanks to the application of MAPECOAT TNS EXTREME coloured epoxy-acrylic resin, which is used to coat and colour surfaces used by vehicles – with intense levels of traffic – as well as pedestrian zones and cycle paths, with mechanical characteristics suitable for this type of use and high resistance to potentially aggressive chemical agents such as de-icing salts, oil and fuel.

Also, because it is available in such an extensive range of colours, interventions can be carried out based on the concept of tactical urbanism, whereby public spaces are enhanced and improved to make them more suitable and pleasant for those who frequent them, while also consolidating the aspects and features typical of that particular territory or community.

Unlike normal paints, MAPECOAT TNS EXTREME dries

very quickly: this enables work to be carried out more quickly and limits the amount of disturbance to traffic and pedestrians, particularly important for shops and commercial activities in general that operate in the area. From an aesthetic perspective, Piazza Giuseppe Garibaldi has a much more attractive look and, thanks to MAPECOAT TNS EXTREME coloured topcoating and the special selected fillers contained in the product, the surface has excellent slip-resistance, even in wet conditions. These characteristics help make it safer for pedestrians when crossing the square and during all the other social events that take place in the area, such as the Mandello del Lario local market held every week across the whole square.

What is more, MAPECOAT TNS EXTREME creates a protective coating for concrete certified according to European standard EN 1504-2 that is able to maintain – with routine maintenance work – its performance characteristics over time and improve the durability of the paving. Unlike traditional systems for colouring urban surfaces, such as asphalt and concrete pigmented throughout the entire mass, MAPECOAT TNS EXTREME allows you to work directly on the surface layer, thereby avoiding having to completely demolish paving no longer aesthetically homogeneous, reducing costs and enabling partial areas of the surface to be refurbished more quickly. Today, Piazza Giuseppe Garibaldi has much more innovative surfaces compared with traditional public spaces, surfaces that blends in perfectly with the new urban interpretation of the lakeshore and the public park in the area.



Find out more
MAPECOAT TNS EXTREME

TECHNICAL DATA

Piazza Giuseppe Garibaldi, Mandello del Lario (Province of Lecco)
Period of renovation: 2021
Period of the Mapei intervention: 2021
Intervention by Mapei:

supplying products for protecting, coloring and coating urban surfaces
Client: Lecco City Council
Mapei coordination: Sports System Technology, Mapei SpA (Italy)

MAPEI PRODUCTS

Renovating urban surfaces:
Mapecoat TNS Primer EPW,
Mapecoat TNS Extreme

For further info on products:
mapei.com



New, durable, resistant and safe surfaces were created by using MAPECOAT TNS EXTREME coloured epoxy-acrylic resin.

**GROUT
WITH SHINING
PERFORMANCE,
COLOURS
WITH STYLE.**

700 + MAPECOLOR METALLIC STAR DUST

NEW

Kerapoxy Easy Design

The epoxy grout with shining performance: a range of colours that brings out the best from any tile system combined with incredible durability over the years.

- EASY TO APPLY
- NON-ABSORBENT AND EASY TO CLEAN
- RESISTANT TO BACTERIA AND MOULD
- HELPS KEEP THE INTERIORS MORE HEALTHY
- WIDE RANGE OF COLOURS
- SUITABLE FOR GROUTS UP TO 15 mm WIDE

Mapei colours feature across grout ranges and are matched with Mapesil AC sealant.



EVERYTHING'S OK
WITH MAPEI

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THE EXPERT'S OPINION

Kerapoxy Easy Design a revolution in epoxy grouts

WORKABILITY, CLEANABILITY AND STRIKING AESTHETICS ARE THE CHARACTERISTICS OF THIS NEW GROUT FOR CERAMIC AND STONE

Alongside cementitious products, which have always been widely used, over the last few years chemistry applied to materials technology has enabled the market to introduce a new generation of easy-to-use epoxy grouts suitable for both civil and residential sites, and no longer limited to the industrial sector. It is now quite common to find epoxy grouts being used around the home and in shops, particularly in chemically "stressed" areas such as bathrooms and kitchens, places where a non-absorbent grout, which is easier to clean and sanitise, is the best solution.

Mapei proposes epoxy grouts with high workability and an attractive finish, and in numerous colours so they can be matched with the most commonly used tiles. The latest proposal, the result of years of research and development, is KERAPOXY EASY DESIGN, a product that combines all the characteristics of epoxy grouts with extreme workability and cleanability during application.

High workability and easy application

KERAPOXY EASY DESIGN is a revolutionary two-component, anti-acid, decorative epoxy mortar with bacteriostatic BioBlock® technology. Easy to apply and clean, it is used to grout 1 to 15 mm joints and can also be used as a reactive (R) adhesive in compliance with European standard EN 12004.

It features extreme workability: the product's creamy consistency makes it easy to spread and clean, leaving a smooth, uniform finish. Ease of application combines with very high performance properties typical of epoxy grouts, such as non-absorbency, cleanability, hygiene and excellent mechanical properties. Available



KERAPOXY EASY DESIGN may be mixed with MAPEGLITTER coloured, metallic glitter and MAPECOLOR METALLIC ultra-high quality, pearlescent mica-based powdered pigment to obtain metal-effect finishes in colours such as Moonlight (platinum), Sahara (gold), Shining (silver), Red clay (copper) and Stardust (dark silver). Mixing these products together in different colours creates an infinite array of metal-effect finishes.

How to use the product

KERAPOXY EASY DESIGN is used like any other epoxy grout: just mix the two components together according to the recommended mixing ratios. Once a smooth, even paste has been obtained with an electric mixer at low speed, the product has a pot life of 45 minutes. You can apply the grout with a rubber trowel and a cellulose sponge: indeed, using this product is much easier compared with traditional epoxy grouts.

Final cleaning can be carried out using ULTRACARE KERAPOXY CLEANER or ULTRACARE EPOXY OFF GEL. The same products can also be used to remove light residues of grout even several hours after application by leaving them to react for longer (up to 20 minutes) on the surface.

Because of its particular rheological characteristics and its resulting excellent workability, KERAPOXY EASY DESIGN is the ideal choice for those users normally afraid of using traditional epoxy grouts, opening new avenues to this type of product. So even the most reluctant installers have no more excuses.

in 48 colour shades to match with ULTRACOLOR PLUS and MAPESIL AC, it is ideal for the residential and commercial sectors as well as for swimming pools and spas.

Sustainability

KERAPOXY EASY DESIGN is certified EMICODE ECT^{plus} with very low emission of VOC (volatile organic compounds), to guarantee the quality of interior air and surrounding areas. It also comes with an EPD (Environmental Product Declaration). EMICODE certification and an EPD contribute to earning important credits for obtaining the LEED certification, the most widely adopted protocol for eco-sustainable buildings.

Areas of use

KERAPOXY EASY DESIGN is used for the decorative grouting of joints in floor and wall coverings, both indoors and outdoors. It enables floors, walls and worktops to be created in compliance with the HACCP food safety management and requirements system, as well as being certified by the independent Industrial Microbiological Service (IMSL) laboratory as a grout that protects against the formation and proliferation of micro-organisms.

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



Diébédo Francis Kéré

© Lars Borges / Pritzker Architecture Prize

The 2022 winner is Diébédo Francis Kéré

FOR THE FIRST TIME THIS YEAR, THE PRITZKER PRIZE WAS AWARDED TO AN ARCHITECT OF AFRICAN DESCENT

"I hope to change the paradigm, to encourage people to dream and take risks. Being rich is no excuse for wasting material. Being poor does not mean you should not try to create something of quality. Everyone deserves quality, everyone deserves luxury, and everyone deserves comfort. We are interconnected, and worries about the climate, democracy, and shortages concern us all." These words, spoken after learning he was the 51st winner of the Pritzker Architecture Prize, provide us with a real insight into the main issues underlying Diébédo Francis Kéré's design work.

An architect, educator and social activist, Francis Kéré was born in Gando, a small town of 3,000 souls in Burkina Faso, in 1965. The eldest son of the village chief, he left his family at the age of seven to go to school, the first to do so in his community. After winning a scholarship, he left for Berlin in 1985 where he built roofs during the day and attended high school in the evening. In 1995 he won another scholarship

that got him into the Technische Universität Berlin. In 2004, having just graduated, he designed his first building, Gando Primary School, which won him the prestigious Aga Khan Award for Architecture. The primary school is made of unfired earth bricks with a double roof to protect it against the heat and rain. It has a structural system of trusses that can be assembled without a crane. All at a total cost of just 50,000 US dollars. Over the years, his work has focused increasingly on the use and development of local materials and associated construction techniques, the use of new technologies in a simple way, and making use of the local community's full potential, thereby emphasizing the intrinsic political value of architecture. In 2005 he opened Kéré Architecture GmbH in Berlin. Firmly convinced that only education can really make a difference, Kéré founded an association called Schulbausteine für Gando to raise funds and builds schools and infrastructures in his native country. His

design work also includes projects in Denmark, Germany, Switzerland, the United Kingdom and United States. But, first and foremost, Kéré designs schools, health facilities, professional housing, civil buildings and public spaces in Burkina Faso, Kenya, Benin, Mozambique and Uganda. Most notably, he designed the National Assembly in Ouagadougou in Burkina Faso and the Parliament in Porto-Novo, the capital of the Republic of Benin. Other significant works of his include Mali National Park in Bamako in 2010, Lycée Schorge Secondary School in Koudougou in Burkina Faso in 2016, Xylem at Tippet Rise Art Center built in 2019 in Fishtail (Montana, USA) and, Léo Doctors' Housing in Léo (Burkina Faso), again in 2019. Kéré was invited to design and build a pavilion outside Serpentine Gallery in London in 2017 that was inspired by Burkina Faso's vegetation and trees. This temporary construction - it is now in Malaysia - features a steel and wood canopy that natural light flows through during the day and which turns

into a sort of brightly lit torch at night. One of his latest works is the Start-up Lions Campus, an example of sustainable architecture and a landmark on the barren landscape of Kenya's Lake Turkana shoreline. The project was commissioned by Learning Lions, a non-profit organization that helps young adults living in underprivileged rural areas of East Africa to become entrepreneurs in the field of new technologies without having to leave their homeland. The project consists of three main buildings connected on the outside by flights of stairs. Overlooking the lake and built on two levels, the construction follows the natural slope of the land and features large roof terraces shaded by climbing vegetation. Tall ventilation towers - intentionally inspired by the little mounds constructed by termite colonies -

are used to naturally cool the main workspaces by sucking warm air upwards, while fresh air is drawn in through openings near the base. This system allows the campus to withstand high temperatures and is particularly well thought out, because it prevents dust from damaging computer equipment. The latter project perfectly echoes the jury's reasons for awarding him the 2022 Pritzker Prize: "Francis Kéré is a pioneer of sustainable architecture for the earth and its inhabitants in lands where resources are extremely scarce. He is both an architect and servant, improving the lives and experiences of so many citizens in a region of the world that is sometimes overlooked. Kéré's beautiful, modest, bold and inventive buildings uphold this prize's mission through the integrity of his architecture and design."

The panel of judges explained their decision as follows: Francis Kéré is a pioneer of sustainable architecture for the earth and its inhabitants



The Gando Primary School was designed by Kéré in 2014 and won him the prestigious Aga Khan Award for Architecture. .

© Erik-Jan Ouwerkerk / Pritzker Architecture Prize



The Startup Lions Campus is a true example of sustainable architecture on Lake Turkana's shoreline.

© Francis Kéré / Pritzker Architecture Prize

85
years
1937-2022

**FOR 85 YEARS
WE HAVE BEEN BUILDING A PRESENT
DESIGNED TO HAVE A FUTURE**

85 years of teamwork, together with clients and collaborators with whom we have shared the challenges, innovation, passion and respect for people and the environment. We still have so much more to build, **let's carry on doing it together.**



mapei.com

NEWS



Giorgio Squinzi Named TCNA's 2022 Tile Person of the Year

THE PRIZE BY TCNA (TILE COUNCIL OF NORTH AMERICA) WAS
AWARDED DURING COVERINGS IN ORLANDO (USA)

Giorgio Squinzi was named "Tile Person of the Year" at Coverings 2022, the largest international trade fair in North America dedicated to the ceramics and stone industry that took place in Orlando between 18th-22nd April. The award, promoted by the Tile Council of North America, was intended to pay tribute to the great personal and entrepreneurial skills of Giorgio Squinzi, a chemist, enlightened entrepreneur, and CEO of the Mapei Group until his passing in October 2019. Born in 1943, Giorgio Squinzi was raised in Milan, where in 1937, his father, Rodolfo, founded Mapei, a small company that manufactured auxiliary materials for construction and industry.

After graduating with a degree in Industrial Chemistry, he joined his father at the company, contributing to the development of innovative adhesives and chemical products for the building industry. He always promoted internationalisation which led to Mapei opening its first manufacturing plant outside Italy in Canada in 1978. In 1984, after the death of his father, he took over the reins of the business, guiding it to exponential growth as the company opened new plants on every continent. He was elected as President of Federchimica, the Italian Federation of the Chemical Industry (from 1997 to 2003 and from 2005 to 2011) and of the CEFIC – Europe-

an Chemical Industry Association (from 2010 to 2012), as well as of Confindustria (the Confederation of the Italian manufacturing and service companies) from 2012 to 2016. Like his father Rodolfo, Mr. Squinzi was passionate about cycling. He established the Mapei Professional Cycling Team from 1993 to 2002, which was at the top of all the international rankings for many years. In 2003, he took over Sassuolo Football Club and brought the same values to football that are such an integral part of Mapei's DNA: talent, teamwork, enthusiasm, determination and perseverance in taking on new challenges.

"Never stop pedaling," Mr. Squinzi's famous motto, has remained firmly imprinted in Mapei's DNA and has continued to instill strength in the company even after his death in 2019. Since then, his children Veronica and Marco have been at the helm as CEOs.

"It is a great honor for us to receive this recognition on behalf of our father Giorgio, who loved the United States and always considered it the land of opportunity. He approached the U.S. market in the 1980s, finding from the beginning a strong and real support from institutions and the economic environment. Today Mapei Group has an important footprint in America with 16 Mapei facilities and 6 Polyglass facilities all over the country, and we'll keep on investing." Veronica

Squinzi, Corporate CEO and Global Development Director for Mapei Group, stated.

"Staying with our strategy, we have some new ongoing projects in the U.S. for the development of products with high-quality standards that meet the needs of the local market, a market that rewards excellence. Beyond establishing and updating strategic manufacturing and distribution facilities, our business strategy aims to grow customer distribution and product-line offerings, positioning Mapei as a system solution and complete-project provider." Marco Squinzi, Corporate CEO and Research & Development Director for MAPEI Group, added.



Veronica and Marco Squinzi received the award at Coverings 2022 in Orlando (USA).

Magdalene. Mystery and Image

MAPEI IS SPONSORING A NEW EXHIBITION BEING HELD AT SAN DOMENICO MUSEUMS IN FORLÌ

Masaccio, *Pisa Altarpiece*, 1426, Museo Nazionale di Capodimonte, Naples (Italy).

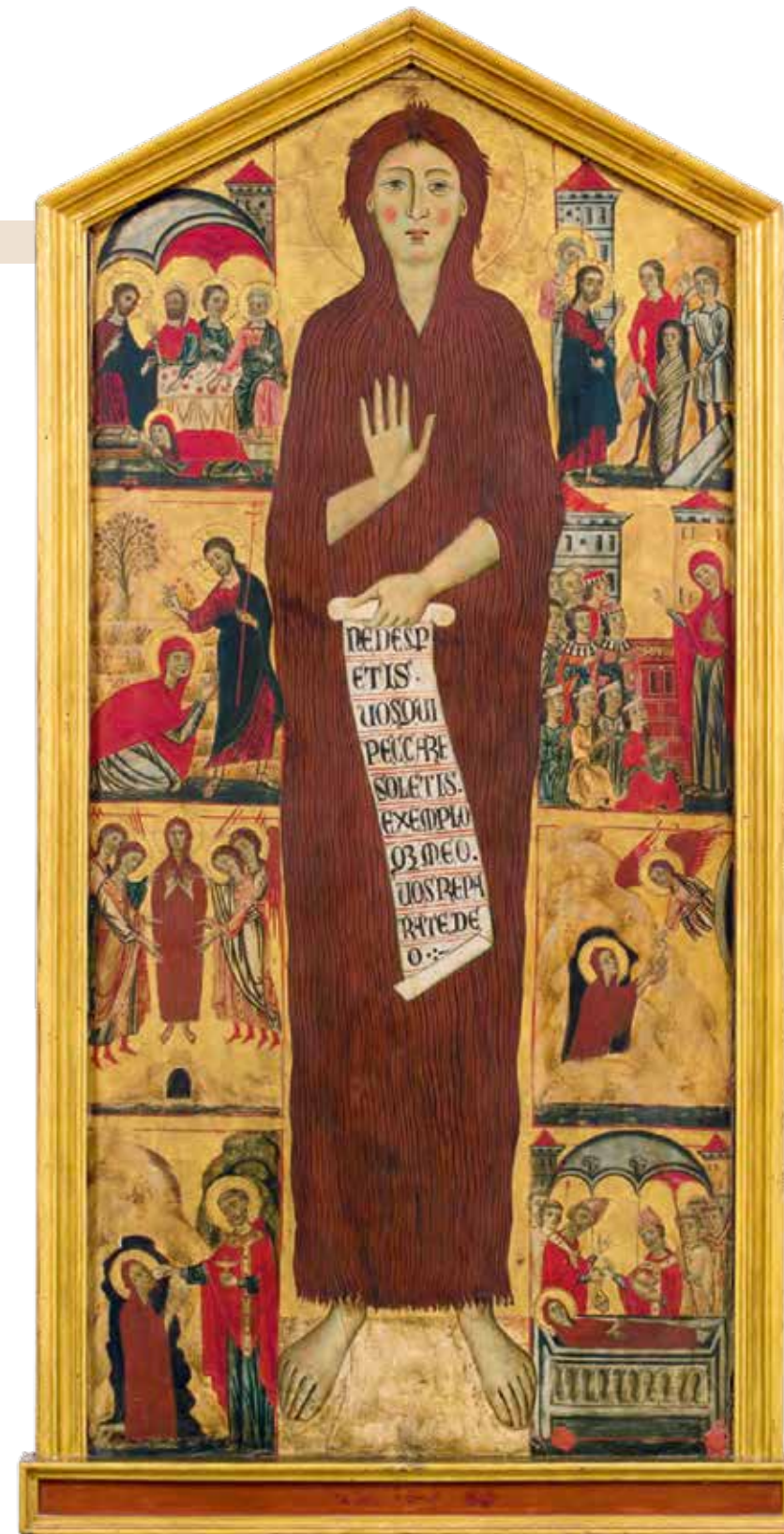
Mary Magdalene is one of the New Testament characters who has attracted most attention from believers and non-believers alike because of the mystery and fascination surrounding her. The mystery stems first and foremost from her name, which is linked to the place where she is said to have been born: Magdala of Galilee was, in fact, a small Roman-Jewish town on the shores of Lake Tiberias. In Hebrew, Māgdala, from 'migdol', means tower. And we can say that she was as strong and determined as a tower. Both the canonical and apocryphal Gospels speak of Mary Magdalene. Traditionally, it is believed that Mary Magdalene had been a prostitute before meeting Jesus. The Gospel of St. Luke talks about a sinner who, during a banquet, was forgiven for her sins after bathing Jesus' feet in her tears and then anointing them with perfumed oil before drying them with her hair.

Little is really known about her, but we do know that she was at Calvary and that she also attended Jesus' burial. According to the canonical Gospels, either on alone or in the company of other women, Mary Magdalene was the first to see the empty tomb, the only person to see two angels and the first to see the risen Jesus and actually speak to him. She was, therefore, the first witness of an unprecedented event, the resurrection, even before the apostles. We can say that the faith and fate of the very first Christians and earliest communities were based on her testimony.

A muse for art

A complex character and a symbol of sin and repentance, redemption and faith. Art, literature and film have dedicated hundreds of works to Mary Magdalene. Like looking in a mirror, she has been represented, studied and investigated throughout the ages as a way of seeking out and investigating the virtues and vices of different periods in history. The exhibition entitled "Magdalene. Il mistero e l'immagine" (Magdalene. Mystery and Image), running until 10th July, 2022, at San Domenico Museums in Forlì (Central Italy) is dedicated to her. An exhibition devised and promoted by Fondazione Cassa dei Risparmi di Forlì in partnership with Forlì City Council under the general direction of Gianfranco Brunelli with Antonio Paolucci heading the Scientific Committee.

Once again this year, Mapei is supporting the San Domenico Museums as a Platinum Partner of the exhibition: a working



Master of the Magdalene, *Mary Magdalene with Eight Scenes from her Life*, 1280-1285, tempera and gold on panel, Galleria dell'Accademia, Florence (Italy).

partnership that dates back to 2016 and has resulted in the organisation of such important exhibitions as "Dante. The vision of art" in 2021 and "Ulysses. Art and Myth" in 2020.

A special on the exhibition will also be broadcast on SkyArteHD (a TV channel focusing on art, culture and design) for the entire duration of the exhibition and beyond.

Two hundred masterpieces

The exhibition explores this mysterious character through some of the most valuable and fascinating works of art depicting and portraying her: 200 masterpieces from every period in history, from Hellenism to the 19th century. Among the great masters on display are Masaccio, Crivelli, van der Weyden, Signorelli, Bellini, Perugino, Barocci, Savoldo, Mazzoni, Titian, Veronese, Tintoretto, Guercino, Vouet, Reni, Lanfranco, Mengs, Canova, Hayez, Delacroix, Böcklin, Previati, Rouault, Chagall, De Chirico, Guttuso, Melotti, Sutherland and Bill Viola. The exhibition layout extends over 12 sections focusing on such themes as the aesthetics of pain in ancient art, the emergence of iconographs in the Middle Ages, 16th-century stylistic formalism and 17th-century sensuality, a focus on religious aspects in the 19th century and symbolist anxieties through to the 20th century, the century that restored a sense of the mystery of human life to the figure of Mary Magdalene.

An extremely striking layout that allows us to investigate a fascinating character through the aesthetic experience of art.

Mapei Sport, a cutting-edge facility for women's sport

FROM SASSUOLO'S FOOTBALLERS TO SKIERS FROM THE ITALIAN ALPINE SKIING TEAM: TESTING AND TRAINING FOR LOTS OF FEMALE CHAMPIONS



1



2



3



4

1. Custom-made training for women at Mapei Sport Research Centre.
2. Federica Brignone (Italian National Alpine Skiing Team) undergoing functional assessment tests.
3. Nadia Battocletti (G.S. Fiamme Azzurre), middle-distance runner, undergoing her regular tests at Mapei Sport.
4. Elisa Balsamo, from Trek-Segafredo cycling team, with Andrea Morelli studying her bike fitting results.

More and more women are taking part in sport, and they are getting better and better at it. We can see this every day out in the street, in the pool or on the playing field. It is also shown by the medals won and times recorded in the world's greatest events, the achievements of so many champions setting an example for young girls, who can finally aspire to a career as full-time athletes.

At the moment not all sports and not all countries recognise the status of female professionals and, compared to their male counterparts, there are still significant differences in their financial rewards, but we are already on the road to true equality. Women have had to sweat more than men, as history has shown.

Not just top athletes: the training programmes are designed for any women interested in taking part in miscellaneous sports

In keeping with the ancient Games that inspired him, Pierre de Coubertin planned new Olympics without allowing women to enter. In Athens in 1896, women were not just banned from taking part, they could not even watch the Games.

It was not until the Olympic Games in Paris in 1900 that women were officially allowed to take part (just a couple compared to 600 men). And it was not until the 1936 Olympics in Berlin (Germany) that women were considered as athletes. Since then, the sex previously considered 'weak' has made great strides in both society and sport.

THE STRENGTH AND UNIQUENESS OF WOMEN

Mapei Sport Research Centre is often associated with the Italian national colour (light blue) since so many Italian champions use the facility. Set up to assist the cyclists from the glorious Mapei Professional Cycling Team, over the years it has widened the range of facilities it offers to cater for an increasingly varied assortment of sportsmen and women, including top international professionals as well as amateurs who are looking to perform better or simply improve their health. The Centre is currently used by many champions (you can find them all listed on mapeisport.it), including some of the world's top sportsmen and women.

The women's sports movement is constantly spreading and evolving. As the number of athletes grows, more and more attention is being focused on sports training for the fairer sex. "Men and women have different physical traits and characteristics and this must be taken into account. When we assess an athlete, we take into account the sport they play and also their gender. For example, female footballers have a much higher likelihood of rupturing their anterior cruciate ligament than males, so we offer them extra specific tests to try to reduce the risk," so Dr. Claudio Pecci explained, Director of the Mapei Sport Research Centre.

CHAMPIONS CHOOSE MAPEI SPORT

Ever since their team was first established, the players of Sassuolo women's football team have been turning to Mapei Sport for regular assessments on the field as well as to manage their training loads, get advice about sports medicine and receive proper nutritional aid. Athletes from the Italian Alpine Skiing Team regularly visit the Centre's laboratories and, like their male counterparts, they undergo physical testing at the centre to monitor their physical condition.

The Mapei Sport technicians often visit training camps for Trek-Segafredo to help the world's leading women's cycling team in the preparations, carry out tests and ensure riders have ideal riding positions thanks to special bike fitting sessions.

Not just professional clubs but also individual athletes choose Mapei Sport. Over the past few years for example, the Centre's facilities have been used by the short track speed skater Arianna Fontana, who won 11 medals at the Winter Olympic Games as well as by the middle distance runner Nadia Battocletti, the European under 23 champion in the 5000 m and a finalist in Tokyo 2020 Olympics.

The experience staff at Mapei Sport Research Centre have gained with top athletes is made available on a daily basis to many women of all ages, starting with numerous young people during those delicate stages in their physical development.

EVERY DAY IS 8TH MARCH

March was "Women's Month" at Mapei Sport as plenty of women have realised. International Women's Day on 8th March was another reminder of women's social, economic and political achievement and the discrimination and violence they have been, and are still, subjected to in every corner of the world. To celebrate the fairer sex and 'women power', Mapei Sport offered all kinds of services throughout the month at half the usual price so sportswomen could treat themselves to a useful gift for their health and wellbeing. Many of them were able to undergo assessment tests at the Human Performance Lab (HPL), apply for training plans for their favourite sport, find out the best riding position on the bike for them, and enjoy the benefits of having their cleats set in just the right dynamic position based on measurements taken at the Movement Analysis Laboratory (LAM).

"The idea for this special offer came from a clever idea from our staff, who are well aware that they are often the ones in their family who have to sacrifice their time, energy and desires. So, they came up with a very concrete offer for women who often put off a visit because they put everybody else before themselves," so Dr. Pecci noted. A small gesture to remind women that they actually deserve to come first sometimes, and not just in races.

Giulia De Maio, Mapei Sport, Olgiate Olona (Varese, Italy)

Sassuolo, record-breaking youth sector

FRANCESCO PALMIERI, HEAD OF THE YOUTH SECTOR, POINTS OUT KEY VALUES AND STRATEGIES



Team manager Alessio Dionisi's Sassuolo making a good impression in the Italian Serie A Championship is just the tip of the iceberg of all the work the Mapei-owned club does for football. Francesco Palmieri is about to complete his seventh season in charge of Sassuolo's Youth Sector. "Over the last seven years – so he told us - we have grown enormously, even as regards our young players. Sassuolo has not been competing at the highest level for long, but its appeal has increased in all categories. We have more than 300 players in 13 different teams". Results are important, but they are not the main goal for Palmieri and his staff: "They are only important for the 'Primavera' team (the oldest players up to the age of twenty). For economic reasons and because of the pressures associated with modern-day football, we have to take a careful look at and evaluate the results of the Primavera team. In contrast, league position is not so important to us with the Under 18s. In the age groups between 10 and 18 what we are really interested in is the progress of individual players".

SASSUOLO HELPING THE ITALIAN NATIONAL TEAM

Sassuolo has provided plenty of players for Italy's age-group teams. "We have Gioele Zaccchi, who is the goalke-

eper of the Italian National Under-19 team, and a number of others. The Under-19 team is the first national team that counts for us. Of course, the senior national team is the most important and we have Domenico Berardi and other players in the main squad. We also have 15, 16 and 17-year-old players in national teams, but we tread lightly with these youngsters bearing in mind they are still developing. A lot can change between the ages of 16 and 20."

SIGNIFICANT RESULTS FOR THE WOMEN'S TEAM TOO

Sassuolo team is also doing really well in the women's sector. In addition to the Serie A team managed by Gianpiero Piovani with the help of his multinational staff, there are 9 teams of young players ranging from the 9-year-olds in the "Primi Calci" team to the 18/20-year-olds in the Primavera squad. Alessandro Terzi is in charge of developing the women's sector that can boast some record figures: over 200 girls play in the nine youth teams. It should be noted that the managers of Sassuolo's women's teams are also involved in the Generation S project; helping women develop is an integral part of Mapei's ethos, and it should be noted that Sassuolo's women's sector also has players who represent their national teams.

SECOND VICTORY IN THE VIAREGGIO INTERNATIONAL TOURNAMENT



For the second time in its history Sassuolo has won the Viareggio Cup, the most famous and important international tournament organised in Italy. This year the Viareggio tournament was reserved for under-18 teams. In the final, Sassuolo, managed by Emmanuel Cascione, beat the Nigerian team Alex Transfiguration. Sassuolo managed to repeat its victory in the 2017 tournament that was then held for Primavera teams.

"We are proud of this umpteenth victory at the Viareggio Cup, a tournament involving so many top Italian and foreign teams," said Giovanni Carnevali, CEO and General Manager of Sassuolo. "This tournament is a fantastic showcase for football, and we hope that many of the boys who lined up for the final will be able to break into Serie A, perhaps still wearing the Sassuolo shirt or, in any case, playing in the world's top leagues".

Ocean sailing, Mapei's latest challenge

PARTNERING THE YACHTSMAN AMBROGIO BECCARIA'S ALLA GRANDE ("IN STYLE") PROJECT. THE BOAT IS A CLASS40 SHIP

Mapei is proud to be Global Sponsor of the new ocean sailing project skippered by Ambrogio Beccaria, the first Italian in history to win the Mini Transat in 2019, a classic transatlantic solo race.

Alla Grande ("In style") is the name of the first modern ocean sailing project entirely 'made in Italy'; presented on 13th April in Milan. The event featured speeches by Giuseppe Sala, Mayor of Milan, Marco Tronchetti Provera, Executive Vice Chairman and CEO of Pirelli, and Veronica Squinzi, CEO of Mapei.

The highlight of Beccaria's racing schedule for 2022 will be the Route du Rhum, which will set off on November 6th from Saint Malo, France, with finish line in Guadeloupe, a French overseas territory in the Caribbean archipelago, after 3,542 miles of racing in the Atlantic Ocean.

"You cannot call yourself a specialist if you do not operate internationally. I love sport without boundaries", Giorgio Squinzi often said. Ambrogio Beccaria is also involved in projects without barriers which perfectly embody the values of sport: passion, enthusiasm, hard work and the determination to take on new challenges.



FROM LEFT ON. Gianluca Guelfi (designer of the boat), Ambrogio Beccaria, Veronica Squinzi and the shipbuilder Edoardo Bianchi.

"We are proud to support this innovative and bold project skippered by Ambrogio Beccaria. A sporting and technological challenge based on the enthusiasm and passion for the sea of three talented young Italians. We are sure that this project will go very far," Veronica Squinzi announced.

The boat is a state-of-the-art Class40 vessel and will be launched next July at the Yacht Club Italiano in Genoa. Equipped with a satellite link and extremely powerful sensors, it's an innovative boat in terms of both its technology and environmental impact.

The overall design, the careful study behind the sail plan as well as the hydrodynamic simulations have made this a revolutionary project from the very beginning. It is also a sustainable boat: the energy on board is entirely generated from renewable sources such as solar energy and hydroelectric power.

"Mapei and I both started out from Milan," says Ambrogio Beccaria. "Mapei has gone everywhere, becoming a big multinational and I too dream of sailing around the world. This project", Beccaria continues, "is teaching me the importance of teamwork because, even though I am sailing alone, it is thanks to my team and sponsors that this oceanic challenge is actually happening."

To tackle the difficulties he will likely encounter during a transoceanic race, Ambrogio Beccaria is supported by the Mapei Sport Research Centre, which provides the yachtman with all the experience of its staff in terms of both physical preparation and sports medicine and nutrition.



2022 Summer Jam Championships in Melbourne

MAPEI WAS TECHNICAL PARTNER WITH RED BULL AT A SPORT EVENT HELD ON A COURT RENOVATED WITH MAPEI SOLUTIONS

The Summer Jam basketball 'Streetball' Championships returned for its 10 year anniversary and was held across 3 days from the 4th – 6th February 2022 in Melbourne (Australia) on the newly resurfaced Prahran Park Basketball court.

The local court with commission housing as its backdrop, has been the hope for many emerging players in Melbourne. Many young players travel to Prahran Park to test their talents with big plays celebrated instantly and light fouls brushed off. Since the inauguration of Summer Jam in 2012 it has exploded to become a globally recognised destination for Streetball, claiming host to legends of the game. It has been the centre stage for a new wave of athletes and creatives.

New life for the courts with MAPECOAT TNS RACE TRACK

The last edition was made possible thanks to the technical partnership between Red Bull and Mapei and using technology and products from the Mapei Sports System Technology Line. Over the 10 years of Summer Jam, the old existing acrylic court surface for the Championships had gradually declined in condition, having worn back in the high traffic areas to bare asphalt. An uplifting example of urban design and colour, the basketball court in Melbourne - Prahran was renovated with MAPECOAT TNS RACE TRACK technology by Mapei combined with the artistic design created by Red Bull and the Summer Jam team to transform and revitalise this iconic Streetball court into one of particularly high-performance properties, including excellent slip resistance and exceptional aesthetic qualities, in bright and long-lasting UV stabilised colours from the MAPECOAT TNS colour palette.

Unlike simple colouring systems, MAPECOAT TNS RACE TRACK technology allows highly durable, non-slip surfaces to be created that maintain their slip resistance over the years, including in wet and damp conditions. From an aesthetic point of view, the wide range of 36 MAPECOAT TNS colours available, combined with the availability of custom colours using the ColorMap automatic colouring system, means that personalised colours may also be created.

A highly fruitful partnership

This project in Princes Gardens – Prahran Park represents another example of the highly fruitful partnership between Mapei and Red Bull, which has already led to the creation of a courts in Scalo San Lorenzo in Rome, the Graziella Fava gardens in Bologna (Central Italy) and the football pitch in Ventaglieri Park in Naples (see *Realtà Mapei International* no. 89). This latest example of the technical partnership between Mapei and Red Bull combining artistic design and sport also has considerable social merit in rejuvenating this heavily populated and frequented urban space. Whilst further plans for a full redevelopment of the Princes Gardens area including a full reconstruction of the Prahran Basketball Court have been earmarked for the future, the 10th anniversary of Summer Jam was able to held on a truly rejuvenated and colourful court thanks to Mapei Sports System Technology.



ABOVE.
The Prahran Park court in Melbourne hosted the Summer Jam basketball Streetball Championships from the 4th – 6th February 2022.

RIGHT.
The Prahran Park Basketball court was given a new lease of life by renovating its surfaces with MAPECOAT TNS RACE TRACK.



NEWS FROM THE MAPEI WORLD

EVENTS,
SPONSORSHIPS
AND INITIATIVES
FROM THE GROUP'S
SUBSIDIARIES

CANADA - PARTNERING THE KELOWNA ROCKETS HOCKEY TEAM

MAPEI Inc., the Canadian subsidiary of the Group, lately announced the sponsorship of the Kelowna Rockets. The family-run hockey team has represented the Canadian city of Kelowna with determination, teamwork and family values since 1995. Playing in the Western Hockey League (WHL) the team has helped develop such famous athletes as Leon Draisaitl, Shea Weber, Jamie Benn and Tyson Barrie - winning a Memorial Cup and four WHL championships along the way. Marco Roma, General Manager of Mapei Inc., stated: "Canada is passionate about hockey. So, we are very proud to support some of Canada's up-and-coming talents at the very top of this sport."



USA - SIX CLEARSELECT AWARDS FOR MAPEI CORPORATION



Mapei Corporation, the Group's U.S. subsidiary, received six "CLEARselect" awards from Clear Seas, a market research firm specializing in the flooring industry. Mapei Corp. was among the most popular manufacturers in the categories for organic adhesives, one-component grouts, sealants and for overall value and best product performance and availability. "These awards" so Luigi Di Geso told us, President and CEO of Mapei Corp. "truly represent the coordinated teamwork of our teams." In the photo: Brian Pistulka, Luigi Di Geso, and David Mowery.

UAE - MCC SPONSORS THE 2022 ACI CONCRETE CONFERENCE ON INNOVATION

The 2022 ACI Concrete Conference on Innovation was held in Dubai on 9th-10th March. Organised by the Emirates branch of the American Concrete Institute (ACI), the event focused on optimizing the properties of concrete and developing new products and technologies to meet the challenges of this constantly evolving industry. Mapei Construction Chemicals (MCC), the Group's UAE subsidiary, was a Silver Sponsor at the conference. Khalil Almbaidheen from MCC has been awarded for his efforts in the ACI UAE chapter and the 3D Concrete Printing Committee.



MALAYSIA - SYMPOSIUM ON CIVIL AND STRUCTURAL ENGINEERING 2022

Mapei Malaysia took part in SiKAS, a symposium focusing on civil and structural engineering, jointly organized by the Malaysian Structural Steel Association (MSSA) and the Malaysian Ministry of Works (JKR), to increase understanding of the latest engineering technologies such as Building Information Modelling (BIM) and Industrialised Building Systems (IBS). The Group's Malaysian subsidiary took part in the event, displaying its solutions for joint sealing, grouting, and adhesive applications for IBS precast panels and hybrid systems, its structural strengthening solutions with composite materials and HPC technology, as well as waterproofing products. In photo: Tengku Mohd Khairi (left) and Chan Swee Fun (right) took part in the Symposium on behalf of Mapei Malaysia.





QUESTIONS & ANSWERS

REQUIREMENTS, CONSIDERATIONS AND SOLUTIONS FOR APPLICATIONS WITH HIGH AESTHETIC VALUE



by **Enrico Geronimi**

Installing tiles on façades

Installing ceramic tiles on façades can give great results in aesthetic and decorative terms, but designers and installers need to take a series of points and details into consideration in order to obtain results that remain durable and reliable over time from a safety perspective.

Let's talk about substrates: how should they be prepared prior to installation?

Substrates must be prepared in compliance with current standards. For instance, Italian standard UNI 11493-1 requires the maximum attention and respect for the specified requirements in the case of installations on façades, which is a particular type of application where safety concerns also need to be addressed. When tiles are installed, the substrate must comply with requirements regarding its state and condition as prescribed by the standards, that is:

- curing;
- integrity;
- resistance (strength) of the surface;
- dimensional regularity;
- surface finish;
- moisture content;
- absence of contaminants.

With façades, which means ceramic tiles on external walls (Class R.4, Table 2, notes 7.2.1) characterised by significant vertical development (i.e. taller than 3 m) and, taking into consideration potential safety risks in the case of tiles becoming detached and the particularly high stresses generated by thermal/hygrometric variations, additional precautions and measures are specified, one of the main ones being that the substrate must have a pull-off strength of at least 1 N/mm². This requirement complies with the specific requirements of cementitious adhesives used for installing ceramic tiles on façades which, since they have to be class C2 adhesives according to EN 12004, must comply with the same parameters.

One of the main factors designers have to take into consideration is the amount of movement between the substrate and ceramic tiles due to temperature variations. What characteristics must an adhesive have in order to prevent these movements leading to detachment of the tiles? What characteristics must an adhesive have for this type of use?

Apart from the aforementioned conditions and

requirements for the substrate, two parameters play a particularly important role: the presence of tile joints and expansion joints and the use of adhesives characterised by a high level of deformability, which is linked to their modulus of elasticity. The aim is to reduce the elastic modulus of the entire ceramic tile system as much as possible so that it is able to absorb the stresses generated when in service as a result of thermal/hygrometric variations, as well as the normal in-service stresses and loads. And to this aim, when using cementitious adhesives (class C according to EN 12004), we recommend prescribing adhesives with class S1 or S2 deformability. The capacity of these adhesives to cushion differential stresses generated between the substrate and the ceramic covering when in service reduces the risk of these stresses causing detachment or failure of the ceramic covering, particularly when associated with an appropriate layout of tile joints and expansion joints that have been correctly sized and sealed.

In general, the double-buttering technique should be prescribed when the compactness of the layer of adhesive and the absence of cavities or gaps under the tiles – that is, to achieve a “full” installation bed – are essential requirements, but which are generally difficult to achieve using the conventional single-buttering method. On façades, with tiles with the longest side measuring more than 30 cm, the double-buttering technique is prescribed to ensure there is a full installation bed. The same measure, however, is also recommended for smaller formats. In the case of tiles where the longest side is more than 30 cm, the designer should also assess whether the use of additional mechanical safety fasteners should be prescribed (such as metal hooks fastened into the substrate), by taking into consideration specific exposure conditions, the state and condition of the substrate and the installation pattern (dimensions of the joints, layout of elastic joints, etc.).

What type of tiles are the most suitable for façades?

Tiles with a high level of solar reflectance, which is the property of a material to reflect solar radiation. Light colours, and white in particular, have high solar reflectance which reduces the build-up of heat, the effect being directly proportional to a reduction in stresses due to the coefficient of linear thermal expansion. The best types of ceramic tiles



Ceramic tiles were bonded on the façades of the former Zedda Piras factory in Cagliari (Italy) with ULTRALITE S2 adhesive before grouting joints with ULTRACOLOR PLUS.

are those with low absorption and high mechanical characteristics such as porcelain (group BIa, water absorption of between 0 and 0.5%); these tiles are fired at a temperature of between a minimum of 1180 °C and a maximum of 1250 °C, in which the high firing temperature and selected clay give the final product very high resistance and strength and virtually zero water absorption. Their main characteristics include toughness, frost-resistance, resistance to chemical agents and impermeability. Because of their performance, technical and aesthetic characteristics, they are suitable for both internal and external use, and for applications ranging from public buildings to private homes. Smaller tiles may also be used as an alternative: while not offering the same result regarding aesthetics, they guarantee that the ceramic covering is less rigid.

What does Mapei propose for tile and expansion joints?

All Mapei grouts are suitable for joints on façades. ULTRACOLOR PLUS grout is the jewel in the crown of Mapei cementitious grouts: a high performance, ant-efflorescence, rapid-setting and drying, polymer-modified product for grouting 2 to 20 mm wide joints, with water-repellent DropEffect® and mould-resistant BioBlock® technology, class CG2 WA in compliance with EN 13888. It guarantees stability, uniformity of colour and short waiting times before cleaning and finishing. It has excellent resistance to abrasion, freeze/thaw cycles and UV rays and is extremely durable. Also noteworthy is its EMI CODE EC1^{PLUS} classification by GEV. Mapei grouts have very low emission of volatile organic compounds (VOC) so are safe for the health of both those who use them and of those who use and live in areas where they have been used.

From all the Mapei adhesives, which is the most suitable for this type of application?

Numerous Mapei adhesives can be used for installing ceramic tiles on façades and should be chosen according to the different installation conditions. Keraflex Maxi S1, Ultralite S2 and Kerabond+Isolastic are all valid solutions for most applications.

Corporate Product Manager, Grouts and Ultracare Line, Technical Services, Mapei SpA (Italy)



PRODUCTS IN THE SPOTLIGHT

GROUTING JOINTS WITH A METALLIC EFFECT,
LEVELLING SUBSTRATES BEFORE INSTALLING
TILES, RESTORING AND HYGIENISING PARQUET

1

Mapecolor Metallic



FOR METALLIC GROUTS WITH A HIGHLY ATTRACTIVE FINISH

Powder pigment based on very high-quality pearlescent mica, available in pre-dosed sachets, to be mixed with KERAPOXY EASY DESIGN grout to create a metallic effect on joints. MAPECOLOR METALLIC is available in the following color shades: Moonlight (similar to platinum), Sahara (similar to gold), Shining (similar to silver), Red Clay (similar to copper), Stardust (similar to dark silver). When duly mixed, it allows to obtain metallic grouts with a highly attractive finish, able to enhance the covering it is applied on with a bright, glossy and decorative result. It is especially suitable for grouting metallic tiles, ceramic tiles with a metallic effect, glass and ceramic mosaic and glass tiles.

2

Maeguard Board



LEVELLING SUBSTRATES AND CREATING DESIGN ELEMENTS

Multi-purpose, waterproof and lightweight panel, to be used internally, for levelling walls and creating room partitions, counter-walls and furnishing elements before installing all types of ceramic coverings. It is made from an inner layer of high-density extruded polystyrene, with a multi-layered and completely waterproof membrane to each side. MAEGUARD BOARD can be used also for creating shelves, furnishing elements, partition walls and shower cabins. It is available in various thicknesses to suit multiple application requirements and is characterised by high mechanical strength, thermal insulating properties and high resistance to water contact.

3

Ultracoat Renew FL



RENOVATING WOOD WITHOUT ABRADING THE OLD COAT

Two-component, adhesion promoter for the application of two-component lacquers on existing wooden floors finished with UV, solvent-based or water-based lacquers or with oils (with the exception of oil wax). ULTRACOAT RENEW FL allows the application of a new coat of water-based lacquer without abrading the old finish coat. Together with ULTRACOAT REMOVER PLUS, ULTRACOAT CLEANER, ULTRACOAT ROLLER T3 and ULTRACOAT HT 2K, it makes up a complete risk-free solution for restoring and hygienising wooden floors in a short space of time. It also provides a high level of protection against the proliferation of bacteria.

ReStelvio MAPEI 2022

SUNDAY, 10th JULY

BORMIO - STELVIO PASS

8.50 A.M. HALF MARATHON
(only open to members of FIDAL and promotional associations)

9.00 A.M. RUNNING EVENT OPEN TO ALL

9.10 A.M. NON-COMPETITIVE E-BIKE RIDE
WITH A DEDICATED START GRID

9.15 A.M. RE STELVIO - MAPEI COMPETITIVE CYCLE RACE
37TH EDITION
(for FCI's and Italian National Cycling Commission' members only)
Start for the Women's Cycle Race

9.30 A.M. RE STELVIO - MAPEI COMPETITIVE CYCLE RACE
37TH EDITION
(for FCI's and Italian National Cycling Commission' members only)
Start for the Men's Cycle Race

AFTERWARDS "ALDO SASSI" MEMORIAL BIKE RIDE
(for all those interested, alongside champions of the former Mapei Professional Cycling Team and other sport VIPs)
TWINNED WITH "PEDALA CON ALDO"

2.00 P.M. TIMELIMIT FOR ALL PARTICIPANTS

4.00 P.M. PRIZE-GIVING CEREMONY IN BORMIO SPORT CENTRE

**A FREE TRAINING SCHEDULE FOR RUNNERS
AND CYCLISTS IS AVAILABLE FROM: www.mapeisport.it**

COURSE

**A 21.097 km climb from BORMIO (1,225 m a.s.l.)
to the STELVIO PASS (2,758 m a.s.l.)**
Difference in level: 1,533 m.

STARTING LINE: VIA AL FORTE (BORMIO CITY CENTRE)
RETURN FROM STELVIO PASS TO BORMIO
STARTING FROM 2.00 P.M.

The event will take place based on any
limits imposed by the anti-Covid regulations
in force on the date of the event.

+ STELVIO × TUTTI

E-BIKE RIDE WITH
A DEDICATED START GRID

Thanks to: Parco Nazionale dello Stelvio

ENTRIES

FROM MARCH 1ST TO JULY 7TH

at the web site www.usbormiese.com or else at the
Unione Sportiva Bormiese headquarters, Via Manzoni, Bormio
Maximum amount of entries: 3,000

Entry fee:

50 euros, for entries from 1ST March to 1ST June

60 euros, for entries from June 2ND to July 7TH

The fee includes:

- Re Stelvio-Mapei jersey, which you are kindly requested to wear
- Clothes transport service up to the Stelvio Pass
- Refreshment points alongside the course and at the finish line
- Shuttle bus service from the Stelvio Pass to Bormio (for athletes)
- Pasta Party in Bormio
- Commemorative medal
- Photo and race certificate, both available and downloadable
- Personal race time

**N.B. Free entry on the website www.mapei.it
for Mapei customers using their customer code
and for readers of Realtà Mapei using their
Realtà Mapei code**

HOTEL INFO

Phone: +39 0342 903300
booking@bormio.eu
www.bormio.eu



NEXT CONFERENCES ON CONCRETE TECHNOLOGIES

SOCAC

Milan, July 11-13

SUPERPLASTICIZERS AND OTHER
CHEMICAL ADMIXTURES
IN CONCRETE

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RACTSI

Milan, July 13-15

RECENT ADVANCES
IN CONCRETE TECHNOLOGY
AND SUSTAINABILITY ISSUES

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