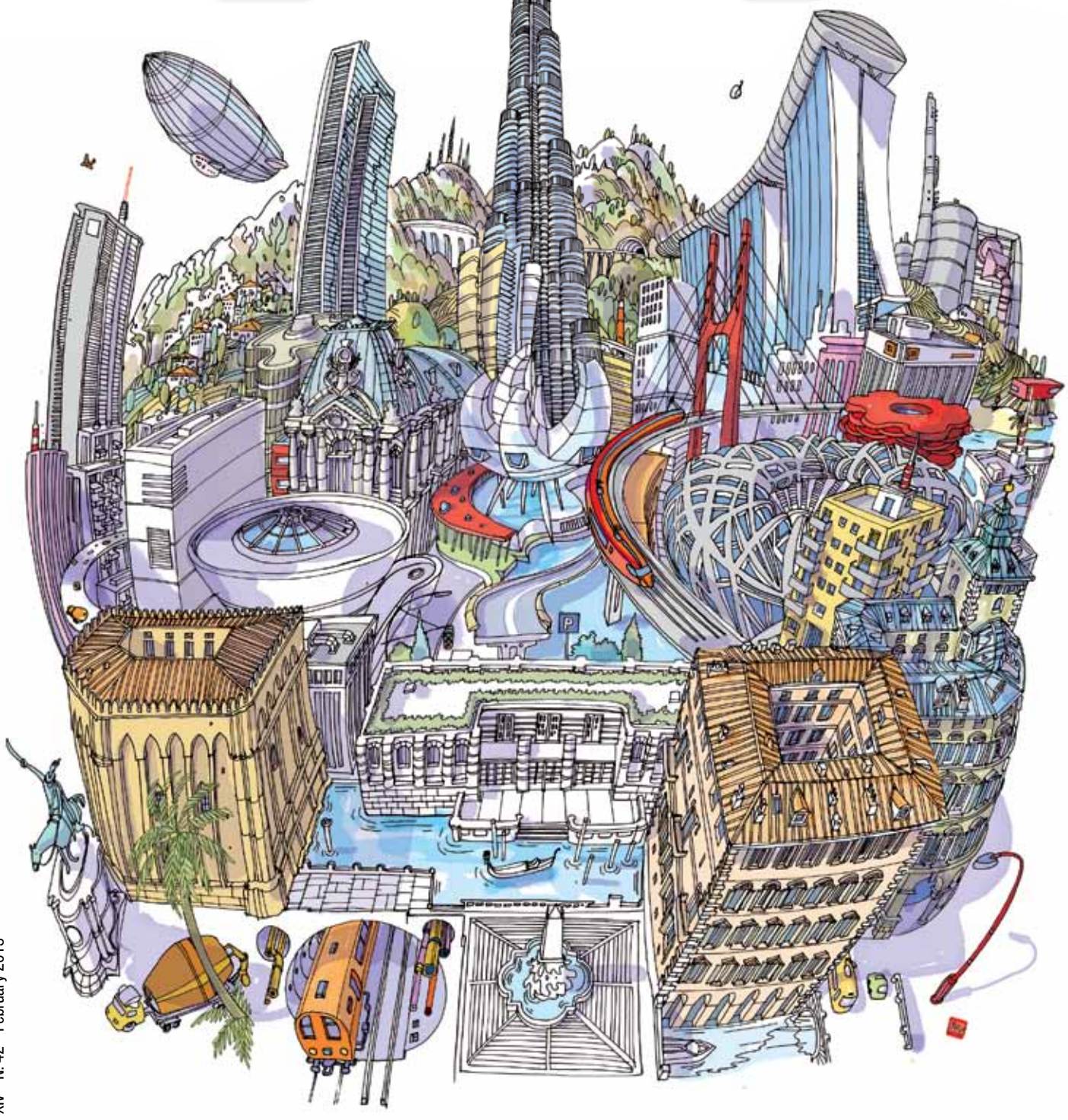
INTERNATIONAL

Realtà MAPEI

ISSUE 42



Year XIV - N. 42 - February 2013

BEING RATHER THAN SEEMING

Adriana Spazzoli
Realtà Mapei International Editor-in-Chief

This year too, the opening issue of *Realtà Mapei International* is a special one.
Our in-house magazine opens 2013 with an array of articles aimed at illustrating how, through Mapei, the building world always manages to find the most suitable solutions for all its needs. Which is why this issue is dedicated to the most important building projects of last year, from all around the world, in which Mapei product systems played a leading role. Building sites both large and small, covering commercial and residential projects from the public and private sector, have been divided according to the type of intervention carried out, and then re-grouped into 15 sections to correspond with Mapei's 15 product lines.
And all this not only to highlight the advanced technology that characterises Mapei products, developed and perfected in the Group's 18 Research & Development centres, but also to place the right amount of emphasis on all those who use and appreciate our products, each and every day, on the most varying types of building site around the world. From contractors to designers and from retailers to specialised technicians, the target we have set ourselves is to demonstrate how Mapei really is the ideal partner to help you "transform a world of dreams into reality". All professionals that have successfully used our products are Mapei's chosen "testimonials", the people in the front line on building sites all around the world that, more than anyone, know the true value of the products they use. In such a moment as this, with a serious, ongoing international crisis that has hit every sector and, in several countries, the building industry in particular, the figures show that the Mapei Group has grown by more than 3% compared with the previous year. The strength of the Group is measured not only by its new acquisitions in strategic areas of the global market and by its economic and financial growth, but also by the level of trust shown by all those that choose the company.
We have already maintained that to communicate means to share, which means to pool not only our know-how, but also the knowledge and experience of others. To support this type of exemplary process is the task of any communications tool that, apart from simply passing on information, also has the ability to feed a flow of news that encourages new thought processes and stimulates the curiosity of its target audience. Which is why, apart from highlighting last year's reference projects, the aim of this issue of *Realtà Mapei International* is to present the guidelines of the image and communications strategy that will be developed in the near future. The choice (seemingly minimal, yet one that is following an increasingly widespread trend around the world) to place our trust in the drawings of an internationally renowned Italian illustrator is not our way of wanting to be different at all costs. Its explicit aim is to make it that much easier to understand a very clear concept: that Mapei is present in all the major construction projects around the world, as well as in our homes and in all those places that are part of our daily routine. Isn't it wonderful to know that, to waterproof a gigantic dam in China or our own small balcony, the same product (MAPELASTIC) can be used? Because Mapei really does know how to turn both large and small building dreams into reality. Between dreams and reality it is reality that we will always have to deal with. But if there is also a dream to encourage us, then that reality can be truly fantastic, like the illustrations by Carlo Stanga (see the dedicated article in this issue of the magazine), that help us understand things at a glance. So, as we said earlier, this issue of *Realtà Mapei International* is truly special. An issue that looks to the future with faith and optimism, building on the successes of the recent past.
And all this while remaining faithful to the corporate style and policy that all our readers know us for. To place an emphasis on being rather than *seeming*.
Happy 2013 and, naturally, enjoy your read!

SUMMARY

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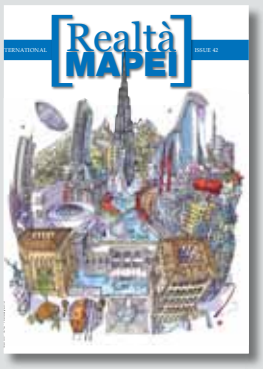

COVER STORY: Carlo Stanga's drawings tell the story of the World of Mapei.

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"Responsible Care" is the world chemical industry's voluntary program based on implementing principles and lines of action concerning staff health and environmental protection.


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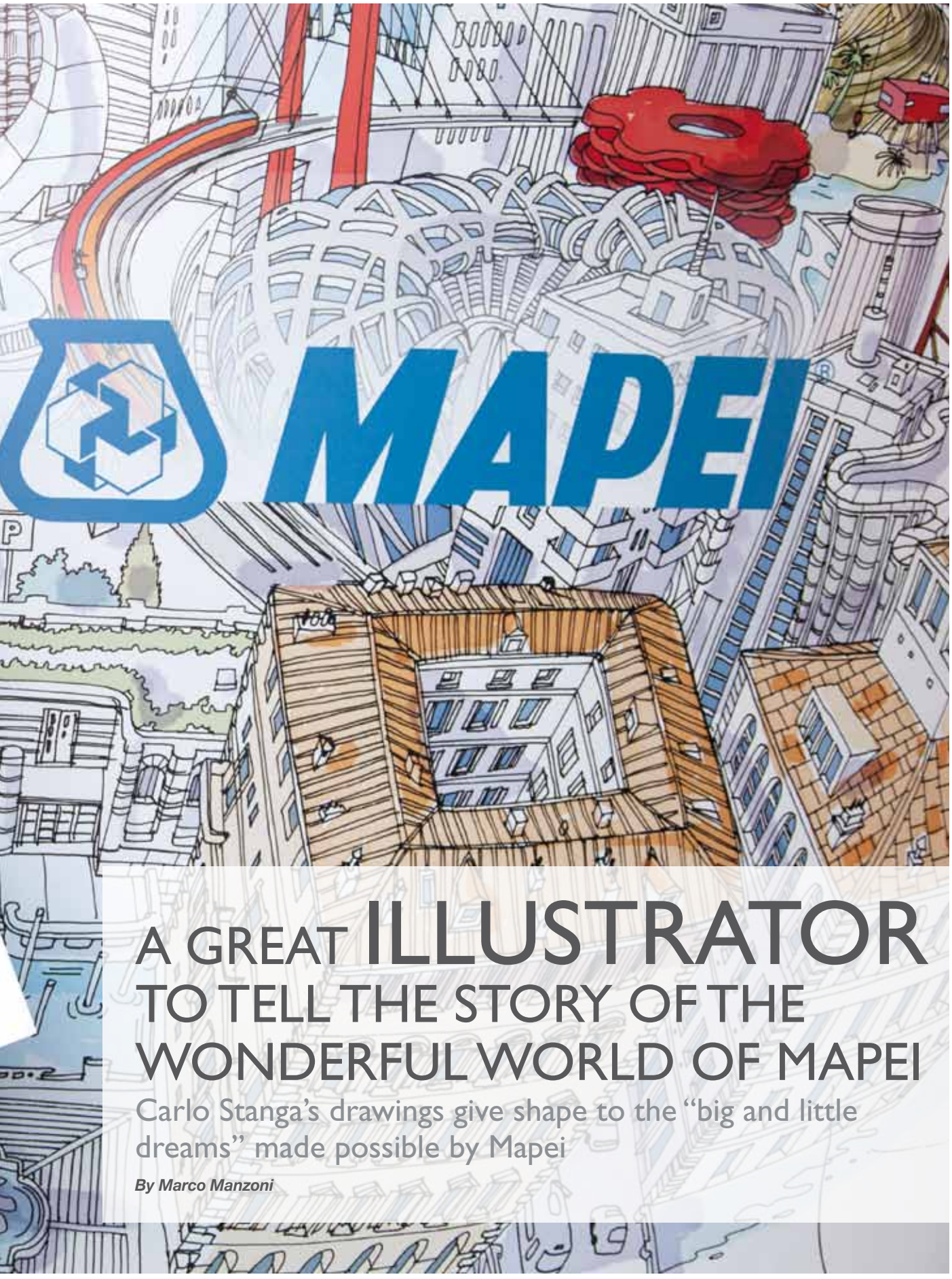


A GREAT ILLUSTRATOR TO TELL THE STORY OF THE WONDERFUL WORLD OF MAPEI

Carlo Stanga's drawings give shape to the "big and little dreams" made possible by Mapei

By Marco Manzoni

Mapei has chosen Carlo Stanga's flair and professionalism to depict the mood characterising its communications campaign. Stanga lives and works commuting between Milan and Berlin and is among the best known Italian illustrators on the international scene.
His style is based on a combination of almost obsessive representational analyticity in his attention to reality and dreamy strokes and lines perfectly mirroring what Mapei is aiming to communicate.

» STANGA'S GRAPHICS WILL ALSO BE PART OF MAPEI'S NEW ADVERTISING CAMPAIGN

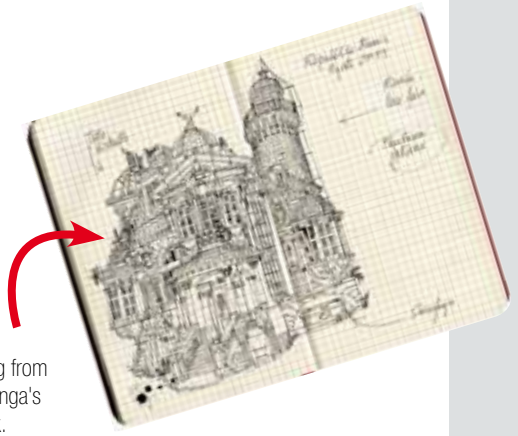
A perfect mix deriving from his experience as an architect and direct knowledge of materials, design methods and actual building work. For 75 years now Mapei products have provided the most effective and efficient solution to any kind of building requirements, on any scale, all over the world.
Thanks to the high technology of the content of these products, building professional operators can transform their own needs and ambitions into something real. Mapei is much more deeply ingrained in the everyday life of ordinary people than you might think: homes and offices, shopping malls and car parks, bridges and schools. Here, as in the world's most important civil engineering works, Mapei's quality of the highest standard can be found in a range of products capable of meeting the needs of any project, whether it be big or small, and always with the same effectiveness and ease of implementation.
15 innovative product lines developed by the Group's 18 Research & Development Laboratories to transform a world of dreams into reality. The ideal graphic interpretation of this kind of communication lies in illustration, capable of creating instantaneous abstraction compared to merely photographing the builtscape and, at the same time, even more realistic and analytical in how it depicts reality. Most significantly, it can provide the kind of soft touch encouraging thought rather than "affirmation".
The "World of Mapei" illustrated by Stanga encompasses the most prestigious international projects, which have opted to draw on Mapei product systems, to form a "synchronic unicum" in which everybody can recognise famous buildings or well-known architectural works of art. All this without forgetting the fundamental issue of eco-sustainability as part of a more spontaneous and friendly relationship between mankind and nature. Stanga's illustrations take us into a world in which the artist's imagination has managed to poetically capture the great concreteness inherent in "fine building".
A "realistically imaginary" world that emphasises the fact that Mapei really is capable of bringing about small and big dreams and also underlines that "Mapei's own world is based on values and building qualities".

This photo. Adriana Spazzoli, Mapei Group's Operational Marketing & Communication Director, during the interview with the illustrator Carlo Stanga.

MAPEI: ENERGY IN MOTION

Interview with Carlo Stanga and Adriana Spazzoli (Mapei Group's Operational Marketing and Communication Director) carried out by Tiziano Tiziani

How do you reconcile your training as an architect with your work as an illustrator?
Carlo Stanga - I am an illustrator/architect or, alternatively, an architect/illustrator, depending on the moment. I have always drawn. Back when I was a child, the form of communication with which I expressed myself best was drawing and ever since then I have never stopped using it.
At the same time I have always loved architecture and, although about 10 years after



A drawing from Carlo Stanga's notebook.

graduating in the subject I opted for illustration, architecture is often the backdrop for my drawings and, on certain occasions, it is actually the main subject of my works, as in the case with Mapei.
My background as an architect constantly influences my work as an illustrator. Moreover, architecture is always represented in my illustrations, partly because architecture is part of the world and a constant presence in our lives, but also because we all live in an architectural environment.

Why did you decide to use illustration to tell the story of the World of Mapei?
Adriana Spazzoli - There was plenty of discussion within the company about the best means of communication to make the general public fully aware of Mapei's great potential; opting for such an apparently un-technical means of communications was a very important step forward. We needed to break free from the kind of technical style of communication that had always characterised our company and, upon studying all the potential illustration has in store, we decided to choose Carlo Stanga, not just for his widely acknowledged professional expertise on an international level and his experience in the world of architecture, but also for his skill at depicting the world of building and construction with such great imagination, originality and flexibility.

How did you manage to combine imagination with the concrete nature of Mapei's work?
Carlo Stanga - Imagination is always part of my drawings, and it is the thing that manages to bring everything else together. The technical side of Mapei, that I have always been aware of as an architect, along with all the technical issues associated with architecture and the world of building, made my job much easier, and it was only natural to me to reconcile the imaginative side of my work with the technical aspects that needed to be communicated. And this demonstrates just what an extremely important resource imagination

A FEW WORDS ON CARLO STANGA

Carlo Stanga lives and works in Berlin and Milan.
He became an illustrator very early on in his career, collaborating with the most important Italian publishers. After graduating in architecture, he perfected his style and gained invaluable experience by taking part in the 'Laboratori Creativi'(Creative Laboratories) organised by the Italian designer Bruno Munari and studying at the Domus Academy in Milan.
In 2002 and 2003, he was invited to exhibit his works at the Paris Book Fair and the Affiche Gallery in Milan by the association of Italian illustrators, while in 2004, together with other colleagues, he was chosen to represent the world of Italian illustration at the Taipei Book Fair in Taiwan. In 2006, 2007, 2008 and 2009, he won a number of awards from the Italian magazine *Illustrazione Italiana*, and also in 2009 the American magazine *Creative Quarterly Journal* awarded him two Gold Medal Awards. Important awards also came from the American Illustration Annual 26 and the American 3x3 Magazine in 2008. In the following two years, the New York Subway commissioned him for two large celebrative posters that were displayed in all the subway stations in the city.
The prestigious Society of Illustrators of New York then invited him to take part in the traditional annual exhibition that, since March 2011, unites all the most important illustrators on the international scene. At the beginning of 2012, the Italian magazine *Klat* invited him to keep a personal blog dedicated to the world of illustrations and its implications on the world of art, architecture and design. Since 2010, he has been Art Director at the Italian wallpaper manufacturer Cobalti Wallpaper.
Carlo Stanga also collaborates with Italian and international newspapers, publishers, institutions and companies, such as *La Repubblica, Il Sole 24ore, Io Donna, D di Repubblica*, Brioni, Trussardi, UNESCO, Club Med, Fnac, New York MTA, Board and many others.

Tables. The "Mapei World" takes shape through Carlo Stanga's sketches.

is for expressing extremely concrete matters. In the case of Mapei, for the imaginative interpretation of real buildings.

What were the guidelines in terms of communication underscoring Stanga's creativty?
Adriana Spazzoli - We set out to emphasise the close bonds between dreams and reality in the realm of "fine building": Mapei provides a helping hand in carrying out all kinds of different projects through its products.
Every project is a dream come true. In building, for example, it is the dream we all have of constructing our own home or our own office. And also the dream of having a great fully-functioning infrastructure bringing together different people and different worlds. Mapei's dream is to be able to help make these dreams come true, and all this 75 years after its original founding. In this respect, the claim we decided to make for the new Mapei campaign is "for 75 years we have been helping to build little and big dreams". That is why the hand of a "dreamer-architect" was inevitably the best means of developing this campaign.

What form does the World of Mapei take as represented in your illustrations and what guidelines did you adopt for defining it?
Carlo Stanga - The works represented in my illustrations are all connected with how Mapei materials have enabled them to actually be constructed. The key aspect of these great works of architecture is that they are located all over the world; what emerges is not just the World of Mapei, but also a mirror in which we can recognise global architectural progress to which Mapei has contributed as a key player.
I also enjoyed seeing how people react when they see these drawings and notice how illustration really is capable of "telling the story"; in this case the story of Mapei's involvement in every realm of architecture, from the most famous works to the most ordinary projects. Great architectural works make a place or a big city really stand out, but they also fit in smoothly with ordinary buildings. There are apartments, residential complexes, parks and other different places that we are so used to seeing, both in person and on television or on the web. Lots of visitors at the most recent edition of MADE expo, where there was a giant image of my illustration work, recognised the places being depicted, thereby receiving information of both an aesthetic nature and linked with technical aspects.
I am extremely pleased that the idea that lots of people now have of Mapei (after seeing my illustrations) is that of a company bursting with energy and capable of turning the dreams and aspirations of both architectural designers and ordinary people into reality.

What special qualities can illustration work like Stanga's offer when portraying the very nature of a company like Mapei?
Adriana Spazzoli - We opted for this approach because we want to communicate what Mapei really means on a much wider basis, along with more strictly technical information, without overlooking all those aspects that can be expressed simply by a means like illustration, which revolves around the imagination and is better than anything else at defining the great movements of people, ideas and projects giving shape to Mapei all over the world.

What is your view of the fact that Mapei chose illustration to boost its own image?
Carlo Stanga - I think it was very brave, bearing in mind the realm in which illustration is used in Italy (mainly for children's works). But that is not the case elsewhere in Europe and in other countries around the world, like for example the United States, where for years now the advertising world has been drawing on this form of communication. And it is another sign of how the path Mapei has taken mirrors its international vocation.

This photo. Giorgio Squnizi, CEO of the Mapei Group, meets Carlo Stanga at the editing offices of *Realtà Mapei* during the interview.

These photos. Excerpts from the interview involving the participation of the architect Marco Manzoni, first on the left, Carlo Stanga, Adriana Spazzoli and one of the editors of *Realtà Mapei* Tiziano Tiziani.

How will Mapei's communications strategy develop in the near future and how will Stanga's beautiful drawings be used?
Adriana Spazzoli - Stanga's graphics will not just be used for the company's official communications campaign, they will also be incorporated in the advertising campaign and be present in all company's documentation. That is because this style of work allows us to fully emphasise Mapei's ability to transform dreams into reality and to clearly indicate where the company stands and what it does. Once again we are adapting to a changing world, forcefully underlining the fact that Mapei is a melting pot of values based on certified products and with a great sense of responsibility towards such issues as eco-sustainability and quality building.
Mapei values and quality are closely tied to the world in which we live in all its various aspects. Whether we are dealing with the demands of an architect or those of a family, Mapei actively contributes to the quality of any project and also the excellence of the final result. Mapei is much more a part of people's everyday lives than you might think.

Internationalisation, specialization and constant research into studying the most effective, high-performance materials. All this so as to make even the boldest architectural dreams come true, featuring a full range of products and services. This is the World of Mapei according to Carlo Stanga. A drawing that has managed to capture all the dynamism of an enterprise confidently projected into the future, but based on solid corporate principles.
The Mapei Group's CEO, Giorgio Squinzi, who got involved in the final part of the interview, shares this opinion. "Stanga's graphics succeeded in immediately capturing our attention. It is proof of how art manages to express even the most intricate things with apparent simplicity. It is a further demonstration of how work carried out properly, something we do every day all over the world, always has a certain vein of artistry to it."

2012 MADE expo

PRODUCTS AND PROJECTS: A WORLD FOR PROJECT DESIGNERS

The fifth edition of the MADE expo was held last year in the pavilions of the Rho Fiera exhibition centre in Milan from the 17th to the 20th of October.

The 2012 edition was dedicated to the redevelopment of buildings, safety, eco-sustainability and safeguarding the environment, lower energy consumption, innovative technology and high-performance materials. During the 4 days of MADE expo the construction world has shown its capacity to react, and 231,729 visitors (-8.6%), of which 31,235 from abroad, is an important and encouraging result within a gloomy international economical scenario. With 1,532 exhibitors the event proved yet again to be an important appointment, with the most important Italian and international players from the entire construction and design world coming together.

An Analysis of the Sector

"The building sector is going through a difficult period. The most frequently heard estimate is that building activities in Italy have fallen by 25% in the first nine months of 2012 compared with 2011". This was the point stressed by the President of Confindustria (the Confederation of Italian Manufacturing and Service Companies) and CEO of the Mapei Group Giorgio Squinzi when speaking at the inauguration of MADE Expo.

The 2012 report by Federcostruzioni (the Federation of the Italian Building Compa-

nies) on "The Italian Construction Sector" was illustrated on the opening day, and showed how, between 2007 and 2011, production for the entire construction chain has fallen by 26.3%, which means less 126 billion Euros in 2012 compared with 2007. For 2013 the forecast is for a period of stagnation, with an increase of 0.1%.

Overall, the construction system is worth 373 billion Euros and employs around 3 million people, not including all the allied industries and supply chain. The system imports very little (3.3%) and is more orientated towards exports, which in 2011 reached a total of 54 billion Euros, a third of its overall value.

The World of Mapei

Mapei was also at MADE Expo 2012 to present its new image: "The World of Mapei" by the architect/illustrator Carlo Stanga.

The World of Mapei is a world made of projects, created thanks to the solutions and products offered by the company.

From historical town centres to large metropolises, from the installation of flooring in the home to large buildings: Mapei innovation and quality are to be found everywhere all around the world, with the ambition to transform a world of both large and small dreams into reality.

And to keep faith with the main theme of the event (to highlight innovative technology for the theme of sustainability), at the trade fair Mapei presented not only products, but also reliable systems compliant with the most stringent international standards, the fruit of years of experience and a profound, in-depth knowledge of all specific reference markets.

For Mapei, environmental responsibility is a priority. The Group has developed, and will carry on developing, the widest range of innovative products which not only respect the most severe regulations, but also help designers and contractors create innovative, LEED-projects (Leadership in Energy and Environmental Design), in compliance with the U.S. Green Building Council.

Structural Strengthening Line for Concrete and Masonry

The MAPEWRAP EQ SYSTEM was on the spotlight at MADE expo. This is an innovative system for the strengthening of buildings in the event of seismic activity which works like an “airbag” and prevents secondary or partition walls from collapsing or tipping over away from the floors during earthquakes. This system gained an international licence and is a relevant Mapei’s contribution to structural engineering.
Beside, Mapei also proposed a complete range of technologically innovative products made from 100% recyclable basalt fibres, for structural reinforcement which allows reduction of energy consumption during production and a reduced emission level of CO_2. Amongst these products there are MAPEWRAP B UNI-AX uni-directional, high-strength basalt fibre fabric, and MAPEGRID B 250 primed basalt fibre mesh, for structural strengthening of stone, brick, tuff and concrete substrates.

Concrete Repair Line

For the civil constructions sector, the spotlight at MADE expo was on PLANITOP SMOOTH & REPAIR fibre-reinforced, controlled-shrinkage cementitious mortar: a single versatile product for repairing and smoothing concrete, with for durable, certified results. Mapei also proposed MAPESHIELD, a system for galvanic cathodic protection, made up of pure zinc anodes, offering protection against corrosion in reinforcement rods and concrete and metallic structures exposed to aggressive agents. MAPESHIELD anodes may be applied on both new structures and those under repair, and increase the duration of reinforced concrete in new structures by up to 38 years and repair work by up to 20 years.

Admixtures for Concrete

Just like it has done at SAIE, at MADE expo Mapei highlighted RE-CON ZERØ, an innovative product for the sustainable recycling of returned concrete, with enormous environmental, social and economic advantages.

Products for the Repair of Masonry

The products from the MAPE-ANTIQUE range - made from Eco-Pozzolan and completely cement-free – are not only particularly recommended for the renovation of ancient buildings. They are also suitable for internal or external application during the construction of new buildings. The MAPE-ANTIQUE range is a complete system enclosing all products from scratch-coat mortars to protective wall finishes.
The MAPE-ANTIQUE range is now completed by MAPE-ANTIQUE FC ULTRAFINE, an ultra fine-grained lime and Eco-Pozzolan transpirant skimming mortar for a smooth finish on render, and MAPE-ANTIQUE FC GROSSO, a salt-resistant, large-grained lime and Eco-Pozzolan transpirant skimming mortar for a rough finish on renders.
These skimming products go to complete the dehumidifying cycle comprising MAPE-ANTIQUE RINZAFFO and MAPE-ANTIQUE MC, applied before painting the surface.

Grouts for Joints

Mapei offers a complete range of grouts for tile joints, for both internal and external use, with highly efficient and colourful solutions. The company has developed a special range of epoxy grouts for tile joints in industrial environments: the KERAPOXY range, particularly suitable for bonding tiles and grouting joints in special environments where a high level of chemical resistance is required. The novelty at MADE expo, presented also at the Cersaie exhibition, was the wider range of colours available for KERAPOXY CQ, the most versatile grout around which has gone from 6 to 21 colours. Its special properties include easy application, high cleanability, high hygiene level and extremely high mechanical strength. KERAPOXY CQ is recommended for grouting joints in ceramic floors and walls in commercial and domestic environments, as well as in industrial environments where high resistance to chemicals is required.
Along with KERAPOXY CQ, this range includes KERAPOXY IEG and KERAPOXY P, all products with excellent resistance to acids and oils, as well as excellent cleanability.
In the residential sector, the product for excellence is the cementitious grout ULTRACOLOR PLUS, the anti-mould and anti-efflorescence grout ideal for preventing mould from forming in damp environments.

Waterproofing Products

Among the new Mapei products proposed at MADE expo there was AQUAFLEX ROOF HR fibre-filled liquid membrane in water emulsion with thermal emittance and a solar reflectance index (SRI) of 105.
The products in the MAPELASTIC family were also on the spotlight at MADE expo, with special attention paid to MAPELASTIC FOUNDATION, two-component, flexible cementitious mortar for waterproofing concrete surfaces subject to negative and positive hydraulic lift.

The PURTOP range was also highlighted at MADE expo: the solvent-free, pure polyurea or hybrid polyurea waterproofing membranes which are easy and quick to apply by spray. These membranes offer immediate waterproofing and set to foot traffic, and do not require reinforcement.
The DRAIN system completed the Mapei waterproofing line: this is a kit used to create floor drains with a vertical or lateral coupling, ideal for draining off water from terraces, balconies, laundry rooms, etc, which is a fine match for the MAPELASTIC range.

Systems for Installing Ceramics and Stone Materials

The family of Mapei lightweight products is now even larger with two new adhesives: the rapid versions of ULTRALITE S1 and ULTRALITE S2.
ULTRALITE S1 QUICK is a deformable, rapid-setting and hydrating adhesive with no vertical slip, very high yield, good trowelability and high wetting capacity for ceramic tiles, stone and thin porcelain tiles.
Apart from the same characteristics as its sister product, ULTRALITE S2 QUICK also has extended open time and higher deformability.

Sealants

The wide range of coloured and certified Mapei sealants was also on the spotlight at MADE expo for easy and safe sealing and bonding. These are products for all professionals operating in the installation sector. The novelty in this range is ULTRABOND MS RAPID, the GEV EMICODE EC1-certified rapid-setting assembly adhesive for internal and external use with a high sucker effect. Also presented at the trade fair was MAPEFLEX PU45, a polyurethane adhesive and sealant with a high modulus of elasticity, and MAPEFLEX MS45, a hybrid sealant and adhesive suitable for damp substrates, available in white and grey.

Thermal Insulation

As far as thermal insulation is concerned, Mapei Research & Development Laboratories developed two systems: MAPETHERM SYSTEM, which ensures insulation with wall coatings such as SILANCOLOR and SILEXCOLOR, and MAPETHERM TILE SYSTEM, the thermal insulation system which makes it possible to apply ceramic tiles and natural stones on insulated surfaces, even in the case of large-size, thin tiles in particular.
Mapei presented MAPETHERM PROFIL at MADE expo 2012, an

innovative range comprising a series of complementary products used in critical areas to get maximum protection and durability for the system.
These products allow thermal insulation systems to be installed by forming fillets between the insulating panels and the masonry to prevent the formation of cracks, strengthen the areas of the system most prone to impact and protect connection points from inclement weather, so that the entire structure lasts as long as possible.

Soundproofing

Mapei has developed MAPESILENT SYSTEM and MAPESONIC CR, excellent soundproofing systems for ceramic, natural stone and wooden floors to reduce the noise of footsteps, easy to design and install.
For MAPESILENT SYSTEM, the new product which completes the range is MAPESILENT UNDERWALL, an elasto-plastomeric soundproofing strip made from bitumen and special polymers sandwiched to a layer of resilient polyester fibre coated with blue, non-woven polypropylene fabric, positioned underneath perimeter walls and partitions.
Specific for use with MAPESONIC CR is the addition of MAPESONIC STRIP: self-adhesive perimeter strip positioned around the edge of flooring and any pillars passing through the flooring to prevent the formation of acoustic bridges.

Wall Coatings

The new products within the Mapei range of wall coatings were DURSILITE MATT, a transpirant, high opacity, washable water-based wall paint, and ELASTOCOLOR TONACHINO PLUS, an elastic, water-repellent, anti-mildew and anti-mould, elastomeric coating product.
In the spotlight also SILANCOLOR AC PAINT and SILANCOLOR AC TONACHINO water-repellent acrylic-siloxane paints.

2012 MADE expo

Industrial Floors

Concrete surfaces are characterised by their high surface porosity, and tend to absorb any water or liquids they come into contact with. It is extremely important, therefore, that work is carried out using specific treatments with resin formulates that have the capacity to penetrate into the cementitious surfaces without altering its transpiration properties or original colour. The new MAPECRETE range for protecting the surface of concrete was highlighted by Mapei at MADE expo. This line meets these requirements with water-repellent, consolidating and stain-proof systems and is made up of MAPECRETE CREME PROTECTION, MAPECRETE STAIN PROTECTION and MAPECRETE LI HARDENER.

MAPECRETE CREME PROTECTION is a solvent-free, silane-based thixotropic water repellent compound in water dispersion, ideal for hydrophobic treatments on concrete.

MAPECRETE STAIN PROTECTION is a hydro-oil and anti-stain treatment for concrete, stone and cementitious surfaces made from modified organic polymers in a watery solution.

MAPECRETE LI HARDENER is a surface treatment in liquid form with a consolidating effect for new or old concrete floors and concrete with a surface dusting treatment. MAPECRETE LI HARDENER closes the porosity of the cementitious paste and, as a result, increases the strength of the floor surface.

Urban Architectural Floors and Road Maintenance Systems

To build surfaces meant to “last a lifetime”, Mapei proposes MAPESTONE SYSTEM, the quickest, simplest installation system for porphyry and interlocking stones. MAPESTONE is up to 50 times more resistant than traditional systems and is more resistant to freeze/thaw cycles, de-icing salts and the stresses generated by heavy traffic.

As for the road maintenance systems, next to the MAPEGROUT family Mapei also has MAPE-ASPHALT REPAIR 0/8, a one-component, ready-to-use, reactive asphalt, applied cold, for repairing holes in roads and industrial floors.

Laying Wooden Floors

Wooden floors can be brought back to their original splendour thanks to the ULTRACOAT systems for cleaning and protecting wood, both in small and large environments.

Amongst the adhesives, at MADE expo 2012 Mapei presented the products from the ULTRABOND line: ULTRABOND ECO S945 1K, ULTRABOND S965 1K and ULTRABOND ECO S955 1K, ready-to-use one-component adhesives, certified EMICODE EC 1R PLUS, made from sililated polymers, which are easy to apply, easy to clean off from surfaces and skin, and ideal for all types of parquet on any kind of substrate, including heated substrates.

Sports Facilities

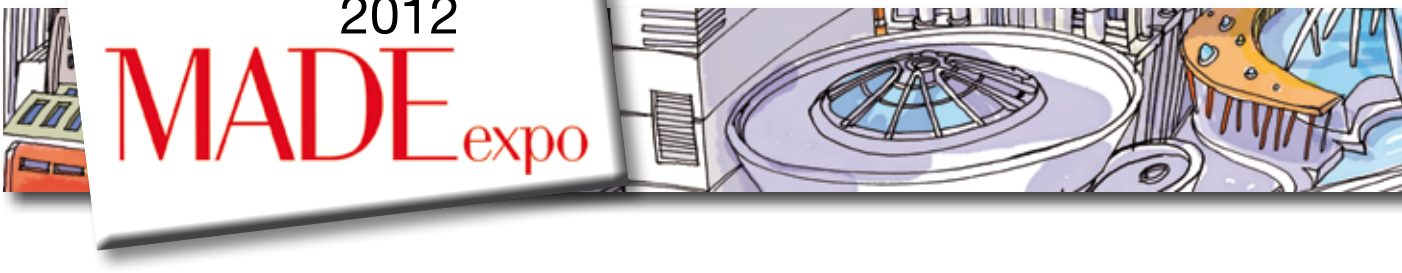
Mapei also presented innovative products for sports facilities constructed for any type of sport, and on the occasion of the most important world-class sporting events.

In the spotlight there was MAPESOIL 100, an innovative agent for the stabilization of soils and raw aggregates when building synthetic grass surfaces, and the ULTRABOND TURF line of high-performance polyurethane adhesives for installing synthetic grass.

As for the sport resin surfaces Mapei proposed the MAPECOAT TNS SYSTEM including MAPECOAT TNS PROFESSIONAL (for tennis courts), MAPECOAT TNS MULTISPORT COMFORT (for multisport surfaces) and MAPECOAT TNS URBAN, an acrylic resin-based coloured coating in water dispersion with selected fillers, for coating cycle tracks, footpaths and urban features

MAPECOAT TNS URBAN has excellent resistance to abrasion and guarantees the durability of surfaces, even when used frequently. Worth a mention is also ADESILEX G19, high performance adhesive, used to install rubber tracks in the most important athletics arenas in the world, and for the Olympic Games in particular, including those used in the Olympic Stadium in London during the 2012 Olympic Games.


PRODOTTI PER IL PARQUET
PRODOTTI PER L'ISOLAMENTO ACUSTICO
PRODOTTI PER CERAMICA E MATERIALI L
PRODOTTI PER IMPERMEABILIZZARE E P



Events and Sponsorship

Mapei was the main attraction at numerous MADE expo's side events. One such example was the "Zephir Passive House" in the Smart Village Space, an event organised by Edilportale (a website devoted to the Italian building industry) and MADE expo in collaboration with Agorà, dedicated to energy efficiency, sustainability, the contribution of plant and service systems in the design of buildings with low energy consumption and the role of buildings and networks in the Smart Cities of the future. To build the house Mapei supplied the product MAPETHERM XPS, a polystyrene insulating panels for thermal insulation systems. Another two projects also had the support of Mapei: the "Precast Area" organised by Assobeton (the Italian Association of Pre-cast Concrete Producers and Manufacturers) and "Made in Concrete" organised by Atecap (the Italian Ready-mix Concrete Technical and Economic Association). Mapei also sponsored the Eucentre convention (the European Centre for Training and Research in Earthquake Engineering) "Applied Research and Technology as a Support to the 2008 Technical Regulations for Building", held by ISI (Italian Seismic Engineering) "Intelligent Structures: Anti-Seismic, Sustainable and Based on Conceptual Design" and the Assomarmisti (Lombardy Stone Association) convention "The Urban Landscape: Design and Re-Qualification Using Natural Stone", with the participation of qualified Mapei technicians: Stefania Boselli, who presented a report called "Technologies for the Installation of Stone Materials. Eco-sustainable Products" and Nancy Onorato and Marcello Deganutti with a report on the Mapei line of architectural stone floorings.

The 2013 edition of MADE expo, which will be held from the 2nd to the 5th of October. There will be three main new lines of action: a two-yearly event, specialisation and internationality. With this new organisation, MADE expo will be held every two years in the years with odd numbers, just as requested by the companies, and bringing it strategically into line with the most important appointments held in Europe dedicated to the building sector.

VAGA

VAGA was also present at MADE Expo, the subsidiary of the Mapei Group from Costa de' Nobili (Italy) specialised in the production of silica sands and building mortars. Panels were on view on the Mapei stand to display the company's innovative, fire-resistant rendering mortar FiBROmalta, which guarantees no plastic shrinkage cracks and workability during application second to none. FIBROmalta, developed in the Mapei R&D laboratories, gives walls REI 180 certified fire resistance and a compressive strength level ≥ 6 N/mm^2, while the special microfibers contained in the mix prevent the formation of cracks due to plastic shrinkage while it is drying and gives the product better thixotropic properties. FIBROmalta is suitable for external and internal renders, cement blocks, and masonry mortars, including load-bearing masonry walls in seismic areas and also for sealing hydraulic and electric pipe-lines and for installing shower booths and sanitary fittings. Its ease of preparation and application is another advantage of FIBROmalta, suitable for application both with a rendering machine and by hand.

Polyglass

Polyglass's stand, the Group's subsidiary specialised in the production of waterproofing membranes and insulating systems, displayed their complete range of products, and the Adeso® and Reoxthene® technologies, used to make bitumen membranes up to 40% lighter compared with conventional ones. The company from Ponte di Piave (Italy) presented three new products for bridges and viaducts: a 4 or 5 mm plastomeric membrane called POLYBOND and two products with Reoxthene® technology: EVOLIGHT HP, available in 3 and 4 mm layers, and POLYFLEX LIGHT HP, available in 4 and 5 mm layers. In the spotlight also three membranes that obtained certification BROOF (t2) in compliance with UNI EN 13051-5: ELASTOFLEX SA P AF (in the 2 mm and 3,5 kg mineral version), ELASTOFLEX S6 AF (in 4,5 kg and 5,5 kg mineral version) and FUTURA RS 4 AF (in 4,5 kg and 5,0 kg mineral version).

All the Solutions for the Building Industry

The permanent Mapei showroom in the fairground is usually dedicated to project designers who wish to widen their knowledge of particular areas of interest and get to know the tools available from Mapei.

For MADE expo 2012, this space was used in particular to highlight Mapei systems and solutions for wall coatings, coloured grouts for joints and for two cutting-edge systems for resin and cementitious floors: MAPEFLOOR SYSTEM and ULTRATOP SYSTEM high-performance systems suitable for resin and cementitious floors resistant to chemical aggression with a low emission level of VOC.

But that was not all. Numerous project designers, architects and engineers had the chance to take a close-up look at the interactive manual “Mapei Architectural Design Guide”, by navigating with a software created by the company to find the most suitable solutions for wherever their work takes them. An indispensible tool which, by following simple procedures and downloading technical specifications and drawing attachments, allows them to carry out large or small building projects in compliance with current standards.

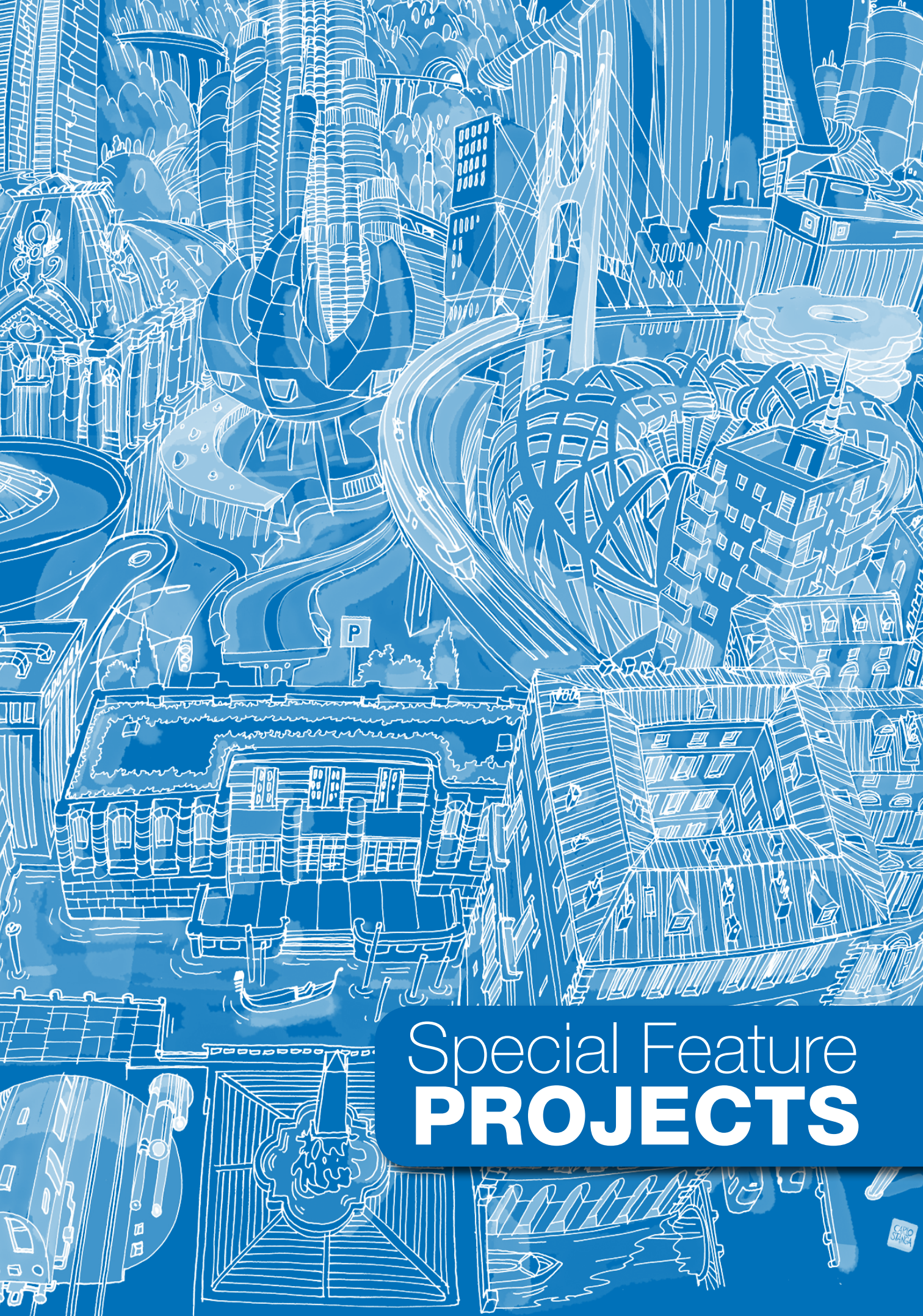
A WORLD OF PROJECTS

Mapei offers its clients highly-technological products and guarantees the best service possible in all parts of the globe, thanks to its highly-expert employees, highly-innovative products and highly-qualified technical assistance. Since 1937, the year in which the Company was founded, prestigious projects testify the quality of Mapei. Its products have been employed all around the world, from the most talked-about, demanding building sites to the less wellknown areas of everyday life.

The most prestigious projects references are also available on the Company website at www.mapei.com, subdivided according to country and type of application, to complete the technical documentation available.

On the following pages, one finds a selection of the most important and recent building projects for most of the countries where there is a Mapei Group's subsidiary.

The chance to select them was provided by the 11th edition of the Mapei References Grand Prix: this is an annual event organized by the Company which sees the Group's subsidiaries showing the most important building projects they took part in during the same year.

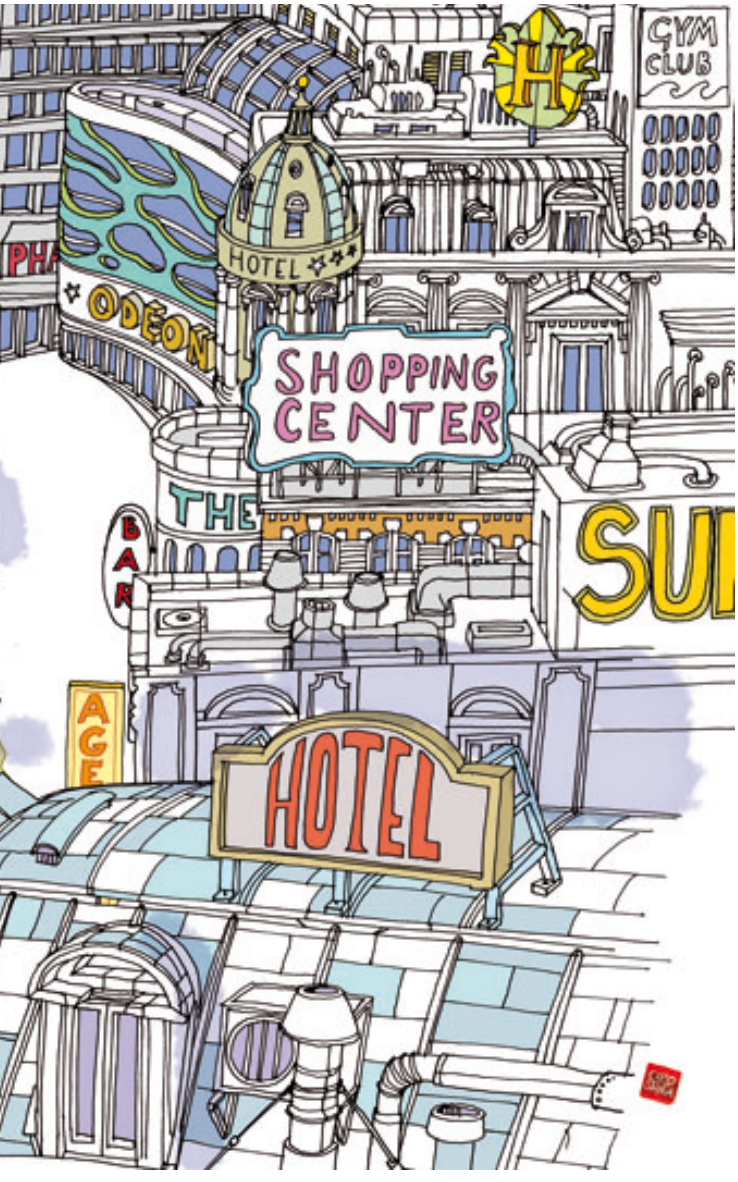


Special Feature
PROJECTS

WE HAVE 15 PRODUCT LINES FOR AN OFFER WITHOUT COMPARISON IN ALL BUILDING SITES WORLDWIDE

Summary

PRODUCTS FOR CERAMICS AND STONE MATERIALS



Mapei offers a complete range of products to help select the most suitable laying system for ceramics and stone materials. The range includes cementitious and paste adhesives, hydraulic binders and pre-blended mortars for screeds, primers, skimming compounds, sealants, complementary products, and grouts able to exalt the beauty of the installed materials. Mapei also offers a special system for laying long-lasting architectural stone floorings resistant to freeze-thaw cycles.

Sparkling Hill Resort

Vernon - Canada

Immersed in the wild natural forests of Canada, this resort offers luxurious finishes and the wellbeing typical of a European spa. The resort owner, Swarovski, the internationally-renowned jewellery and fashion brand, wanted the internal spaces to be characterised by glass mosaics, subtle lighting and crystal walls and sculptures. The granite slabs in the bathrooms of the 156 suites were installed on the walls with ULTRAFLEX LFT adhesive (which is manufactured and distributed on the Canadian market by Mapei Canada Inc.) and on the floors with KERABOND+ISOLASTIC (the latter is distributed on the North-American market with the name of KERALASTIC). The ceramic tile joints were grouted with KERACOLOR U and KERACOLOR S grouts on walls and floors, respectively.
These grouts are manufactured and distributed on the Canadian market by Mapei Canada, Inc. GRANIRAPID was recommended for bonding the glass mosaics. Before installing the ceramic tiles, all the bathrooms' surfaces were waterproofed with MAPELASTIC AQUADEFENSE, which was also used in the spa area to waterproof the inside surfaces of the swimming pools and hot tubs; MAPELASTIC 315 (which is manufactured and distributed on the Canadian market by Mapei Canada Inc) was used for waterproofing the outside surfaces, while the ceramic tiles were bonded using KERABOND+ISOLASTIC and GRANIRAPID. In the Orient Room, where massages and mud-bath treatments are carried out, the marble slabs on the floors and walls were also installed with the KERABOND+ISOLASTIC system. The installation company also used the same system for the floors in the Cold Sauna, which reaches temperatures as low as -79 °C. KERABOND+ISOLASTIC was recommended for the installation of hundreds m^2 of glass mosaics in the spa walls on the columns around the swimming pool and on the walls of the changing rooms. In the communal areas (hallways, lobby, restaurant, etc.), woollen carpets were installed with ULTRABOND ECO 220. In the service areas and offices, the vinyl covering was bonded on the foors with ULTRABOND ECO 711 and the carpet textile tiles were] with ULTRABOND ECO 810. Both adhesives are manufactured and distributed on the Canadian market by Mapei Canada, Inc.

TECHNICAL DATA

Period of Construction: 2008-2011

Period of the Mapei Intervention: 2009-2011
Project: Cannon Design and Seeton Shinkewski Design Group
Client: Swarovski
Works Direction: Rob Cormish
Contractor: PCL
Laying Company: Plouto's of Kelowna
Mapei Distributor: Professional Flooring Supplies, Kelowna, BC
Mapei Co-ordinator: Doyle Cave, Mapei Canada Inc. (Canada)

MAPEI PRODUCTS: GRANIRAPID, KERABOND, KERACOLOR S*, KERACOLOR U*, KERALASTIC*, MAPELASTIC 315*, MAPELASTIC AQUADEFENSE, ULTRABOND ECO 220*, ULTRABOND ECO 711*, ULTRABOND ECO 810*, ULTRAFLEX LFT*.
*THESE PRODUCTS ARE MANUFACTURED AND DISTRIBUTED ON THE CANADIAN MARKET BY MAPEI CANADA INC.

Unicoop Tirreno Supermarket

Lido di Camaiore - Italy

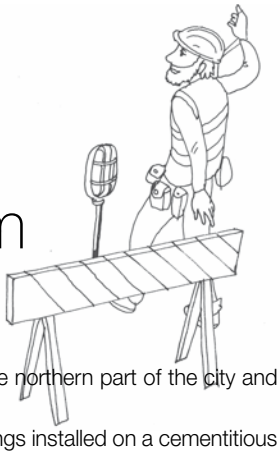
In the seaside resort of Lido di Camaiore (Province of Lucca, Italy), not far from the beach, there is a building that used to be a car showroom, and that has now been renovated and turned into a supermarket for the Unicoop Tirreno group.
The company that carried out the work, which included demolishing the old flooring and the old render up to a height of around 150 cm, and dismantling all the old equipment used by the showroom, contacted Mapei Technical Services Department to carry out a series of site surveys in order to suggest the most appropriate Mapei systems for the work.
After removing all the old render and cleaning the surfaces, the new render was applied on the internal and external walls of the building using the complete MAPE-ANTIQUE de-humidifying cycle for render. In this specific case, MAPE-ANTIQUE FC fine light-coloured Eco-Pozzolan-based mortar, MAPE-ANTIQUE MC macro-porous dehumidifying mortar and MAPE-ANTIQUE INTONACO NHL transpirant base render made from natural hydraulic lime and Eco-Pozzolan were used.
The external render was then finished off with a layer of PLANITOP 200 water-repellent cementitious skimming mortar with a fine-textured, natural finish.
For the new floor substrates and ceramic tile floors in the interiors, the following procedure was followed: for the new screeds, around 4-5 cm thick, TOPCEM PRONTO ready-to-use, pre-blended, normal-setting mortar with controlled shrinkage for fast-drying screeds was used. Once cured and dried, the ceramic tiles were installed on the TOPCEM PRONTO screeds using ELASTORAPID quick-setting and quick-hydration cementitious adhesive.
MAPEFOAM and MAPEFLEX PU 45 sealants were then used to seal the expansion joints.

MAPEI PRODUCTS: ELASTORAPID, MAPE-ANTIQUE FC, MAPE-ANTIQUE INTONACO NHL MAPE-ANTIQUE MC, MAPEFLEX PU 45, MAPEFOAM, MAPELASTIC, PLANITOP 200, TOPCEM PRONTO.

TECHNICAL DATA

Period of Construction: 2011

Year of the Mapei Intervention: 2011
Project: Carlo Bigongiari
Client: Unicoop Tirreno
Works Director: Fabio Gori
Contractor: Edilizia Artigiani
Laying Company: Tecnopavimentisti Srl
Mapei Co-ordinator: Valerio Verdigi, Mapei SpA (italy)



Ferrari Showroom

Jeddah - Saudi Arabia

The Ferrari-Maserati showroom in Jeddah is in the northern part of the city and covers an area of approximately 1000 m^2.
It opened in 2010 and had thin porcelain tile floorings installed on a cementitious substrate. Around one year after installation, a number of tiles were either cracked or broken due to errors being made when the substrate was prepared and when the tiles were installed. Partial settling of the base and the presence of voids and gaps in the layer of adhesive had caused the tiles in the areas where the cars were on show to break. It was decided, therefore, to completely rebuild the flooring.
The screeds were removed where necessary and then rebuilt, and in the areas where the substrate was in good condition, after removing the tiles and adhesive, the cracks were sealed with EPORIP two-component epoxy adhesive. Once the cracks had been completely filled, the excess adhesive was removed and the surface of the resin was sprinkled over with a layer of dry sand to create a rough surface suitable for contact with the next layer of adhesive.
A single layer of tiles with reinforced fibreglass mesh backing bonded with polyurethane resin was then installed. The tiles were installed using KERABOND cementitious adhesive mixed with ISOLASTIC elasticising latex instead of with water. To prevent the formation of gaps and voids in the adhesive, the tiles were installed using the back-buttering technique, that is, by applying the adhesive on both the substrate, after treating it with PRIMER G diluted with water, and on the back of the tiles.
The tile joints were grouted with KERACOLOR FF 110 high performance cementitious grout, while the expansion joints were sealed with MAPESIL AC acetic silicone sealant, available in the same colours as KERACOLOR FF.

MAPEI PRODUCTS: EPORIP, ISOLASTIC, KERABOND, ISOLASTIC, KERACOLOR FF, KERACOLOR FF 110, MAPESIL AC.

TECHNICAL DATA

Year of Construction: 2010

Year of the Mapei Intervention: 2012
Client: Fast Auto Technique Co. Ltd
Project: Ferrari
Works Management: George Sarkis
Contractor: Al Azhar Contracting
Laid Materials: thin porcelain tiles by Laminam
Mapei Distributor: Ebaa House
Mapei Co-ordinator: Enrico Geronimi, Mapei SpA (Italy)

Costa Fascinosa Cruise Liner

Marghera Shipyard - Italy

The Costa Fascinosa, Costa Crociere's new flagship cruise liner, is one of the biggest of the British-American owned Italian cruise line's fleet of 14 ships. Built in the Marghera (near Venice, Italy) shipyard, it was launched in 2012. It is 290 m long, 35.5 m wide and measures 114,500 gross tonnes, and has 1508 cabins for up to 3,800 passengers.
The liner has 4 hydro-massage pools and 5 traditional pools and a small aquatic park, as well as saunas, wellbeing centres, 12 bars and 5 restaurants.
Around 7000 m^2 of marble and granite slabs and ceramic tiles were laid inside the liner.
In the swimming pool area, on the large retractable roof covering the pool area and in two of the restaurants, these materials were installed with KERAPOXY two-component, anti-acid epoxy adhesive, GRANIRAPID two-component cementitious adhesive and KERALASTIC T two-component polyurethane adhesive. The joints were then grouted with ULTRACOLOR PLUS high-performance, polymer-modified, anti-efflorescence mortar.
In the convention room, main halls, internet café and corridors, the adhesives GRANIRAPID and KERALASTIC and ULTRACOLOR PLUS grout were used.
In the lobby, art gallery, shopping boulevard and bookshop, the marble granite and ceramic tiles floors, skirtings, tops, fittings and wall coverings, of which 45 m^2 was installed in the panoramic lifts, were bonded with KERAPOXY and GRANIRAPID, while joints were grouted with ULTRACOLOR PLUS. The expansion joints were sealed with MAPESIL LM mould-resistant silicone sealant. The products recommended for laying marble, granite and ceramic tiles on the spa's surfaces were KERALASTIC T, GRANIRAPID, KERAPOXY and ADESILEX P10.

MAPEI PRODUCTS: ADESILEX P10, GRANIRAPID, KERALASTIC T, KERAPOXY, MAPESIL LM, ULTRACOLOR PLUS.

TECHNICAL DATA

Period of Construction:
2007-2012

Period of the Mapei Intervention:
2011-2012
Project Joseph Farcus
Clients: Ancu (Venice, Italy), Ivn (Padova, Italy), CRK (Vicenza, Italy), Fincantieri (Trieste, Italy), Gerolamo Scorza (Genova, Italy)
Works Direction: Riccardo Vrech, Stefano Galli, Edi Pacco
Laying Company: Vrech Marmi
Mapei Co-ordinator: Ivan Carlon, Mapei SpA (Italy)

Willy Brandt Airport

Berlin - Germany

A large, new airport was recently built in Berlin by extending the old Schönefeld airport. Characterised by its glass façades and geometric lines, the new airport comprises a six-storey terminal that can handle up to 27 million passengers a year, a number which will be able to progressively increase. It will be directly accessible from the motorway and will have a new railway station below the main terminal building for a total surface area of 1,470 hectares. It will have two parallel runways around 4 km long each for take-offs and landings.
During construction of the new airport, the contribution of Mapei high technology products was particularly important, especially for installing the stone slabs and grouting the joints.
Mapei products were used over a total surface area of 120,000 m^2. The stone flooring was installed in the terminal and in the boarding gates area, and had to be suitable for intense use by passengers and their trolleys. The substrates, made from TOPCEM and MAPEDRAIN MONOKORN (the latter is manufactured and distributed on the German market by Mapei GmbH), were primed with PRIMER G, ECO PRIM PU 1K TURBO, PRIMER MF and MAPESTONE 3 PRIMER (the latter is manufactured and distributed on the German market by Mapei GmbH). The floors and walls in the bathrooms were waterproofed with MAPEBAND and MAPELASTIC. To install the stone slabs, MAPESTONE BASIC was applied on the cementitious screeds, on the calcium sulphate screeds and the epoxy resin screeds areas; MAPESTONE 2 and MAPESTONE 3 were used for the installation of the stair steps on concrete staircase constructions. These adhesives are manufactured and distributed on the German market by Mapei GmbH. KERAQUICK and LATEX PLUS in connection with PRIMER MF were applied for the installation of the natural stone slabs on the steel staircase constructions. ELASTORAPID was used to bond the slabs on floor substrates with dry hollow areas. KERACOLOR FF and KERAPOXY were used to grout the joints.
Construction work on the airport is now complete. Until the airport is inaugurated, which has still to be scheduled, it will be possible to carry out further extension work.

MAPEI PRODUCTS: ECO PRIM PU 1K TURBO, ELASTORAPID, KERACOLOR FF, KERAPOXY, KERAQUICK, LATEX PLUS, MAPEBAND, MAPEDRAIN MONOKORN*, MAPELASTIC, MAPESTONE 1*, MAPESTONE 2*, MAPESTONE 3 PRIMER*, MAPESTONE BASIC*, PRIMER G, PRIMER MF, TOPCEM.
*THESE PRODUCTS ARE MANUFACTURED AND DISTRIBUTED ON THE GERMAN MARKET BY MAPEI GMBH.

TECHNICAL DATA

Period of Construction: 2002-2012

Period of the Mapei Intervention: 2010-2011
Project: pg bbi - J.S.K. International Architekten und Ingeniuere GmbH, with gmp Generalplanungsgesellschaft mbH and IGK-IGR Ingenieurgesellschaft mbH
Client: Flughafen Berlin Brandenburg GmbH
Contractor: Arge Naturstein Flughafen BBI
Mapei Distributor: Baustoffhandlung Dahlhoff, Berlin
Mapei Co-ordinators: Walter Mauer, Detlev Krüger, Richard Nüssler, Burkhard Prechel, Uwe Trodler, Mapei GmbH (Germany)

Redondo Beach Pier

Redondo Beach, California - USA

Redondo Beach is a small coastal town in the county of Los Angeles in the state of California (USA). It is characterised by its long sandy beach overlooking the Pacific Ocean and is a popular tourist spot. One of the town's most popular and famous attractions is its pier in the form of a horseshoe. In 1907, George Freeth, a young Hawaiian-English athlete, brought modern surfing to the California coast via demonstrations at Redondo Beach as part of a marketing promotion for a local resort. In the winter of 1988, the pier was badly damaged by two severe storms, and in the same year it was burned down to the waterline by a fire. In 1995, the local town council decided to build a new pier of reinforced concrete. Redondo Beach's new pier has a surface area of 6500 m^2, sits on more than 200 concrete piles and is 7.5 m above the waterline. Considered to be the biggest pier in California, it hosts a number of shops and restaurants and areas where events are held. In 2011 the structure of the pier was in need of repair, and Mapei took part in this project by supplying various products. The first part of the project involved an area of around 700 m^2 of surface. The first step was to remove the old covering. After a thorough cleaning, the substrate was repaired with PLANITOP FD mortar mixed with PLANICRETE AC acrylic latex to form a more solid surface before applying the new covering. Both products are manufactured and distributed on the US market by Mapei Corp. The exterior concrete pavers were then installed, bonded in place with GRANIRAPID two-component cementitious adhesive. In Pier Plaza, just along the beach, there is a covered car-park, with a number of shops above the car-park. To protect the lower floor of the structure, Mapei recommended the MAPELASTIC waterproofing system, while PLANITOP FD was used again to repair the surface of Pier Plaza and around the Kincaid Restaurant, in the northern part of the pedestrian area. In this area (with around 750 m^2 of surface), the exterior concrete pavers were installed using GRANIRAPID.

MAPEI PRODUCTS: GRANIRAPID, MAPELASTIC, PLANICRETE AC*, PLANITOP FD*.
*THESE PRODUCTS ARE MANUFACTURED AND DISTRIBUTED ON THE US MARKET BY MAPEI CORP. (USA)

TECHNICAL DATA

Period of Construction: 1995

Period of the Mapei Intervention: 2011-2012
Project: Nest Architecture, BGB Inc.
Clients: City of Redondo Beach and RDR Properties
Works Direction: Concept Marine
Contractor: Southwest Specialities for substrate preparation
Laying Company: Pavers Plus
Distributors: Quest Building Products and White Cap
Mapei Co-ordinator: Carl Schmidt, Mapei Corp. (USA)

Regina Margherita Promenade

Viareggio - Italy

Since the beginning of the nineteenth century, Versilia and Viareggio in particular have been exclusive tourist spots in Central Italy. One of the most popular places to visit is the Promenade along the sea front, and for generations of tourists and locals it has always been the most elegant area of this Tuscany town. It is also the place where the famous parade of decorated carnival carriages is held.

It is a straight, flat route around 3 km long, and starts at the pier and runs parallel to the beach along Viale Margherita. Refined Liberty style buildings overlook the Promenade, as well as coffee bars and prestigious boutiques and shops.

In 2011, the local Viareggio council undertook a redevelopment project of the part of the Promenade that runs between the Burlamacca canal and Piazza Mazzini.

To install the Norwegian stone slabs, the Mapei Technical Services Department recommended the most appropriate adhesives and grouts. The substrates were first levelled off using PLANITOP FAST 330 quick-setting, fibre-reinforced, cementitious levelling mortar. Once it had cured, the slabs were installed using GRANIRAPID two-component, high-performance adhesive and KERAFLEX MAXI S1 cementitious adhesive with Low Dust technology, both particularly suitable for installing stone materials.

The joints were grouted with KERACOLOR PPN high strength pozzolanic mortar with very low water absorption, suitable for grouting joints from 5 to 30 mm wide in flooring slabs subject to heavy loads and intense traffic, while the joints were sealed with MAPEFLEX PU 45 sealant and MAPEFOAM cord.

MAPEI PRODUCTS: GRANIRAPID, KERACOLOR PPN, KERAFLEX MAXI S1, MAPEFLEX PU 45, MAPEFOAM, PLANITOP FAST 330.

TECHNICAL DATA

Period of the Mapei Intervention: 2011-2012
Project: Viareggio City Council Technical Department
Client: Viareggio City Council
Works Direction: Riccardo Raffaelli
Contractors: A.T.I. Varia Costruzioni Srl, Del Debbio SpA
Laying Companies: Bicicchi Felice Srl, La Quadrifoglio Scavi Srl
Mapei Coordinators: Valerio Verdigi, Mapei SpA (Italy)

Leona Štuklja Square

Maribor - Slovenia

Maribor, the second largest city in Slovenia, is just a few kilometres from the Austrian border. 2012 European Capital of Culture, the city offers visitors a fascinating ancient city centre characterised by its ancient market square, alongside which is the new square. The new square covers an area of 9000 m^2 and has been named after the Olympic gymnast Leon Štukelj.

The square was completely renovated by installing granite slabs in various sizes and small blocks of the same material. Mapei recommended using MAPESTONE TFB 60 pre-blended mortar to install the stone. Installation screeds made from this product guarantee the durability of stone architectonic floorings, a mortar in exposure class XF4 with high compressive strength which is highly resistant to freeze-thaw cycles.

MAPESTONE PFS 2 pre-blended mortar for grouting architectonic stone flooring, on the other hand, was used to grout the joints. This product is also exposure class XF4, has high compressive strength, and is resistant to de-icing salts and freeze-thaw cycles. Surfaces installed using the MAPESTONE cycle absorb mechanical stresses caused by heavy traffic, including heavy goods vehicles, and hollows that are a danger to drivers, cyclists and pedestrians do not form in the surface of the road.

To seal the joints, MAPEFLEX PU 45 sealant and MAPEFOAM cord were used. PRIMER AS was applied beforehand. This product is used in those cases where the joints, once sealed, are in frequent contact with liquids, or are subjected to high mechanical stresses.

MAPEI PRODUCTS: MAPEFLEX PU 45, MAPEFOAM, MAPESTONE PFS 2, MAPESTONE TFB 60, PLANICRETE, PRIMER AS.

TECHNICAL DATA

Period of Construction: 1995

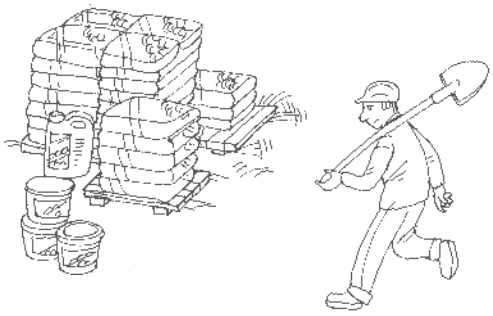
Period of the Mapei Intervention: 2010-2011
Project: Arhe D.O.O., Princic & Partners
Client: Maribor City Council
Main Contractor: Mariborski Vodovod D.D.
Laying Company: Gradom D.O.O.
Mapei Co-ordinator: Gregor Knez, Mapei d.o.o. (Slovenia)

Piazza Indipendenza

San Donà di Piave - Italy

Right from the very start, the redevelopment project for Piazza Indipendenza square in San Donà di Piave, a town near Venice, was a particularly interesting intervention, mainly due to a peculiar feature that singles out the area. The square, which covers an area of more than 5500 m^2, has an igloo like structure around 70 m high, and the rainwater is collected by means of a complex drain systems to channel the water downwards. A classic combination of sand and cement was initially considered to install and grout the stone. The Mapei Technical Services Department, however, proposed the use of MAPESTONE system to the construction company and building site manager, a system for urban stone surfaces using technologically innovative products with numerous advantages, yet at a competitive cost. Stone surfaces installed using the MAPESTONE system are resistant to freeze-thaw cycles, de-icing salts and rain, and don't require any maintenance for years. Also, the mortar used doesn't break down and remains perfectly stable over the years, and is able to absorb mechanical stresses such as those caused by traffic, including heavy loads vehicles. Dangerous hollows do not form in the covering of the road, which would indicate that the structure is giving way, and no interventions are required at a later date to restore the surface up to the correct level. The material chosen in this case was white granite from Baveno (Northern Italy) in blocks measuring 110x110x150 mm in pitch areas of 16 m^2, and they were installed and grouted using just one product, MAPESTONE TFB 60 pre-blended mortar. Installation screeds made from MAPESTONE TFB 60 guarantee the durability of architectonic stone floors in exposure class XF4, has high compressive strength and offers high resistance to freeze-thaw cycles. For the final cleaning operation, KERANET acid-based cleaning solution was used. This product is available either as a 15% concentrated liquid solution or as a concentrated powder, which was used in this particular case. As for the fountain in the square, the decorative black marble was installed and grouted with KERAPOXY two-component, anti-acid epoxy adhesive and grout for joints.

MAPEI PRODUCTS: KERANET, KERAPOXY, MAPESTONE TFB 60.

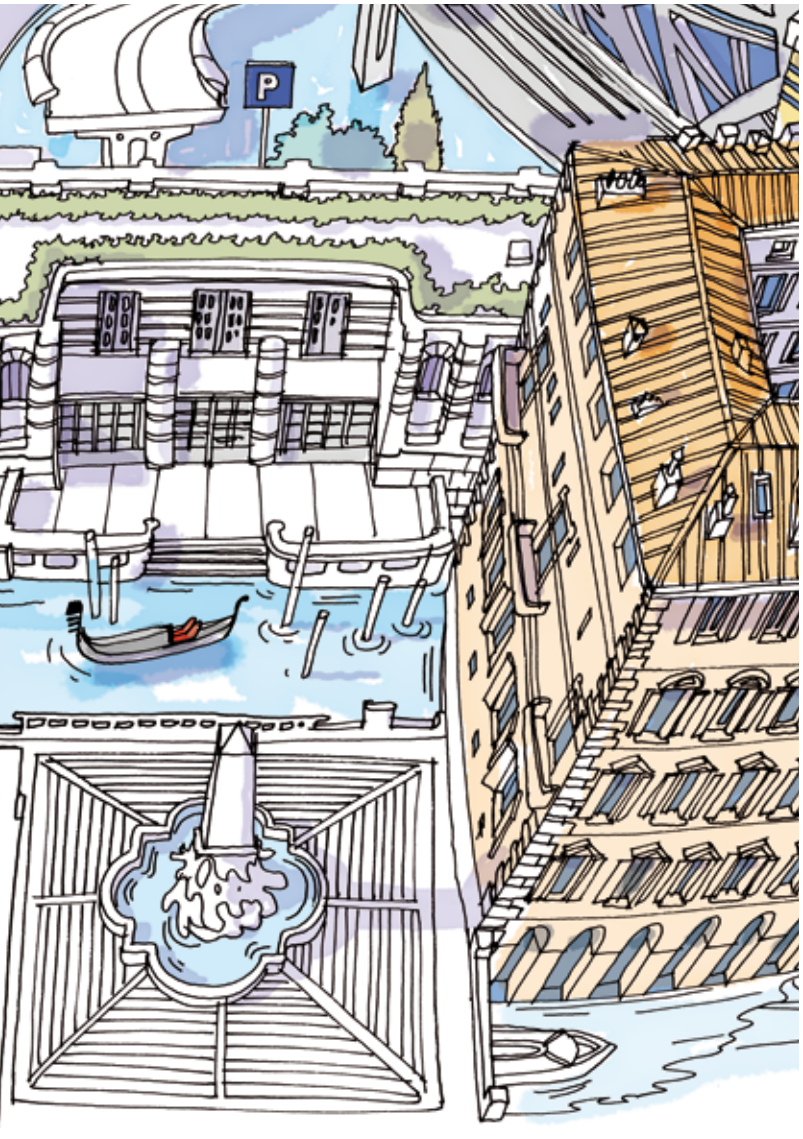


TECHNICAL DATA

Period of Construction: 2012

Year of the Mapei Intervention: 2012
Client: San Donà di Piave City Council
Project and Works Management: Aurelio Galfetti
Contractor Edilrodighiero, Jesolo (Italy)
Laying Company: Idea Posa, Jesolo
Mapei Distributor: Firas Srl, San Donà di Piave
Mapei Coordinator: Orlando Rappresentanze, Italy

ELASTIC SEALANTS AND ADHESIVES



A wide range of sealants to satisfy any technical and application requirement of craftsmen and professional users through a range of one- and two-component acrylic, silicone, polyurethane, epoxy-polyurethane and hybrid products.

TECHNICAL DATA

Year of Construction: 2010

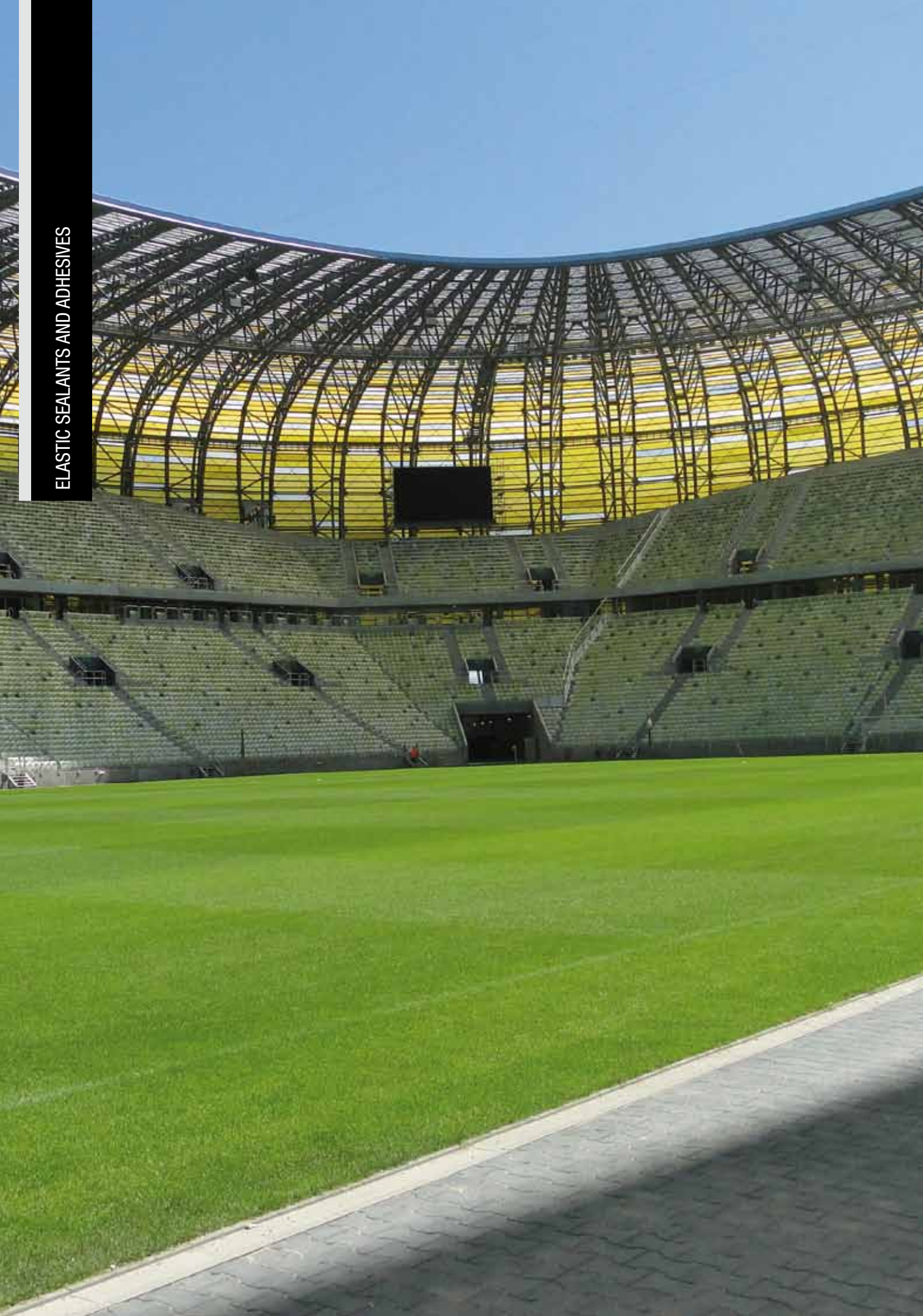
Period of the Mapei Intervention: 2010-2011
Client: Herstal City Council
Project: SCAHT (Dinant and Wiltz, Belgium)
Contractor: Galère
Sealants Application Company: TSBV (Technique Spéciale du Béton de Voirie)
Mapei Distributor: Clabots Tools
Mapei Co-ordinator: Laurent Correia, Mapei Benelux (Belgiun)

Main Square in Herstal Town Centre

Herstal - Belgium

The flooring of the main square in this town in Belgium, in the province of Liège, was completely rebuilt in 2010-2011.
A two-component sealant was needed to fill the expansion joints between the concrete slabs.
Mapei Benelux, the local subsidiary of the Mapei Group, supplied MAPEFLEX PU20 for this work, a two-component, high-strength, castable epoxy-polyurethane sealant with high chemical resistance for movements up to 10%.
This product was chosen because it is particularly suitable for flooring subjected to intense traffic, such as road traffic. It is also resistant to chemical agents and resists temperatures ranging from -30° to +80° C.
It may also be used to seal movement joints in ceramic flooring in areas subjected to intense traffic, such as supermarkets, industrial environments, town squares and porticoes.

MAPEI PRODUCT: MAPEFLEX PU20.



PGE Arena

Gdańsk - Poland

Constructed to host the 2012 UEFA Championships, the PGE Arena is one of the most modern sports structures in Europe, and has a capacity of 42,000. To solve the precast concrete stands reprofilation problem, EPORIP was used for the monolithic sealing of the cracks, while MAPEGROUT TISSOTROPICO and MAPEGROUT 430 for repairing the concrete. On the top deck of the stadium a 4 m high wall was built to fix the concrete elements for the stands using metal rods. To make sure that the roof of the stadium, was perfectly smooth and well protected from atmospheric agents, MAPEFER 1K, MAPEGROUT 430 (mixed with MAPECURE SRA), MONOFINISH, ELASTOCOLOR PRIMER and ELASTOCOLOR PITTURA were used. ELASTOCOLOR PITTURA was also used to paint the walls of the corridors leading to the lateral entrances, on the beams above the entrances to the shopping, refreshment and VIP areas, on the walls of the steps leading to the VIP area, on the cashiers' roofs, on the beams above the entrance to each sector of the stadium and on the ceilings of the corridors leading to the entrances. MAPEFLEX PU 45 was used to seal around the pre-cast steps in the stands. EPORIP and TOPCEM PRONTO were used for the observation deck and for the screeds in other areas. NIVOPLAN PLUS was used to form a 5 mm thick layer on silicate block walls; ECO PRIM GRIP to promote adhesion of the ceramic tiles to the ready-mix concrete substrates; MAPELASTIC to waterproof the surfaces in the kitchens, after treatment with ECO PRIM GRIP; ULTRAPLAN MAXI, ADESILEX P9, KERAPOXY and KERAPOXY DESIGN to install the ceramic tiles on these areas; LAMPOCEM, NIVOPLAN PLUS, PLANICRETE, MAPETHENE SA, MAPETHENE PRIMER, MAPELASTIC, MAPEGUM WPS, MAPEBAND, ADESILEX PG4, ADESILEX P9, ADESILEX P9 EXPRESS, ELASTORAPID, KERAFLEX MAXI S1, KERAPOXY, MAPESIL LM and MAPESIL AC for the waterproofing and ceramic tiling works in the swimming pools, Jacuzzis and the bathrooms with showers; MAPEFILL to fill the voids between some of the metal elements and their concrete bases; MAPECOAT I 24 to protect the concrete surfaces above the numbers indicating the seats in the stands.

MAPEI PRODUCTS: ADESILEX PG4, ADESILEX P9, ADESILEX P9 EXPRESS*, ECO PRIM GRIP, ELASTOCOLOR PRIMER, ELASTOCOLOR PITTURA, ELASTORAPID, EPORIP, KERAFLEX MAXI S1, KERAPOXY, KERAPOXY DESIGN, LAMPOCEM, MAPEBAND, MAPECURE SRA, MAPECOAT I 24, MAPEFER 1K, MAPEFLEX PU 45, MAPEFILL, MAPEGROUT 430, MAPEGROUT TISSOTROPICO, MAPEGUM WPS, MAPELASTIC, MAPESIL AC, MAPESIL LM, MAPETHENE SA, MAPETHENE PRIMER, MONOFINISH, NIVOPLAN PLUS*, PLANICRETE, TOPCEM PRONTO, ULTRAPLAN MAXI.
*N.B. THESE PRODUCTS ARE MANUFCATURED AND DISTRIBUTED ON THE POLISH MARKET BY MAPEI POLSKA.

TECHNICAL DATA

Period of Construction: 2008-2011

Period of the Mapei Intervention: 2010-2011
Project: RKW Rhode-Kellermann-Wawrowsky
Client: Gdańsk City Council
Works Direction: Piotr Glowacki
Cotractor: Consortium Hydrobudowa - Alpine
Mapei Distributor: DAGOTECH, Dariusz Górak, Gdańsk
Mapei Co-ordinators: Ireneusz Ropel, Michał Molenda and Piotr Dawidowicz, Mapei Polska (Poland)

PRODUCTS FOR RESILIENT AND TEXTILE MATERIALS

Mapei offers a wide range of adhesives, admixtures, binders and pre-blended mortars for screeds, primers, insulating materials, consolidating agents, moisture barriers, skimming compounds and accessory products for installing durable resilient floor and wall coverings.
The Company's commitment for the environment led to the development of safe products with a low emission level of volatile organic compounds (VOC): the ECO range.

Paul VI Pastoral Centre

Fatima - Portugal

The Paul VI Pastoral Centre, built around 30 years ago and dedicated to Pope Paolo VI, is one of the main hubs at the sanctuary in Fatima (Portugal). It covers an area of 14,000 m^2 and is used for pastoral activities and to hold congresses, meetings and concerts. When necessary, it is also used as a back-up area to serve refreshments and provide lodgings for pilgrims. Mapei took part in the requalification work on the Centre after already working on the construction of the nearby Church of the Holy Trinity of Fatima, supplying adhesives and grouts for joints for the internal and external ceramic tile and mosaic floors and walls (see *Realtà Mapei International* n. 28).

Cork flooring was laid on 800 m^2 of surfaces using ULTRABOND ECO 310 adhesive, after providing the substrate with a waterproofing treatment using ECO PRIM PU 1K and levelling off the surface with ULTRAPLAN ECO.

Around 40% of the vinyl flooring installed in the Centre was bonded with ULTRABOND ECO 375. Also in this case the substrates were treated with ECO PRIM PU 1K and ULTRAPLAN ECO. Before installing the remaining 60% of flooring, on the other hand, the substrates were first treated with a coat of PRIMER G adhesion promoter and levelled off with ULTRAPLAN ECO, before installing vinyl flooring with ULTRABOND ECO 375.

In certain specific areas on the other hand, such as the risers of the steps, ULTRABOND ECO V4 SP multi-purpose adhesive in water dispersion was used.

MAPEI PRODUCTS: ECO PRIM PU 1K, PRIMER G, ULTRABOND ECO 310, ULTRABOND ECO 375, ULTRABOND ECO V4 SP, ULTRAPLAN ECO.

TECHNICAL DATA

Period of Construction: 1979-1982

Period of the Mapei Intervention: September 2011 - March 2012
Project: Galp Lda
Works Direction: Sérgio Lopes
Client: Sanctuary of Fatima
Contractor: Noc. Novas Construções
Laying Company: Pavimentos Silva
Mapei Distributor: Pavimentos Silva
Mapei Co-ordinator: António Calado, Lusomapei (Portugal)

The Space Cinema

Genoa - Italy

A multi-screen cinema run by The Space Cinema was recently opened in the old dock area of Genoa.
The idea of the project was to enhance the exclusive location of the cinema in the famous "Cotton Warehouses" building designed by the famous Italian architect Renzo Piano. In fact, the project's aim was to recover some of the empty industrial spaces and breathe new life into this large entertainments hub.
"LVT Luxury Vinyl Tile Evolution" PVC flooring supplied by Virag was installed in the theatres and corridors using Mapei products.
After removing the old rubber flooring and the damaged sections of the old levelling layer and then cleaning the substrate, a coat of PRIMER G synthetic resin primer in water dispersion was applied.
The substrates were levelled with NIVORAPID and PLANIPATCH cementitious smoothing compounds where required (with the latter product mixed with LATEX PLUS to improve adhesion). ULTRAPLAN ECO self-levelling, ultra quick-hardening smoothing compound was used in the corridors.
The flooring was then bonded with ADESILEX V4 acrylic adhesive in water dispersion, ideal for bonding resilient flooring.

MAPEI PRODUCTS: ADESILEX V4, NIVORAPID, PLANIPATCH, PRIMER G, ULTRAPLAN ECO.

TECHNICAL DATA

Period of Construction: late 19th century

Year of the Mapei Intervention: 2011
Client: The Space Cinema, Genoa
Project: Riccardo Follatello
Laying Company: Pavisystem (Brescia, Italy)
Laid Materials: LVT Evolution by Virag (Milan, Italy)
Mapei Co-ordinators: Alessandro Bagliani and Davide Ottolini, Mapei SpA (Italy)


16
ASSASSINO

PRODUCTS FOR SPORT FACILITIES AND LEISURE

Products for major and small sports facilities, from city tennis courts to Olympic athletic tracks. Mapei also offers systems for laying synthetic grass, a solid, reliable alternative to natural grass playing fields. The Company is committed not only to developing cutting-edge products and systems, but also evaluating the technical and performance characteristics of synthetic grass-adhesive systems.

Circolo Castellazzo Club

Parma - Italy

In 1972, a group of locals in the city of Parma (Italy) decided that their spare time had become too important to waste and a suitable club was needed.
And so the Castellazzo, Immobiliare e Associazione (Real Estate and Association) club was founded. Nowadays, the club is a structure located in a park spreading over an area of 150.000 m^2 where members can take part in a number of sports.
The Tennis Club has 10 outdoor clay courts and 4 textile indoor courts, housed in a splendid building with facing brick walls, mirrored windows, beautiful wood trims and bent tiles on the outside, and covered entirely with wood on the inside.
The indoor courts were renovated in 2012, with the old playing surfaces replaced with new textile covering supplied and installed by Vaneton Srl from Modena (Italy).
Before installing the new surfaces, the substrate also required preliminary work. The first step was to treat the concrete surfaces with PRIMER G diluted in water to eliminate the causes of the detached surfaces and to provide uniform absorption.
Once this phase had been completed, the surfaces were levelled off and smoothed over using PIANOCEM MEDIUM. To improve the mechanical characteristics of this thixotropic, cementitious levelling compound, which may be applied on floors and walls in thicknesses up to 1.5 cm, LIVIGUM (a special admixture developed specifically for cementitious mortars and smoothing compounds) was added to PIANOCEM MEDIUM.
To install more than 2,800 m^2 of textile playing surface, the company chose ULTRABOND ECO 185, an adhesive in water dispersion with high initial tack and very low emission level of volatile organic compounds (VOC) for textile floor and wall coverings.

MAPEI PRODUCTS: LIVIGUM, PIANOCEM MEDIO, PRIMER G, ULTRABOND ECO 185.

TECHNICAL DATA

Year of Construction: 2012

Year of the Mapei Intervention: 2012
Client: Circolo del Castellazzo, Parma (Italy)
Laying Company: Vaneton Srl, Modena (Italy)
Mapei Distributor: Munarini, Sassuolo (Italy)
Mapei Co-ordinators: Alessandro Bonacini, Davide Ottolini, Carlo Rossi, Carlo Alberto Rossi and Andrea Dalboni, Mapei SpA (Italy)

San Siro Stadium

Milan - Italy

In the summer of 2012, the football pitch at the San Siro Stadium in Milan was completely renovated, and included both the playing area and the perimeter.
To make the natural grass pitch at San Siro even stronger, a special intervention was carried out, so that artificial fibres could be injected into the soil at a depth of up to 20 cm. By injecting this synthetic material into the lawn every two centimetres, the San Siro playing area is an hybrid grass pitch comprising natural grass and over 20 million artificial grass bunches. This operation was carried out very quickly in August 2012, which also gave opportunity for the synthetic grass around the perimeter of the pitch to be replaced using innovative solutions supplied by Mapei. For the perimeter part of the central pitch the latest generation of synthetic grass was chosen, and for their sub-bases, two innovative, eco-sustainable solutions developed and perfected in the Mapei R&D laboratories were adopted. In fact, two types of sub-bases were created, one with horizontal drainage and the other with vertical drainage. For the first one, with horizontal drainage, the sub-base for the synthetic grass was made by means of a stabilisation process using MAPESOIL 100 powder stabilising agent, and by adding the old, worn grass turf playing surface which had been grinded beforehand. The aggregate treated with the MAPESOIL 100 was also recycled. For the vertical drainage, the sub-base for the artificial grass was built up using MAPESOIL VD high performance, high durability binder in combination with well selected aggregates to guarantee sufficient drainage for the sub-base.
The sub-base is completely reversible and the aggregates may be re-used for the same or similar type of work.
The new synthetic grass surface was then bonded using ULTRABOND TURF PU 2K high-performance adhesive.

MAPEI PRODUCTS: EPORIP, MAPESOIL 100, MAPESOIL VD, TOPCEM PRONTO C 60, ULTRABOND TURF PU 1K.

TECHNICAL DATA

Year of Construction: 1926

Year of the Mapei Intervention: 2012
Client: M-I stadio Srl, Milan (Italy)
Contractor: Ma.De. Srl, Milan
Installation Company for the Synthetic Grass Surfaces: Gli Specialisti del Verde Srl, Milan
Mapei Co-ordinators: Elisa Portigliatti and Angelo Nobili, Mapei SpA (Italy)

Villa Sora Salesian Institute

Frascati - Italy

Villa Sora is one of the Papal villas in the town of Frascati (near Rome, Italy). Its former owner was the Dukes of Sora and today it is a school owned by the Salesians of Don Bosco religious institute. it became property of the Salesians in 1900. The courtyard of the villa, paved with small blocks in 1955, was renovated in August 2012 using numerous MAPECOAT TNS systems. There are now a skating rink and courts and pitches for playing five-a-side football, basketball and volleyball. Work included preparing the substrate and installing a continuous layer of asphalt around 6 cm thick with a texture suitable for the MAPECOAT TNS products to be applied later. For the basketball/volleyball court, the MAPECOAT TNS CUSHION system was applied, consisting of MAPECOAT TNS WHITE BASE COAT and MAPECOAT TNS GREY BASE COAT followed by MAPECOAT TNS FINISH and MAPECOAT TNS PAINT. The last step, marking out the lines for the playing areas, was carried out using MAPECOAT TNS LINE in its white shade. The system applied for the five-a-side football/handball court was MAPECOAT TNS MULTISPORT COMFORT system, using the following cycle of products: ULTRABOND TURF PU 2K, MAPECOAT I 600 W, MAPECOAT TNS FINISH, MAPECOAT TNS PAINT, MAPECOAT TNS LINE in both its white and yellow shades.
The MAPECOAT TNS MULTISPORT PROFESSIONAL system, on the other hand, was used for the skating rink/handball court. The cycle of products applied in this case included MAPECOAT TNS BASE COAT, MAPECOAT TNS FINISH, MAPECOAT TNS COLOR and MAPECOAT TNS PAINT. For the pathways around the courts and pitches, the system used was MAPECOAT TNS URBAN. Once the works were completed, in order to protect MAPECOAT TNS URBAN at the perimeter of the courts, MAPEFLOOR FINISH 53W/L was applied.
MAPE-ASPHALT REPAIR 0/8 was used to repair manholes.

MAPEI PRODUCTS: MAPECOAT TNS WHITE BASE COAT, MAPECOAT TNS, ULTRABOND TURF PU 2K, MAPECOAT TNS GREY BASE COAT, MAPECOAT TNS FINISH, MAPECOAT TNS PAIN, MAPECOAT TNS FINISH, MAPECOAT TNS PAINT, MAPECOAT TNS LINE, MAPECOAT I 600 W, MAPECOAT TNS FINISH, MAPECOAT TNS PAINT, MAPE-ASPHALT REPAIR 0/8, MAPECOAT TNS PAINT, MAPEFLOOR FINISH 53W/L.

TECHNICAL DATA

Period of Construction:
16th century

Year of the Mapei Intervention:
2012
Client: Società Salesiana di San Giovanni Bosco
Contractor: Matita e Mattoni Srl, Roma (Italy)
Laying Company: SportItalia Srl, Forlì (Italy)
Mapei Distributor: Da.Mar.2009 Srl, Rome (Italy)
Mapei Co-ordinator: Emiliano Ligios, Mapei SpA (Italy)

Mini-Basket Court at Parpagliolo Park

Palmi (Reggio Calabria) - Italy

In the Parpagliolo park in Palmi (Southern Italy), a mini-basketball court made originally from asphalt bricks has been renovated. Mapei technicians recommended removing the bricks to create a monolithic concrete screed with a vapour barrier to block any potential rising damp. Polyethylene sheets were used to form the barrier on which the new basketball court using MAPECOAT TNS CUSHION system was made. Once the old surface had been removed, a monolithic concrete controlled-shrinkage screed with fibre reinforcement was built covering an area of around 160 m^2 and approximately 12 cm thick.
The residual humidity in the screed was then checked and a cut one third the thickness of the screed was made along the centre of the court to act as an expansion joint.
As soon as the screed had dried to the specified level, it was cleaned and MAPECOAT TNS CUSHION system was applied.
The phases to apply the system were as follows:

- MAPECOAT I 600 W primer was applied on the screed;
- the central expansion joint was sealed by inserting MAPEFOAM polyethylene cord to a depth of 1 cm and then applying MAPEFLEX PU 40 sealant;
- three layers of MAPECOAT TNS GREY BASE COAT were applied;
- the base coat was sanded with a single-brush with a fine disk;
- two coats of dark blue MAPECOAT TNS FINISH were applied.

Sea blue MAPECOAT TNS COLOR was also applied on the edge around the court after applying MAPECOAT TNS GREY BASE COAT.
The court was then marked out using the special product MAPECOAT TNS LINE.
The final touch was to apply the Mapei logo on the kerb, on both sides of the court and near the two entrances to the court using MAPECOAT TNS LINE and a special template made especially for the occasion.

TECHNICAL DATA

Period of Construction: 2012

Period of the Mapei Intervention: 2012
Client: Prometeus Association
Designer: Giuseppe Magazzù
Contractors: Edil Decoro di Fortugno e Saffioti; Edil Cannistrà
Mapei Distributor: 3L Parquet di Lello Leuzzi
Mapei Co-ordinators: Felice Ciraolo and Francesco Falleti, Mapei SpA (Italy)

MAPEI PRODUCTS: MAPECOAT I 600 W, MAPECOAT TNS GREY BASE COAT, MAPECOAT TNS FINISH NR 16, MAPECOAT TNS COLOR NR 15, MAPECOAT TNS LINE WHITE, MAPEFLEX PU40.


FESTIVAL
Maxell

Heineken Jammin' Festival 2012

Milan - Italy

The Heineken Jammin' Festival is an important Italian rock festival, and is one of the most important in Europe. It lasts for several days with numerous performers one after the other playing live on stage.

From the 5th to the 7th of July last year, the Heineken Jammin' Festival was hosted by Fiera Milano Live, the events area within the Milan city fairground inaugurated with this show.

A large open-air area, just behind the pavilions, was used for the event and, for the occasion, an enormous surface of synthetic grass (14,000 m^2) was laid out in front of the main stage inside the arena.

The product used to lay this enormous synthetic grass pitch was ULTRABOND TURF EP 2K, a two-component, epoxy-polyurethane adhesive for bonding synthetic grass.

By carefully mixing the two components with a proper mixer, it forms a paste that is easy to apply and that may be used at temperatures ranging from 10 °C to 30 °C. Once it has hardened (after around 24 hours), which takes place by means of a chemical reaction without shrinkage, ULTRABOND TURF EP 2K forms a tough film that bonds extremely strongly to any type of substrate.

An adhesive that, once the festival was over, proved to be really... rock-proof!

MAPEI PRODUCT: ULTRABOND TURF EP 2K.

TECHNICAL DATA

Year of Construction: 2012

Year of the Mapei Intervention: 2010-2011
Client: Heineken Italia Spa
Laying Company: M.C.A. Contract S.r.l, Milan (Italy)
Mapei Co-ordinator: Andrea Peli, Mapei SpA (Italy)

PRODUCTS FOR WOODEN FLOORINGS

To make work quicker and more simple for installers and guarantee the durability of wooden floors over the years: these are the objectives set by Mapei, proposing technologically-advanced products which are, at the same time, easy to use without undermining the increasingly important themes of the user's health and respect for the environment.

Scavolini Showroom

Montelabbate, Perugia - Italy

Scavolini, a kitchen manufacturing company from the Marche region in Italy, has been marketing their goods since 1960 and, apart from becoming "the Italians' favourite kitchens" (as a famous advertising slogan goes), it has managed to transform a bespoke kitchen furniture company into an industrial-scale activity. A great deal of the company's success is also due to its well-tuned distribution policy, with a capillary network of single-brand distribution centers all around the country, and a company image which has become well known thanks to the Scavolini's strong backing. The Scavolini showroom inaugurated in Montelabbate (Province of Perugia, Italy) needed a site survey by the Mapei Technical Services technicians, which then developed an installation cycle for the wooden flooring. Right from the start, the project designers identified a series of problems due to the residual humidity in the concrete screed, and it was proving difficult to reach a level of humidity suitable to install the parquet. The solution proposed was to start by priming the substrate (approximately 2800 m^2) with ECO PRIM PU 1K, a one-component, solvent-free, moisture curing polyurethane primer with a very low emission level of volatile organic compounds (VOC), which is used to consolidate and waterproof cementitious screeds.
To install the walnut boards (measuring 18x200 cm), ULTRABOND P990 1K one-component adhesive was used, ideal for installing all types of wooden floorings, which also has a very low emission level of volatile organic compounds (VOC). To seal the perimeter and to seal the joints, walnut and oak coloured SILWOOD was used, an acrylic sealant in water dispersion. Thanks also to its high quality finishes, the showroom now features in articles in well-known furniture magazines and receives visits from clients from all over the world.

MAPEI PRODUCTS: ECO PRIM PU 1K, SILWOOD, ULTRABOND P990 1K.

TECHNICAL DATA

Year of Construction: 2011

Period of the Mapei Intervention: 2011
Project: Scavolini Design Studio
Client: Scavolini SpA
Laying Company: Giorni Mariano
Mapei Co-ordinators: RBR Riccardo Bacci and William Bonacini, Mapei SpA (Italy)

Al Muneera Residential Complex

Abu Dhabi - United Arab Emirates

Abu Dhabi is one of the seven Emirates that make up the United Arab Emirates. It is the largest in terms of surface area and the second-largest in terms of inhabitants. It is home to a number of petrol companies, many foreign embassies and the Federal Government. Thanks to its sub-tropical climate, hundreds of kilometres of coastline, uncontaminated beaches and numerous places of cultural interest, Abu Dhabi has become a very important tourist destination. All this has led to the city growing at a fast pace, and the real estate market is expanding rapidly with the construction of various types of structure with high quality, luxury finishes.

One of these is the Al Muneera complex, situated in the heart of Raha Beach. This district is a mixture of luxurious villas with sea views, rows of houses and two curved buildings fourteen storeys high, as well as commercial space, business units and other buildings for restaurants and entertainment. Here, Mapei products were used to install approximately 80,000 m^2 of wooden flooring. The Mapei Technical Services Department followed the various phases of the intervention, and recommended starting off by applying PRIMER MF two-component epoxy primer on the installation surface. This primer also has consolidating and waterproofing properties and prevents any residual damp in screeds and concrete affecting the final floor finishes. To form a perfectly flat surface, the substrates were smoothed over with ULTRAPLAN ECO 20 self-levelling, ultra quick-hardening smoothing compound with very low emission level of volatile organic compounds (VOC). ULTRABOND P9901K, one-component adhesive, was used to bond an acoustic matt onto the self leveling compound to prevent sound transfers between the floors.

Finally, to install the bamboo flooring, ULTRABOND P990 1K was used, ideal for installing all types of wooden floorings, which also has a very low emission level of volatile organic compounds (VOC).

MAPEI PRODUCTS: PRIMER MF, ULTRABOND P990 1K, ULTRAPLAN ECO.

TECHNICAL DATA

Period of Construction:
2010-2011

Period of the Mapei Intervention:
2010-2011
Project Mananger: Waterman
Client: Al Dar
Contractor: Al Futtaim Carillion
Laying Company: Berry Floor
Mapei Co-ordinators: Ian Gregory, Tarana Daroogar and Naheed Younis, IBS Mapei (UAE)

Centenary Hall

Wrocław - Poland

Centenary Hall is a unique pavilion where shows and sports events are held. It was built between 1911 and 1913 in the Polish city of Wrocław from a design by Max Berg. It was built to celebrate the hundredth anniversary of the speech by the King of Prussia William III to incite his subjects to go to battle against Napoleon. Right from the start, thanks to the construction solutions and materials used for the building, there were many admirers. Its reinforced concrete structure is still considered to be one of the most perfect examples of how this material should be used. The building, which has additional 56 exhibition rooms and corridors, is 42 m tall and has a 67 m diameter dome. The main hall is 95 m wide and has a surface area of 14,000 m^2. Since the end of the 1990's, renovation work has been carried out on the external façades and the rooms in the building. Mapei systems have been used to repair the substrates and install 325 m^2 of oak wooden flooring in the most prestigious Caesar Hall. After removing the old flooring, the cracks in the cementitious substrate were repaired with EPORIP TURBO, while the rest of the surface was repaired with PLANITOP 400. The substrate was then treated with ECO PRIM T, and an 11 mm thick layer of ULTRAPLAN ECO self-levelling compound, which makes the floor resistant to heavy loads and intense traffic, was applied. After two weeks, installation of the wooden floor began using ULTRABOND P902 2K two-component epoxy-polyurethane adhesive. Because of a heavy storm that had flooded the building, the wooden floor had to be removed and the substrate had to be treated with ECO PRIM PU 1K moisture curing primer before installing the wooden floor again. The floor was then finished with products from the ULTRACOAT line: first ULTRACOAT LS solvent binder was applied to fulfil all gaps followed by ULTRACOAT P920 2K two-component water-based undercoat varnish and finally by ULTRACOAT P925 two-component water-based polyurethane finishing varnish, which have been lately superseded by ULTRACOAT BINDER, ULTRACOAT PREMIUM BASE, ULTRACOAT HIGH TRAFFIC respectively. The skirtings were bonded to walls with ULTRABOND SUPER GRIP adhesive.

MAPEI PRODUCTS: ECO PRIM PU 1K, ECO PRIM T, EPORIP TURBO, PLANITOP 400, ULTRABOND P902 2K, ULTRABOND SUPER GRIP, ULTRACOAT LS*, ULTRACOAT P920 2K* AND ULTRACOAT P925*. (N.B. THESE PRODUCTS HAVE BEEN SUPERSEDED BY ULTRACOAT BINDER, ULTRACOAT PREMIUM BASE and ULTRACOAT HIGH TRAFFIC).

TECHNICAL DATA

Period of Construction: 1911-1913
Project: Max Berg

Year of the Mapei Intervention: 2011
Project: Daniel Nowak and Bartomiej Dorobisz
Client: Wrocław City Council
Laying Company: Centrum Parkietowe Nowak
Mapei Co-ordinator: Wojciech Sikora, Mapei Polska (Poland)

Khislstein Castle

Kranj - Slovenia

The city of Kranj is located in Slovenia in the Upper Carniola region. Khislstein Castle is one of the most important architectural features in the old part of the city, and is situated on a defensible point crossing over the river Sava where there are also the ancient fortifications. The castle, built in the 15th century, had been modified on numerous occasions right up to the 19th century. In the middle of the 16th century, the castle was bought by Janž Khisl of Fužine, who transformed it from a fortress into an elegant stately private palace and gave it the name by which it is still known today. In the following centuries the stately home had various owners until 1913, when it became state property. Today it hosts the headquarters of an organisation that takes care of the country's natural and cultural heritage and is also home for the Gorenjski Museum and various studios of artists in figurative arts. At the end of the 1980's, the first renovation work was carried out on the castle. In 2011, the wooden floors had to be renovated or even replaced in some critical rooms of the castle. The substrates were first treated with ECO PRIM T and NIVORAPID. They were then smoothed over with ULTRAPLAN MAXI self-levelling, ultra quick-hardening smoothing compound. The wooden boards were then bonded using ULTRABOND P913 2K two-component, epoxy-polyurethane adhesive and ULTRABOND P990 1K one-component, solvent-free, polyurethane adhesive. The final protective treatment involved the use of ULTRACOAT OIL and ULTRACOAT OIL CARE oil resins in one section. In other sections the following products were used: ULTRACOAT P920 S-T two-component, water-based base coat, ULTRACOAT LS binder and ULTRACOAT P925 two-component, water based polyurethane varnish. These products were lately superseded by ULTRACOAT TONING BASE, ULTRACOAT BINDER, and ULTRACOAT HIGH TRAFFIC, respectively.

MAPEI PRODUCTS: ECO PRIM T, NIVORAPID, ULTRAPLAN MAXI, ULTRABOND P913 2K, ULTRABOND P990 1K, ULTRACOAT LS*, ULTRACOAT P920 S-T*, ULTRACOAT P925*, ULTRACOAT OIL, ULTRACOAT OIL CARE. (*THESE PRODUCTS WERE LATELY SUPERSEDED BY ULTRACOAT BINDER, ULTRACOAT TONING BASE AND ULTRACOAT HIGH TRAFFIC, RESPECTIVELY. THEY ARE PRODUCED IN ITALY AND DISTRIBUTED ON THE SLOVENIAN MARKET BY MAPEI D.O.O.)

TECHNICAL DATA

Period of Construction: 15th-19th century

Year of the Mapei Intervention: 2011
Project: P.U.Z. d.o.o.
Client: Municipality of Kranj
Laying Company: F3 d.o.o.
Mapei Co-ordinator: Gregor Demšar, Mapei d.o.o. (Slovenia)

MAX&Co. Showroom

Milan - Italy

Located right in the heart of Milan in Corso Vittorio Emanuele II, just a few steps from the Piazza del Duomo square and the famous Vittorio Emanuele Arcade (see *Realtà Mapei International* n.41), the new boutique of the MAX&Co. chain welcomes both Italian and overseas clients. The client and project designer wanted to install industrial wooden flooring in oak in a herringbone pattern on all the floors of the showroom (basement level, ground floor and first floor), a total of 500 m^2. Another request of the client was to install and finish off the flooring as soon as possible so that they could inaugurate the boutique during the winter. To meet the requirements of the client, the company contracted to install the flooring contacted the Mapei Technical Services Department, who recommended the most appropriate adhesives and finishing products.

The first step was to clean and sand the substrate. The solid oak industrial 14 mm thick flooring was then bonded. To install the flooring, ULTRABOND ECO S945 1K one-component, isocyanate and solvent-free, sililated polymer adhesive with very low emission level of volatile organic compounds (EMICODE EC1-R-certified) for pre-finished, multi-layered parquet was used. After three days the parquet was sanded, and it was then possible to apply ULTRACOAT PREMIUM BASE two-component, NMP-free undercoat, a water-based product with high insulating capacity with very low emission level of volatile organic compounds (VOC) and no NMP. The next step was to varnish the floor with ULTRACOAT HIGH TRAFFIC, a 100% polyurethane, NMP-free, varnish with high resistance to wear and abrasion, with very low emission level of VOC and no NMP. The last step was to seal around the edges with oak coloured SILWOOD.

MAPEI PRODUCTS: SILWOOD, ULTRABOND ECO S945 1K, ULTRACOAT HIGH TRAFFIC, ULTRACOAT PREMIUM BASE.

TECHNICAL DATA

Year of the Mapei Intervention: 2012
Client: Maxima
Works Direction: Giuseppe Randazzo
Client: Kibea
Laying Company: Matteo Magri, Roberto e Stefano Ghinelli, Stil Legno
Mapei Co-ordinator: Carlo Rossi and Carlo Alberto Rossi, Mapei SpA (Italy)

PRODUCTS FOR CEMENTITIOUS AND RESIN FLOOR COVERINGS

The Mapei Research Laboratories have developed a series of systems for epoxy, polyurethane and cementitious flooring which allow users to match floors quickly and efficiently to their real use. A designer may choose the most attractive finish without neglecting all important technical aspects, such as resistance to abrasion, impact, cracking and aggressive chemical agents, while guaranteeing flatness and easy cleaning.

The Church of San Giovanni Bono

Milan - Italy

The parish church dedicated to San Giovanni Bono is located in Milan, in the centre of the Sant'Ambrogio district.
The church, built entirely in reinforced concrete, with its strange profile and double pitch roof which almost touches the ground, is similar in shape to a tent, and is inspired by the construction techniques of a Gothic cathedral.
A new heating system was urgently required for the church, because the old system was no longer suitable for this type of building and its needs, and this proved also to be the perfect moment to completely rebuilt the flooring.
And so in 2012, a new floor with an antique finish was installed, made from minerals and coloured paste mixed with MAPEFLOOR I 300 SL epoxy resin formulate used as binder.
The colour chosen for the new flooring was similar to that of the previous one, and also contains a design representing the "tree of life".
The work, which started by removing the temporary textile flooring, consisted of the following application procedure:

- applying PRIMER SN to improve the adhesion of the next layer, sprinkled with QUARTZ 0.5 quartz sand until it is saturated;
- applying by trowel the mix made up of ultra-fine powdered minerals, coloured paste and MAPEFLOOR I 300 SL;
- wet grinding and polishing the surface with diamond disks and then grouting the micro pores formed in the surface
- polishing the surface with fine-grained polishing disks to get the final aesthetic effect required
- final waxing treatment.

The design for the "tree of life" was created in the new flooring with decorative elements with "terrazzo-alla-veneziana" effect and coloured glass.

MAPEI PRODUCTS: MAPEFLOOR I 300 SL, PRIMER SN, QUARTZ 0.5.

TECHNICAL DATA

Year of Construction: 1966
Project: Arrigo Arrighetti

Year of the Mapei Intervention: 2012
Project: Donatella Forconi
Client: Milan Diocesan Admistration
Laying Company: Ricordi Resine, Castelfranco Veneto (Italy)
Mapei Distributor: Ricordi Resine
Mapei Co-ordinator: Giovanna Novella, Mapei SpA (Italy)

Anteprima Boutique

Altamura - Italy

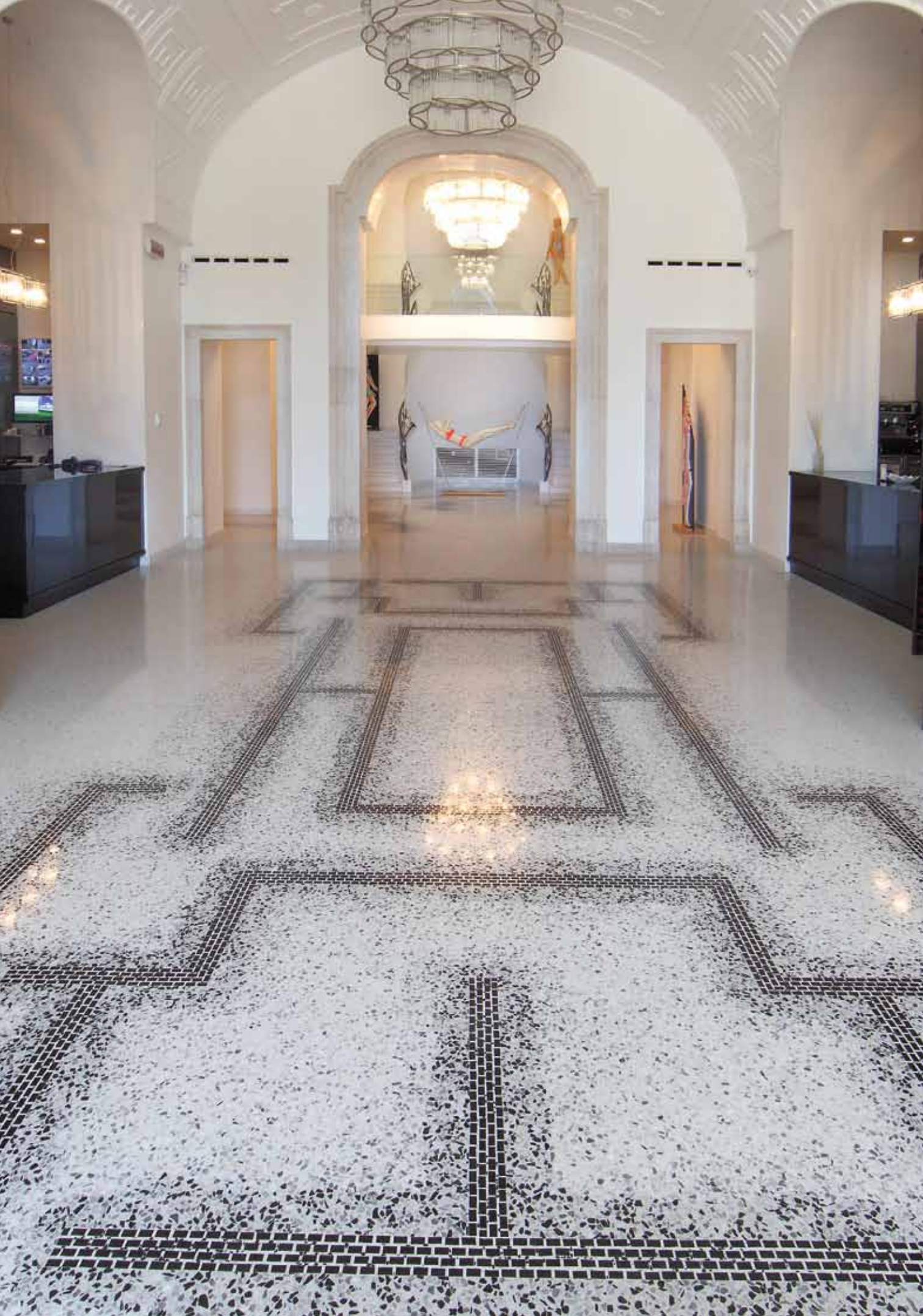
The Anteprima Boutique offers clothing from an array of designers and is located in a 19th century palazzo in the old town centre of Altamura (Southern Italy). The original spaces in the palazzo have been maintained and the furnishings for the boutique look both elegant and contemporary. The boutique has more than 2000 m^2 of floor space divided over three floors, and there is a fourth floor housing the Babi Bistrot restaurant.
The aim of creating a welcoming, refined display area has been achieved by using black and white to finish off the surfaces.
A local floor-layer created the "terrazzo-alla-veneziana" effect using MAPEFLOOR I 300 SL, a two-component epoxy formulation. This type of flooring was chosen because of its special characteristics: it is quite thin so its overall weight has little impact on the structure, it is elastic so may be used to built continuous flooring over large surface areas without the risk of cracks forming, and it is highly resistant to wear in areas with intense foot traffic. MAPEFLOOR I 300 SL is also suitable for areas with underfloor heating, since it can withstand the expansion and shrinkage due to the variations in temperature. And lastly, the use of this product allows flooring to be laid very quickly, thus limiting the down time of areas where it is used.
The aggregates used, in various sizes up to 4 mm, were carefully chosen. They were washed, dried and then prepared by adding 10% powdered Carrara white marble. This was then mixed with 15% MAPEFLOOR I 300 SL. The mix was laid manually on a cement/sand substrate after applying a coat of PRIMER SN two-component epoxy primer. When the floor had hardened, it was ground, grouted and polished to get the desired effect.

MAPEI PRODUCTS: MAPEFLOOR I 300 SL, PRIMER SN, QUARTZ 1.2, QUARTZ 0.5.

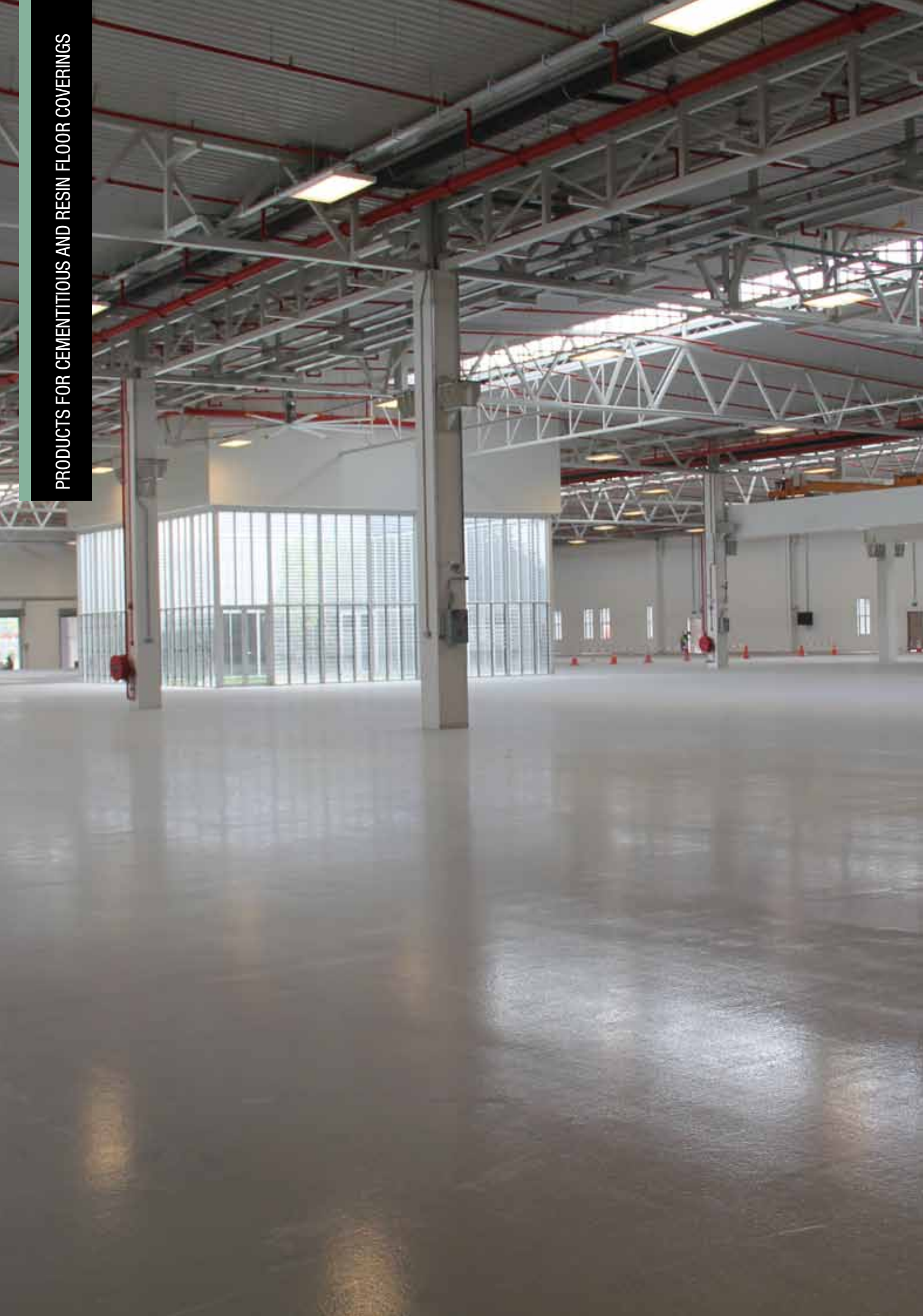
TECHNICAL DATA

Period of Construction: 2009-2010

Period of the Mapei Intervention: 2010-2011
Client: Anteprima Moda S.r.l.
Project: Erna Corbetta
Works Direction: Erna Corbetta, Chiara Carnevale
Contractor: Deltadue S.a.s.
Laying Company: Arte Del Pavimento S.n.c.
Mapei Co-ordinators: Achille Carcagnì, Giovanni Villani, Maurizio Luccarelli and Vincenzo Nicastri, Mapei SpA (Italy)



PRODUCTS FOR CEMENTITIOUS AND RESIN FLOOR COVERINGS



Grundfos Asia Pacific Production Facilities

Singapore

The Grundfos Group is a multinational company with headquarters in Denmark. It has 14 production facilities and 82 subsidiaries in 45 different countries. It is a leading company in the production of heating, ventilation and air-conditioning pumps.
Grundfos has had offices in Singapore since 1984 and is the head office for their entire Asia-Oceania operations. In 2011, the company decided to move their three local production facilities and build new ones in the Tukang Innovation Park industrial zone.
The new facilities, built using innovative technology to respect the local environment and reduce energy consumption, include office space and production plants. In various areas, and in particular the production and assembly plants and warehouses, industry-grade epoxy flooring was chosen for its high mechanical strength, excellent durability and resistance to wear. The substrate was levelled off and treated to make it flat and solid, first with a diamond grinding machine, followed by application of MAPEGROUT HI-FLOW SP, fibre-reinforced, controlled-shrinkage mortar (manufactured and distributed in Singapore by Mapei Far East) to remove any uneven areas.
The surface was then sandblasted and treated with PRIMER G, a synthetic resin primer with very low emission level of volatile organic compounds (VOC). PRIMER G was used to ensure that the next layer of ULTRATOP self-levelling mortar bonded perfectly to the substrate. PRIMER SN two-component epoxy primer was then applied on the surface, followed by QUARTZ 0.5 sand to make the surface non-slip and MAPEFLOOR I300 SL two-component, multi-purpose epoxy formulate mixed with RAL 7040 grey MAPECOLOR PASTE.

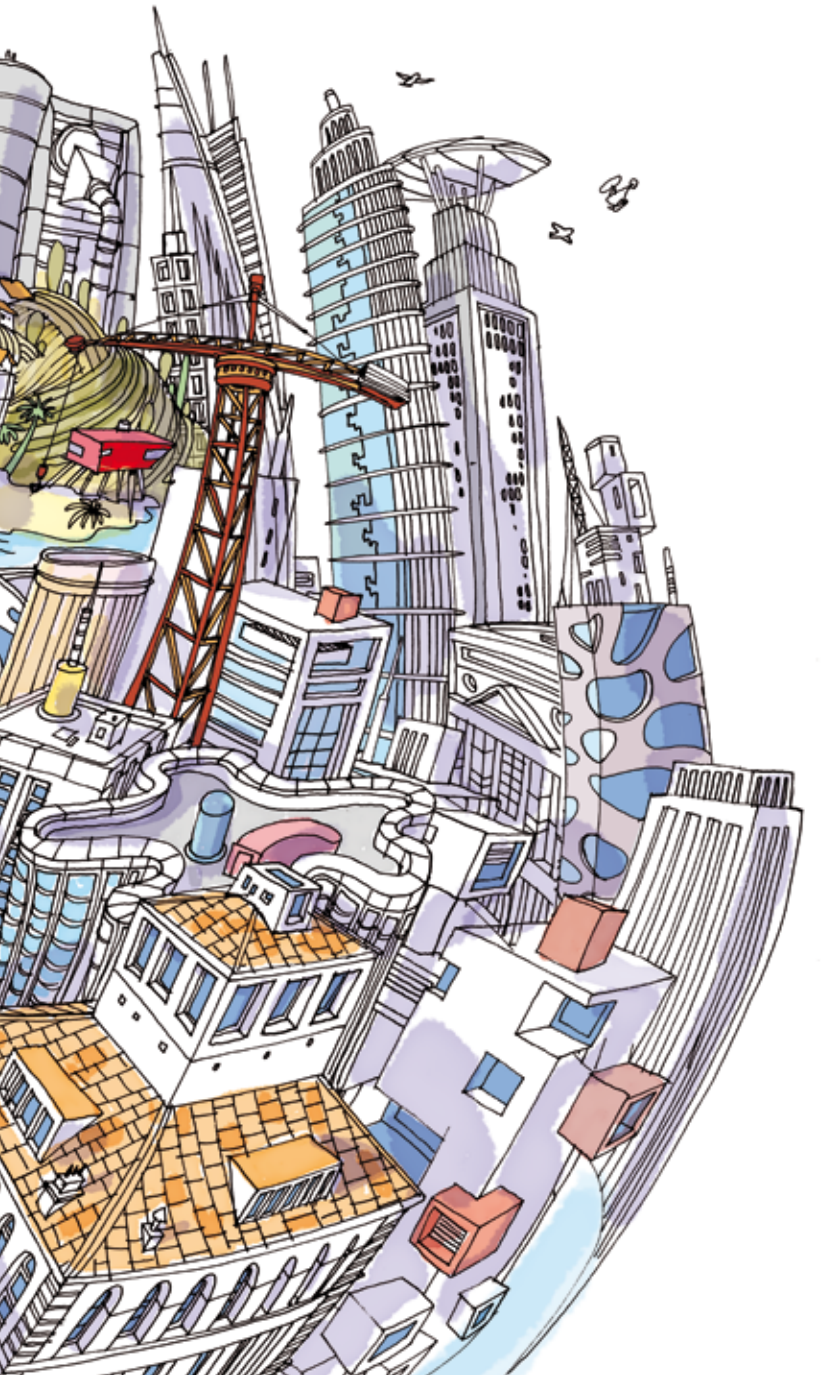
MAPEI PRODUCTS: MAPEGROUT HI-FLOW SP* (N.B THE PRODUCT IS MANUFACTURED AND DISTRIBUTED IN SINGAPORE BY MAPEI FAR EAST), MAPEFLOOR I300 SL, MAPECOLOR PASTE, PRIMER G, PRIMER SN, QUARTZ 0.5, ULTRATOP.

TECHNICAL DATA

Period of Construction: 2009-2012

Period of the Mapei Intervention: August 2011- February 2012
Project: W Architects Pte Ltd
Client: Grundfos (Singapore) Pte Ltd
Contractor: Bovis Lend Lease Projects Pte Ltd
Quality Supervisor: Bovis Lend Lease Projects Pte Ltd
Laying Company for Epoxy Floorings: SM Systems Pte Ltd
Works Direction: COWI
Mapei Coordinators: Lincoln Lim, Markus Rische and Y.T Lim, Mapei Far East Pte Ltd (Singapore)

PRODUCTS FOR ACOUSTIC INSULATION



MAPESILENT and MAPESONIC CR: these innovative systems by Mapei allow reliable soundproofing surfaces to be created, able to meet the requirements of current legislation. These are the most suitable soundproofing systems for ceramic and natural stone floorings, and naturally for floors in wood and other materials. They respect strict design criteria defined by local laws, which determine the minimum level of soundproofing in buildings according to their final use.

Giardini Milano Life Apartments

Redecesio di Segrate - Italy

Giardini Milano Life Apartments is a recent housing project for homes in the town of Redecesio di Segrate, near Milan, characterised by 50,000 m^2 of parkland. All the buildings have an A+ energy rating (the highest one according to Italian regulations) and have been designed according to the most innovative construction criteria. There is a high level of safety, insulation and soundproofing features in the buildings, as well as eco-compatible solutions such as geothermal and photovoltaic systems, and the latest generation of plant systems so they are more economic to run and offer the highest level of living comfort available.
The project designer and main contractor of the project contacted the Mapei Technical Services Department for solutions to overcome some of the problems. The first interventions carried out on site were waterproofing the foundation walls and lift wells. In this case, Mapei recommended applying MAPEPROOF LW bentonite sheets used to waterproof structures below ground level. The sheets were fastened in place using MAPEPROOF CD washers, after which the concrete could be cast. Since the concrete cast was interrupted, the construction joints between old and fresh concrete were sealed with IDROSTOP B25 bentonitic joints. The Mapei Technical Services Department was also contacted for advice on the application of the most appropriate products to make quick-drying screeds (TOPCEM) and for soundproofing the surfaces inside the buildings. In this case, the MAPESILENT ROLL system was supplied. This is a dry soundproofing system with a reduced thickness (around 8 mm), and is applied on floating screeds before installing any type of floor covering.
After applying the sheets of MAPESILENT ROLL, the overlaps in the sheets were sealed with MAPESILENT TAPE, an adhesive sealing tape made in closed-cell expanded polyethylene. To prevent the formation of acoustic bridges along the perimeter of the walls and around the edges of elements passing through the screed, MAPESILENT BAND adhesive tape was applied.

MAPEI PRODUCTS: IDROSTOP B25, MAPEPROOF CD, MAPEPROOF LW, MAPESILENT BAND, MAPESILENT ROLL, TOPCEM.

TECHNICAL DATA

Period of Construction: 2011-2012

Period of the Mapei Intervention: 2011-2012
Project: Studio Architettura Brugnara e Sidoti
Client: Immobiliare Redest
Works Direction: Studio Architettura Brugnara e Sidoti
Contractor: CMB Coop. Muratori Braccianti di Carpi
Laying Company: Emmezeta (for the soundproofing products)
Mapei Co-ordinator: Massimiliano Nicastro, Mapei SpA (Italy)

PRODUCTS FOR BUILDINGS

This is Mapei's most famous line, first introduced in 1937 and constantly enriched over the years with newer, more up-to-date systems. Products created specifically for repairing concrete structures, renovating buildings of historical interest and strengthening and consolidating masonry work and reinforced concrete. Among the new products, one finds the range of chemical anchoring solutions for all design needs on site: for light, heavy and structural loads.

Bridge along the A4 Motorway

Wierzchosławice - Krzyż - Poland

The A4 motorway crosses the southern part of Poland and links the border in the west to the one in the east. It is part of the E40 European motorway network that starts in France, passing through the northern part of Europe right up to the border with China. Once this stretch has been completed, the A4 will be 670 km long and will be the longest motorway in the country.

Mapei has been involved in construction work on the Wierzchosławice – Krzyż stretch, near to Krakow (Poland), with interventions on 13 different structures, and in particular on the long bridge that can be seen in the photos on this page. The aim of the first intervention was to protect the parts of the bridge below ground level. The reinforced concrete pillars go 20 m down into the ground and, even though they are made from waterproof material, they still had to be protected from the groundwater. PLASTIMUL FIBER, a fibre-reinforced bitumen waterproofing emulsion, was the ideal choice to guarantee that they were perfectly waterproof, and it was applied on both the horizontal and vertical surfaces.

The external granite covering was then bonded in place using MAPEGROUT 430 fibre-reinforced thixotropic mortar and sealed with the polyurethane sealants MAPEFLEX PU40 and MAPEFLEX PU45. 14 mm diameter holes were drilled in the granite to a depth of 8 cm, and metal bars were anchored in the holes using ADESILEX PG1 two-component, rapid-setting thixotropic adhesive. The parts of the bridge above the ground were then treated to protect them from salts, acid rain and the changing weather conditions. To achieve this, all the cavities were filled with MONOFINISH cementitious mortar mixed with PLANICRETE. MAPEGROUT 430 and PLANITOP 400 were used for the larger cavities. Once the surfaces had been prepared, the protective coatings were applied: COLORITE PERFORMANCE on the spans of the bridge and ELASTOCOLOR PAINT for the pillars.

The last step was to repair all the cracks that had unexpectedly formed in the concrete using EPOJET LV, ADESILEX PG4 and EPORIP.

MAPEI PRODUCTS: ADESILEX PG1, ADESILEX PG4, COLORITE PERFORMANCE, ELASTOCOLOR PAINT, EPOJET LV, EPORIP, MAPEFLEX PU40, MAPEFLEX PU45, MAPEGROUT 430, MONOFINISH, PLANICRETE, PLANITOP 400, PLASTIMUL FIBER.

TECHNICAL DATA

Period of Construction: 2010-2012

Period of the Mapei Intervention: 2010-2012
Client: Arma Sp.j.
Contractor: Dragados
Laying Company: Omega Sp.zo.o.
Works Management: Karol Malinowski
Mapei Distributor: System Kielce
Mapei Co-ordinators: Mariusz Orzel and Jerzy Siwek, Mapei Polska (Poland)

Pantano d'Avio and Venerocolo Dam

Brescia - Italy

The Pantano D'Avio hydro-electric power station is located in Val Camonica on the northern face of the Amedello glacier, in Northern Italy. It is fed by a water supply, half of which is frozen, covering 10 km^2, 7 of which sits directly above two storage basins and 3 lies right above a difference in height of 449.15 m. The concrete dam is made up of 15 lightweight elements and 2 solid, stocky abutments. It measures 63 m from the foundations to the highest point and is 44 m long along the top rim. Around 200,000 m^3 of concrete were used to construct the dam. The power plant starts at the main storage basin at Lake Pantano d'Avio, and from that point there is a tunnel carrying water under pressure that is also fed by water from the storage basins at Venerocolo and the Frati glacier. 5 different granulometric classes were used to construct the dam, as well as pozzolanic ferric cement at a rate of 300 kg/m^3 for the upstream retaining wall with a thickness of 2 m while for the rest of the structure the rate was 220 kg/m^3. The storage basin at Venerocolo integrates the volume of water available to regulate the summer discharges from the involved areas and has a similar barrier to the one at Lake Pantano d'Avio. The dam was built by Edisonvolta in 1956, which was then taken over in 1963 by Enel SpA. In the years immediately after the dam was built, work had to be carried out a number of times to protect the concrete of the upstream retaining wall, while only recently an overall renovation plan has been drawn up. Mapei started working on the plan in 2006 and helped during the design phase for the repairs to the retaining walls of the dam on Lake Venerocolo and the dam at Pantano. Among the many products used for this building project MAPEGROUT EASY FLOW, IDROSILEX PRONTO, MAPECURE SRA, TRIBLOCK FINISH, MAPEFLEX PB27, MAPEFLEX PB25, MAPEFLEX PU45, MAPEGRID G220, MAPECURE S are worth a mention.

MAPEI PRODUCTS: IDROSILEX PRONTO, MAPECURE SRA, MAPECURE S, MAPEGROUT EASY FLOW, MAPEFLEX PB27, MAPEFLEX PB25, MAPEFLEX PU45, MAPEFOAM, MAPEGRID G220, MAPEGRID G120, TRIBLOCK FINISH.

TECHNICAL DATA

Period of Construction: 1950-1956
Project: Claudio Marcello

Period of the Mapei Intervention: 2009-2012
Project: Enel Generazione ed Energy Management
Client: Enel Produzione SpA
Works Direction: Fausto Zinetti, Silvestro Francesconi
Contractor: Impresa BTM srl, Mozzate (Italy)
Mapei Co-ordinators: Stefano Barachetti, Andrea Bettini, Paolo Banfo, Massimiliano Nicastro and Pasquale Zaffaroni, Mapei SpA (Italy)

PRODUCTS FOR BUILDINGS

Sfalassà Viaduct

Bagnara Calabra - Italy

The viaduct is located at point km 414+490 along the A3 Salerno-Reggio Calabria motorway near Bagnara Calabra (Province of Reggio Calabria, Southern Italy), and at 248 m from the bottom of the gorge. It is still one of the tallest bridge of this kind in the world. The bridge was built between 1968 and 1972 by three different construction companies working in tandem, along with teams of metal workers, welders, structural engineers and surveyors. In 2009, the structure underwent important renovation work. The work on the enormous hollow, reinforced concrete piles that support the bridge was particularly important, and it was carried out using systems recommended by Mapei working in coordination with the Italian highways authority ANAS, the project designer and the contractor. The intervention on the piles (130 m tall) included repairs to the damaged concrete on the internal surfaces and structural strengthening on the external surfaces.

For the internal surfaces, the piles' concrete cover was repaired by removing and repairing the damaged concrete. After preparing the substrate, a layer of MAPEGROUT 430 was applied. The repaired surfaces were then protected with two coats of ELASTOCOLOR PAINT. On the external surface, on the other hand, a structural strengthening cycle was applied. After cleaning the surface by hydro-scarification to remove all the damaged concrete, the next step was to increase the section with MAPEGROUT EASY FLOW mixed with the admixture MAPECURE SRA, improving the pier's mechanical strengths. This product was chosen because it contains corrosion inhibitors and it is reinforced with polyacrylonitrile fibres and is resistant to sulphates. The cycle was completed by applying a 2 mm thick coat of MAPELASTIC, highly protective mortar against chlorides and carbonation.

Mapei also proposed the application of an innovative method for well-defined areas that could be monitored to make the work carried out even more durable: MAPESHIELD I pure zinc anodes for galvanic cathodic protection of the steel reinforcement from corrosion.

MAPEI PRODUCTS: MAPEGROUT EASY FLOW, MAPEGROUT 430, MAPELASTIC, ELASTOCOLOR PAINT, PLANICRETE, MAPECURE SRA, MALECH, MAPEPLAST SF, MAPESHIELD I, RESFOAM 1KM, RESFOAM 1KM AKS, MAPEFLEX PB 27, PRIMER PU 60, PRIMER P.

TECHNICAL DATA

Period of Construction: 1968-1972

Period of the Mapei Intervention: 2009-2012
Project: IN.CO, Silvano Zorzi, Lucio Lonardo, Sabotino Procaccia
Client: ANAS SpA
Works Direction: Cilento Ingegneria Srl
Contractor: Mosconi Srl
Mapei Coordinators: Pasquale Zaffaroni, Achille Carcagnì, Fiorella Rodio, Federico Laino and Michele Malvasi, Mapei SpA (Italy)

The Yeongjongdo Maglev Train

Incheon - Korea

Many Korean cities have major traffic and pollution problems caused mainly by the lack of suitable infrastructures to encourage the use of alternative transport to cars. This is why the Korean government has adopted a series of measures to reduce emissions from road-based vehicles over the next 10 years, by providing incentives for cars with a lower impact on the environment and the construction of alternative transport networks, such as the Maglev (magnetic levitation) train.

The city of Incheon has started construction work on a Maglev train called Yeongjongdo, and once completed it will provide a high-speed, eco-sustainable link between the airport and city centre with 5 stops along the way.

This railway is the first of its kind in Korea and is made up of three sections built in three successive phases. Mapei took part in the first phase of the project by supplying mortars for anchoring, a field in which the company has a wide, consolidated experience and project references from building sites all over the world for their constant technical support and high quality products.

In particular, 1,300 tonnes of MAPEFILL 13KS mortar, manufactured and distributed on the local market by Mapei Korea, were used for anchoring the concrete with railroad and branching-off. Its high mechanical strength and no shrinkage characteristics offered just the right properties for these anchors, which have to withstand intense vibrations.

MAPEI PRODUCT: MAPEFILL 13KS. (N.B. THIS PRODUCT IS MANUFACTURED AND DISTRIBUTED ON THE LOCAL MARKET BY MAPEI KOREA).

TECHNICAL DATA

Period of Construction:
2011-2012 (first phase)

Period of the Mapei Intervention:
August 2011-July 2012
Project: Korea Railroad Technical Corporation
Client: Korean Rail Network Authority
Contractor: GS Construction company
Mapei Distributor: POSCO Engineering
Mapei Coordinator: Joonghe Kwon, Mapei Korea Ltd. (Korea)

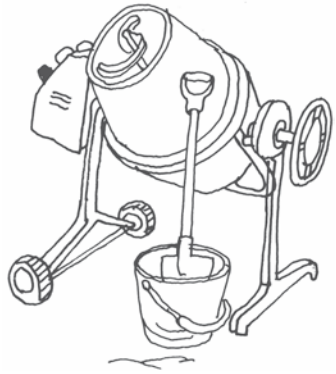
MOSE Project

Venice - Italy

The MOSE system (MOdulo Sperimentale Elettromeccanico, or Experimental Electro-Mechanical Module) is a system to defend Venice and the lagoon from high tides,which is part of a project carried out by the Italian Ministry of Economic Development, Infrastructure and Transport - Venice Water Authority. Its construction has been completed and comprises a series of mobile retractable barriers at the entrances (the openings that connect the lagoon to the sea through which the tides ebb and flow) to Lido, Malamocco and Chioggia.
Mapei has taken part in the project as a technical partner, and has developed a special product called MAPEFILL MF610, used to anchor the special GINA joints, a fundamental component of the MOSE system.
The caissons used to house the barriers sit in a trench. They are positioned sequentially and connected together using a system of joints made from two separate elements that form a water-tight seal. The first element is a ring-shape one (GINA) and forms a seal on the outer side, making it possible to form a temporary watertight seal between two adjacent caissons during installation. A second element (OMEGA) is installed during construction inside the GINA element and must guarantee that there is a completely water-tight seal for the caisson itself.The GINA element is connected to the concrete caisson by pumping MAPEFILL MF610 into formwork, a reo-plastic, controlled-shrinkage mortar developed and tested specifically for this project. A reo-plastic mortar with high workability retention at high temperatures (3 hours at 35 °C) was necessary because the collar that houses the GINA element is made from very expensive material, super duplex stainless steel, that has no margin for error during installation.

Source: Italian Ministry of Economic Development, Infrastructure and Transport - Venice Water Authority - Consorzio Venezia Nuova

MAPEI PRODUCT: MAPEFILL.



TECHNICAL DATA

Period of Construction: in progress

Period of the Mapei Intervention: 2011
Client: Italian Ministry of Economic Development, Infrastructure and Transport - Venice Water Authority, Consorzio Venezia Nuova
Project: Tecnital
Works Direction: Studio Lotti Thetis
Contractor: Mantovani Group SpA
Mapei Coordinators: Claudio Azzena, Mauro Orlando and Renato Pasqualato, Mapei SpA (Italy)

PRODUCTS FOR STRUCTURAL STRENGTHENING

The Mapei FRP System has been developed to meet the specific requirements of structural engineers, a complex strengthening system which uses a combination of polymer-matrix carbon fibre and glass fibre fabrics and plates. The line includes epoxy primers, skimming compounds, adhesives and everything else you require to prepare and strengthen elements correctly and to apply protective, decorative coatings.

TECHNICAL DATA

Period of Construction:
April-September 2011

Year of the Mapei Intervention: 2011
Client: AMP Capital
Contractor: Naylor Love Construction Ltd
Project: Palms Shopping Centre
Works Direction: Buller George Turkington
Laying Company for FRP Materials: Fulton Hogan Civil
Mapei Co-ordinator: Darren Ballantine, Mapei New Zealand

The Palms Shopping Centre

Christchurch - New Zealand

The Palms is a large shopping centre located in the north-eastern part of Christchurch, on New Zealand's South Island. Unfortunately, the complex was hit by an earthquake in 2011 that damaged a number of the concrete columns. For this reason, repair work had to be carried out very quickly.
The first step was to remove part of the concrete from the columns to create a solid, intact surface. All the reinforcement rods that had been damaged by the earthquake were treated by applying two coats of MAPEFER 1K. Formwork was then installed around the columns so that MAPEGROUT HI-FLOW SP fibre-reinforced, controlled-shrinkage mortar could be applied. MAPECURE SRA curing admixture was also added to the mortar to ensure no cracks formed in the surface.
Once the mortar had cured, the surfaces were ground and treated with MAPEWRAP PRIMER 1 SP, distributed throughout New Zealand by Mapei New Zealand. Any cracks present in the surface were filled with ADESILEX PG1, and then two layers of MAPEWRAP C UNI-AX unidirectional carbon fibre fabric impregnated with MAPEWRAP 31 SP adhesive were applied (distributed in the local market by Mapei New Zealand).
Around 300 columns were repaired with this system, allowing special finishes to be created on the surfaces, such as the timber framing that was bonded to the columns with MAPEFLEX PU 45. This work was successfully completed in September 2011.

MAPEI PRODUCTS: ADESILEX PG1, MAPECURE SRA, MAPEFER 1K, MAPEGROUT HI FLOW SP, EPOJET LV, MAPEWRAP C UNI-AX, MAPEWRAP PRIMER 1 SP*, MAPEWRAP 31 SP*.
*N.B. THESE PRODUCTS ARE DISTRIBUTED IN THE LOCAL MARKET BY MAPEI NEW ZEALAND.

Modus Perfumery

Viareggio - Italy

A prestigious boutique in a building on the corner of a street in the centre of Viareggio (Italy) had been closed for a number of years. The decision to renovate the shop and turn it into a well-stocked perfumery also involved the help of the Mapei Technical Services Department, that followed the various phases of the building site work and recommended the most appropriate products to strengthen the structure, install the floor and wall coverings and waterproof the outside surfaces of the building. To strengthen the structure, and in particular to repair the concrete, MAPEFER 1K anti-corrosion cementitious mortar was used on the steel reinforcement rods, while MAPEGROUT BM two-component, cementitious mortar with a low modulus of elasticity and MAPEGROUT LM2K two-component, fibre-reinforced, thixotropic cementitious mortar were used to repair the substrates. The beams forming the structure of the building were then reinforced using MAPEWRAP PRIMER 1 two-component epoxy primer, MAPEWRAP 11 epoxy grout for evening out concrete surfaces, and, lastly, MAPEWRAP C UNI-AX unidirectional carbon fibre fabric was applied on the areas where needed. The upper surface of the floor slab on the first storey was then reinforced by making a bonded cementitious screed with the fresh on fresh technique using TOPCEM PRONTO with EPORIP epoxy adhesive and slurry made from TOPCEM and PLANICRETE mixed with water. For the floor of the shop (approximately 1000 m^2), the porcelain tiles were installed using KERAFLEX adhesive and the joints were grouted with KERACOLOR FF. The joints in the screed were sealed with MAPEBAND rubber tape with felt bonded with ADESILEX PG4, and the expansion joints in the flooring were sealed with the sealants MAPEFLEX PU 45 and MAPESIL AC. The guttering and concrete elements were repaired using MAPEFER and MAPEGROUT BM and then waterproofed with MAPELASTIC and MAPENET 150 mesh. To finish off the building's surfaces ELASTOCOLOR WATERPROOF acrylic paint was used.

MAPEI PRODUCTS: ADESILEX PG4, ELASTOCOLOR WATERPROOF, EPORIP, KERACOLOR FF, KERAFLEX, MAPEBAND, MAPEFER, MAPEFER 1K, MAPEFLEX PU 45, MAPEGROUT BM, MAPEGROUT LM2K, MAPELASTIC, MAPENET 150, MAPESIL AC., MAPEWRAP 11, MAPEWRAP C UNI-AX, MAPEWRAP PRIMER 1, PLANICRETE, TOPCEM, TOPCEM PRONTO.

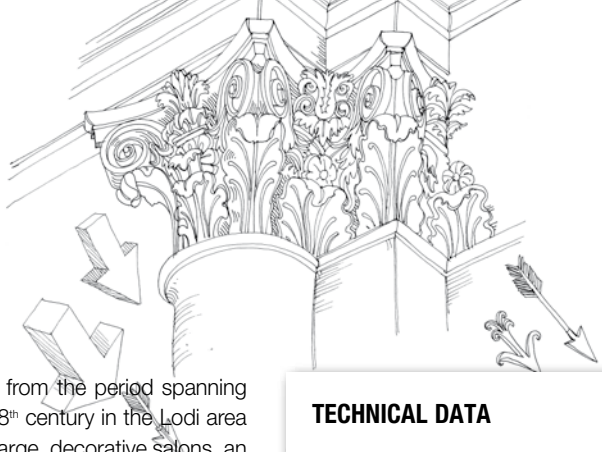
TECHNICAL DATA

Period of the Mapei Intervention: 2012
Client: Gruppo Talamoni
Works Direction: Paolo Mannelli
Contractor and Laying Company: Palagi Leonardo
Mapei Co-ordinators: Davide De Micheli and Valerio Verdigi, Mapei SpA (Italy)


SHOW
L'ORÉ

PRODUCTS FOR THE REPAIR OF MASONRY

The combined use of lime and Eco-Pozzolan led to the formulation of the MAPE-ANTIQUE range of products for consolidating and renovating brick, stone, tuff and mixed masonry on buildings, including those of historical and artistic interest. The products in this range have physical and mechanical characteristics similar to those of the mortars used in the past and high chemical-physical resistance to aggressive action from the environment and within the wall itself.



Palazzo Calderari

Turano Lodigiano - Italy

Palazzo Calderari is one of the finest examples of architecture from the period spanning between the end of the 17th century and the beginning of the 18th century in the Lodi area (Northern Italy). It has a surface area of more than 6000 m² and large, decorative salons, an ample staircase leading to the upper floors and large windows.
Before the renovation work, Palazzo Calderari was in a very poor state of repair.
The roofs were severely damaged and had numerous leaks, the renders were deteriorated, the doors and windows were in a poor state of repair, and the decorative interiors were mostly painted over or were in poor condition. The renovation work, which started in 1997 and was completed in 2007, was discussed and agreed upon with the local Superintendency for Architectural and Environmental Heritage and was carried out by taking into consideration the architectural elements of the building and the way it had been constructed.
The damaged render on the external surfaces was repaired using mortars for old brickwork masonry and applying a de-humidifying system. To renovate the render on the façades, the first step was to remove all the dust and loose parts from the surface using very low pressure water jets. A first layer of MAPE-ANTIQUE RINZAFFO mortar was then applied on a saturated surface dry substrate. Before it had completely dried, a layer of MAPE-ANTIQUE MC macro-porous de-humidifying render was applied. At this point, the repaired surfaces were smoothed over with a layer of MAPE-ANTIQUE FC FINE transpirant, ultra fine-grained skimming mortar.
Inside the building, all the traces of old adhesive were cleaned from the antique terracotta flooring by applying PULICOL 2000 gel with a trowel. The terracotta tile joints were then grouted with KERACOLOR FF grout.

MAPEI PRODUCTS: MAPE-ANTIQUE FC FINE, MAPE-ANTIQUE MC, MAPE-ANTIQUE RINZAFFO, KERACOLOR FF, PULICOL 2000.

TECHNICAL DATA

Year of Construction: 1675

Period of the Mapei Intervention: 1997-2007
Project: Valeria Tarantola
Client: Società Immobiliare Rosate Nuova
Works Direction: Valeria Tarantola
Contractor: Fratelli Tarantola srl
Mapei Distributor: Piastrellificio del Nord
Mapei Co-ordinator: Davide Bandera, Mapei SpA (Italy)

TECHNICAL DATA

Period of Construction: 1688-1693

Period of the Mapei Intervention: 2011-2012
Client: Roman Catholic Parish of Święta Lipka
Contractor: Pracownia Konserwacji Zabytków "Stiuk" Szymon Konecko
Mapei Coordinators: PhD. Eng. Krzysztof Pogan and Eng. Michal Molenda, Mapei Polska (Poland)

Sanctuary of Saint Mary

Święta Lipka - Poland

The Marian sanctuary in Święta Lipka, one of the most important places of worship for Polish pilgrims, is part of a Jesuit monastery complex, and was first built in 1681. The architectural complex is of extraordinary value from a historical point of view, and is considered to be a highly significant example of religious architecture from the late Baroque period in Poland.
The sanctuary, which includes a church, a cloister and a monastery, is well preserved and the decorations, especially those inside the complex, have remained pretty well intact over the years.
In 2011, the external façades of the basilica (around 5,000 m^2) and certain parts of the walls of the cloisters were in need of restoration. The works, carried out using Mapei products, included substituting the render and consolidating the masonry where required. The first step was to apply MAPE-ANTIQUE RINZAFFO salt-resistant, transpirant scratch-coat mortar, based on lime and Eco-Pozzolan, used as first layer when applying dehumidifiying, transpirant and "structural" renders. The surfaces were then smoothed with MAPE-ANTIQUE FC CIVILE. The main façade of the basilica is characterised by its protruding half-columns, and the structures of the columns needed to be consolidated. Mapei Technical Services Department recommended the application of PLANITOP HDM natural hydraulic lime (NHL) and Eco-pozzolan-based mortar combined with MAPEGRID G 220 fibreglass mesh: a combination capable of reinforcing the facing walls. The surfaces were then skimmed with MAPE-ANTIQUE FC CIVILE.
The cloisters were renovated by applying two layers of MAPE-ANTIQUE STRUTTURALE NHL. Antique frescoes are still visible inside the cloisters, and to renovate these works of art of considerable historic and artistic value, MAPE-ANTIQUE F21 micro-injected consolidating fluid was used, while the cracks in the masonry were sealed with MAPE-ANTIQUE LC.

MAPEI PRODUCTS: MAPE-ANTIQUE F21, MAPE-ANTIQUE FC CIVILE, MAPE-ANTIQUE LC, MAPE-ANTIQUE RINZAFFO, MAPE-ANTIQUE STRUTTURALE NHL, MAPEGRID G220, PLANITOP HDM RESTAURO.

Folli Farmhouse

Robbiano di Mediglia - Italy

The farmhouse is an architectural structure for agricultural and domestic use typical of the Padana plain in the Lombardy region (Northern Italy), and was used as a home for farm-hands working for local land owners.
The farm has two courtyards and a mill driven by a water-wheel dating back to 1871. It was bought by Mario Folli in 1931 from the Marquis Casati Stampa. The farm is currently managed by his grandchildren Alberto and Mario Vigo and produces mainly cereal crops.
Because of the age of the buildings and their state of neglect, the roofs and renders of farm-houses are often in a poor state of repair while their masonry structure remains solid, and well planned renovation work can often give them a new lease of life. And this is the case of the renovation work carried out on this particular farmhouse, which maintained various parts of its architectural features original and intact.
After removing the portions of render beyond repair, the surfaces were washed down with low pressure water jets to eliminate any material that could prevent the render to be applied from bonding correctly. The remaining, sound render that was still bonded to the substrate and in good condition, was blasted with fine sand to remove the remaining fragments of non original finishes. In all the areas with capillary rising damp, macro-porous de-humidifying render was applied by first spreading on a 5 mm thick layer of MAPE-ANTIQUE RINZAFFO scratch coat mortar followed by a 25 mm thick layer of MAPE-ANTIQUE MC MACCHINA de-humidifying render. In the areas above that were not affected by rising damp, a layer of MAPE-ANTIQUE INTONACO NHL was applied.
Work on the façades was completed by applying a coat of SILANCOLOR TONACHINO coating in a colour similar to the original one.
Work is currently being completed on the mill and other structures of the farm.

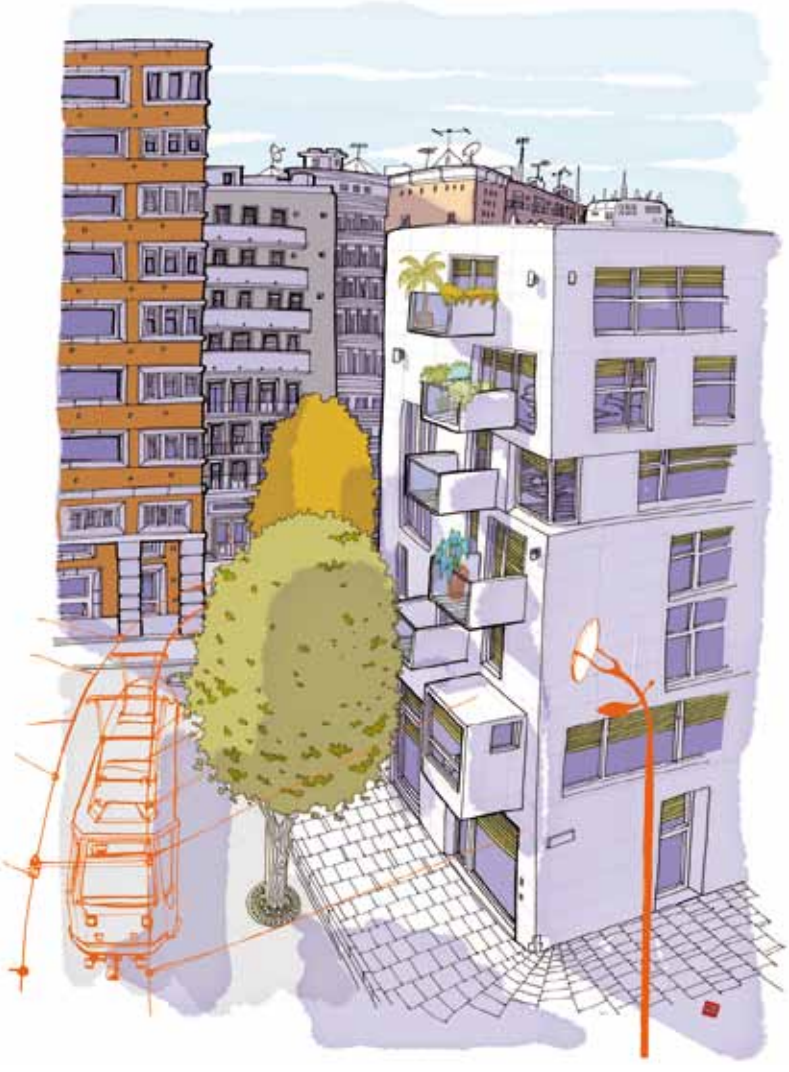
TECHNICAL DATA

Year of Construction: early 18th century

Period of the Mapei Intervention: 2012-today
Client: Folli farmhouse
Project and Works Direction: L'AB Landscape Architecture & Building, Umberto Andolfato
Contractor: Edil FAF di F.lli Fusari & C. s.n.c.
Mapei Co-ordinators: Davide Bandera, Matteo Venturini and Dario Casale, Mapei SpA (Italy)

MAPEI PRODUCTS: MAPE-ANTIQUE INTONACO NHL, MAPE-ANTIQUE RINZAFFO, SILANCOLOR TONACHINO.

PRODUCTS FOR THERMAL INSULATION



The Mapetherm thermal insulation system guarantees a reduction in energy consumption in both winter and summer, improves living comfort and eliminates interstitial condensation of water vapour in the walls of buildings. This system ensure energy efficiency since it, together with the products which compose it, conform to the strictest European standards.

San Francesco Apartaments

Caltanissetta - Italy

Construction of this residential complex included the use of Mapei products in various phases of the building works, from waterproofing products to finishing the walls and pillars, and the installation of ceramic tiles. The most notable impact from the products used and the finish obtained (an original wisteria colour for the façades of the building) is thanks to the thermal insulation system and the wall coatings applied: in fact this apartment complex represents the largest thermal insulation job (as for the involved surface) ever carried out in the city of Caltanissetta (Southern Italy).
The contractor decided to use MAPETHERM AR1 GG for its excellent quality/price ratio, an one-component large-grained cementitious mortar that was used to bond and level the insulating panels. Then, after applying a coat of SILANCOLOR BASE COAT coloured acrylic undercoat, SILANCOLOR TONACHINO with 1.2 mm granules was applied. This transpirant, water-repellent, thick-layered siloxane coating gave an attractive finish to the façade of the building, and guarantees excellent water repellence and good transpiration.
Other minor parts of the building (such as the walls and kerbs) were protected by applying ELASTOCOLOR PAINT, an elastomeric, crack-bridging, protective paint with high resistance to chemicals. Products from the Mapei building range were also widely used on this site: all the walls and pillars without thermal insulation were treated with several Mapei skimming products, such as PLANITOP 200, PLANITOP 530, PLANITOP 540 and PLANITOP FAST 330, while MAPELASTIC and MAPEBAND were used to waterproof the balconies. The products used to install the ceramic tiles inside and outside the building also proved to be important. The most technically challenging were the black lava tiles, which were installed on certain areas of the façade using ELASTORAPID adhesive combined with MAPESIL AC sealant (for expansion joints), MAPEFOAM extruded foam polyethylene cord and KERALASTIC polyurethane adhesive.

MAPEI PRODUCTS: ECO PRIM GRIP, ELASTOCOLOR PAINT, FUGOLASTIC, IDROSILEX PRONTO, IDROSTOP B25, KERABOND, KERALASTIC, KERAFLEX, KERAFLEX MAXI S1, KERACOLOR, MAPEGROUT 430, MAPELASTIC, MAPEBAND, MAPEFLEX AC-PRO, MAPEFILL, MAPEFER, MAPEFLEX PU 45, MAPEFIX VE SF, MAPEPLAST PT1, MAPESIL AC, MAPEFOAM, MAPETHERM AR1 GG, PLANITOP 200, PLANITOP 530, PLANITOP 540, PLANITOP FAST 330, PRIMER 3296, PRIMER G, QUARZOLITE BASE COAT, SILANCOLOR BASE COAT, SILANCOLOR TONACHINO, ULTRAPLAN

TECHNICAL DATA

Year of Construction: 2011

Period of the Mapei Intervention: 2011-2012
Client: San Francesco edilizia
Project: Michele Scarpulla
Works Direction: Michele Scarpulla and Dario Corvo
Technical Direction: Schembri
Site Direction: Arcangelo Scarantino
Contractor: Di Vincenzo SpA
Laying Company: BFT Sommatinese
Mapei Co-ordinators: : Achille Carcagnì, Ezio Vallone and Rocco Briglia, Mapei Spa (Italy)

Saint Ignacius of Loyola Spiritual Centre

Częstochowa - Poland

This Jesuit residence is located on the Jasna Góra hill, just a few minutes from the Black Madonna of Częstochowa Monastery. Constructed between 1934 and 1939, the building has had a tormented past: it was occupied by the German authorities during the Second World War, after which it was turned into a hospital. For more than 40 years during the Communist period, it was used as a shelter for homeless families. It was only in 1988 that the Jesuit Order took full possession of the building, and is today home for eight Jesuit priests and an important centre where visitors may find spiritual relief and pray.

Restoration work on the building commenced in 2008, and included the installation of MAPETHERM thermal insulation system on the façade.

First the substrates were prepared by removing all the old, damaged covering and washed with water. Once all the excess water had been eliminated, the surface was smoothed and treated with SILANCOLOR PRIMER, a transpirant, siloxane undercoat with a smooth finish. At this point, installation of the actual insulation system could be carried out.

12 cm thick polystyrene insulation panels were applied on the façades by bonding them with MAPETHERM DO STYROPIANU one-component cementitious adhesive (manufactured and distributed by Mapei Polska).

The insulated walls were then levelled off with a layer of mortar with MAPENET 150 alkali-resistant glass fibre mesh embedded in it. The mortar used in this case was MAPETHERM DO SIATKI, also manufactured by Mapei Polska.

Once the 7-day drying time had passed, the surfaces were finished off with SILANCOLOR BASE COAT, a water-repellent, coloured acrylic undercoat with a smooth finish and good filling properties, followed by SILANCOLOR TONACHINO, a water-repellent, siloxane coating product which is highly resistant to chemical aggression. The surface was then painted with SILANCOLOR PAINT.

MAPEI PRODUCTS: MAPENET 150, MAPETHERM DO SIATKI*, MAPETHERM DO STYROPIANU*, SILANCOLOR BASE COAT, SILANCOLOR PAINT, SILANCOLOR PRIMER, SILANCOLOR TONACHINO.
*NB. THESE PRODUCTS ARE MANUFACTURED AND DISTRIBUTED ON THE POLISH MARKET BY MAPEI POLSKA.

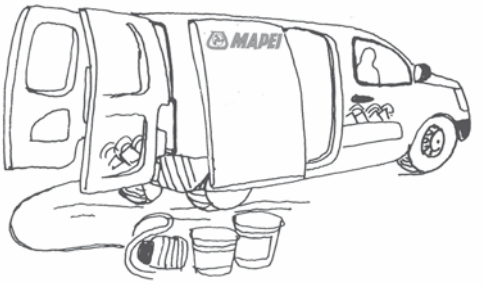
TECHNICAL DATA

Period of Construction: 1934-1936

Period of the Mapei Intervention: 2008-2012
Client: Zgromadzenie Zakonne Towarzystwa Jezusowego
Contractor: Polbud Tarnów
Works Direction: Edward Piątek
Mapei Co-ordinator: Eng. Jerzy Siwek, Mapei Polska (Poland)

Via Curiel Apartment Complex

San Donato Milanese - Italy



San Donato Milanese is an Italian town located to the south-west of Milan and, because there is a terminus for the city subway, which makes it easy to reach from the centre of Milan, it has always been an interesting area for real estate investments.
This newly-built apartment complex was constructed in an area where there were already other buildings covered with slabs of natural stone. The client and designers, therefore, did not wish to "interrupt" the uniformity of the area by using different material to decorate the outside, and chose to combine the installation of ceramic tiles on the façade with the performance of a conventional thermal insulation system.
This is why the Mapei Technical Services Department recommended MAPETHERM TILE SYSTEM, an innovative system for external façades that allows thin porcelain tiles to be applied over thermal insulated surfaces, and guarantee constant thermal insulation in compliance with current norms regarding the energy certification of buildings.
The complete system was applied in this apartment complex in San Donato to cover a total area of around 1300 m^2 of cementitious render, comprising MAPETHERM AR1 GG adhesive for bonding the insulating panels, MAPETHERM XPS insulating panels, PLANITOP HDM MAXI two-component, high-ductility, pozzolan-reaction fibre-reinforced mortar, MAPEGRID G120 glass fibre mesh for strengthening and MAPETHERM TILE FIX 15 expansion plugs. To bond the beige-coloured thin porcelain tiles supplied by Cotto d'Este (measuring 40x100 cm), ULTRALITE S2 adhesive was used. ULTRACOLOR PLUS grout was used to grout the joints while expansion joints were sealed with MAPESIL LM. Light colour tiles with a solar reflectance index of more than 20% were chosen in this case.

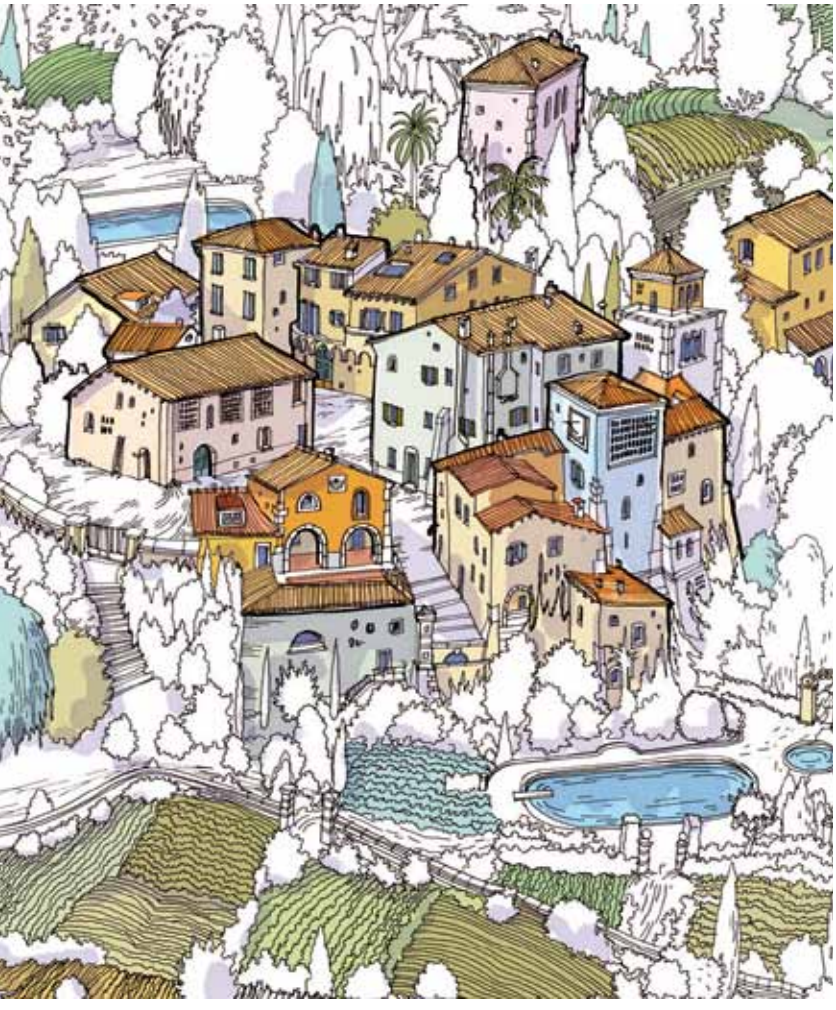
MAPEI PRODUCTS: MAPEGRID G120, MAPESIL LM, MAPETHERM AR1 GG, MAPETHERM TILE FIX 15, MAPETHERM XPS, PLANITOP HDM MAXI, ULTRACOLOR PLUS, ULTRALITE S2.

TECHNICAL DATA

Period of Construction: 2011-2012

Year of the Mapei Intervention: 2012
Client: Immobiliare Daco
Works Direction: Natale Legato
Contractor: Pelucchi Costruzioni, Sirone (Italy)
Laying Company: Colombo Giacomo Srl, Sirtori (Italy)
Laid Materials: porcelain tiles by Cotto d'Este
Mapei Co-ordinators: Emanuele Rodolico, Francesco Stronati, Andrea Bettini and Marco Cantachin, Mapei SpA (Italy)

WALL PROTECTIVE AND DECORATIVE COATINGS



Mapei has introduced a range of wall finishing products with the ColorMap® system for "colours without limits" which, apart from being the most emotionally-charged aspect of a building, gives added value to the building itself.
Mapei wall coatings offer excellent coverage, easy application, good filling properties, water-repellence, elasticity, resistance to UV rays, good transpiration and good cleanability.

Hotel Capri

Havana - Cuba

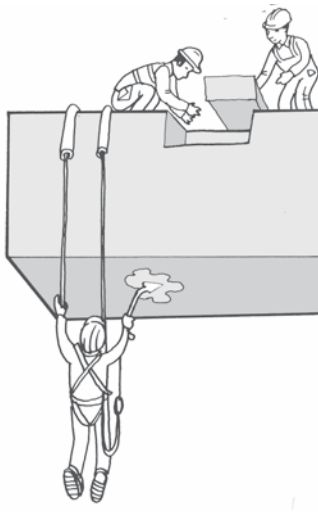
Opened in 1957, the Hotel Capri is in the historic Vedado district of Havana just a short walk from numerous bars and clubs. It has 219 rooms with magnificent sea and city views. In 2003, with the hotel in a seriously decaying state, it was closed down and completely renovated. The position of the hotel, on the side of a hill opposite the sea, had provoked serious damage to the concrete structure over the years, which was worsened even more by the neglect to the inside of the hotel. Work started by upgrading and reconstructing the concrete structure, and in this phase MAPEFER 1K, MAPEGROUT HI-FLOW, MAPEGROUT T60, EPORIP and PLANICRETE were used, along with the admixtures for concrete MAPEFLUID N100 and DYNAMON SX 32.

To install the ceramic tiles, ADESILEX P9 cementitious adhesive with no vertical slip was used and KERACOLOR FF cementitious mortar was used to grout the joints.

The façades were renovated using PLANICRETE and white PLANITOP 560, and then treated with MALECH acrylic undercoat followed by a coat of QUARZOLITE PAINT wall coating. MAPELASTIC SMART reinforced with MAPENET 150 glass fibre mesh was used for waterproofing.

In the service areas, the resin floors were installed over substrates made from ULTRATOP self-levelling ultra-quick hardening mortar. To make the floors, MAPEFLOOR I 500 W, a vapour-permeable, epoxy formulate and MAPEFLOOR FINISH 52 W two-component polyurethane finish mixed with MAPEFLOOR FILLER and MAPEFLOOR PASTE were used. SILEXCOLOR MARMORINO, SILEXCOLOR PAINT and DURSILITE washable water-based paint were used to decorate and protect the walls.

MAPEI PRODUCTS: ADESILEX P9, DURSILITE, DYNAMON SX 32, EPORIP, KERACOLOR FF, MALECH, MAPEFER 1K, MAPEFLOOR FILLER, MAPEFLOOR FINISH 52 W, MAPEFLOOR I 500 W, MAPEFLUID N100, MAPEGROUT HI-FLOW, MAPEGROUT T60, MAPELASTIC SMART, MAPENET 150, PLANICRETE, PLANITOP 560, PRIMER G, QUARZOLITE PAINT, SILEXCOLOR MARMORINO, ULTRATOP.



TECHNICAL DATA

Year of Construction: 1957

Period of the Mapei Intervention: 2010-today
Project: Sergio Fernandez Valdes (EPROB)
Client: Mintur
Works Direction: Constructora Caribe
Contractor: EPROB
Laying Company: Constructora Caribe
Mapei Co-ordinatori: Renato Soffi, Mapei SpA (Italy)

Niguarda Ca' Granda Hospital

Milan - Italy

Since 1939, the year in which the hospital first opened, this imposing structure in the Niguarda district of Milan has grown and has been extended. The volumetric layout has been modified and new wings have been added and the entire hospital complex has been constantly modified and improved. In 2012 it was the turn of the Pizzamiglio pavilion, a six storey building built in the 1930's. The stone-covered facades were dirty and damaged, while the render was completely carbonated but in good condition, except for the top floor that had been more exposed to the atmospheric conditions. Renovation work was carried out on the string courses and cornices. The substrates were repaired by applying MAPEFER 1K on the reinforcement rods and the areas where the concrete had been removed were repaired with MAPEGROUT BM. Once the layer of MAPELASTIC SMART waterproofing mortar had cured, a coat of ELASTOCOLOR PAINT protective coating was applied. After carefully cleaning the façades, the areas where the render had been removed were rebuilt with NIVOPLAN mixed with PLANICRETE, and the surface was treated with a layer of SILANCOLOR PRIMER and then coated with SILANCOLOR TONACHINO. The plaster façade on the upper floor has been completely removed and the substrate was hydro-cleaned. The same plaster reconstruction was performed with a single product, for rendering and subsequent plaster: FIBROmalta (manufactured by VAGA, a Mapei Group's subsidiary producing silica sands). A final layer of MAPETHERM AR1 GG mortar reinforced with MAPENET 150 glass fibre mesh was then applied, which was finished off with SILANCOLOR PRIMER followed by SILANCOLOR TONACHINO. On the stone-covered façades, the bonding of the single slabs to the substrate began by removing the broken ones, and the mould and mildew present on the slabs were treated with SILANCOLOR CLEANER PLUS cleaning product. The slabs that had to be replaced were bonded in place with GRANIRAPID and then, once the covering was dry, ANTIPLUVIOL W water-repellent impregnator was applied.

MAPEI PRODUCTS: ANTIPLUVIOL W, ELASTOCOLOR PAINT, FIBROmalta*, GRANIRAPID, MAPEFER 1K, MAPEGROUT BM, MAPELASTIC SMART, MAPENET 150, MAPETHERM AR1 GG, NIVOPLAN, PLANICRETE, SILANCOLOR CLEANER PLUS, SILANCOLOR PAINT, SILANCOLOR PRIMER.
*THE PRODUCT IS PRODUCED BY VAGA, A MAPEI GROUP'S SUBSIDIARY

TECHNICAL DATA

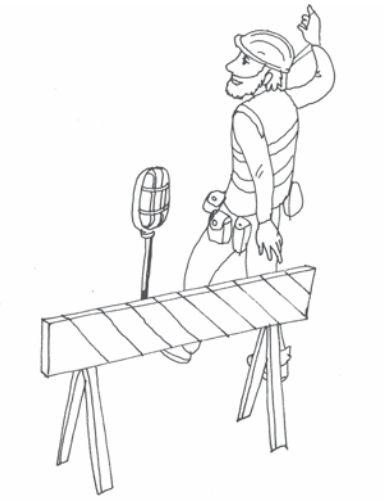
Period of Construction:
1932-1939

Period of the Mapei Intervention:
2011
Project: L. Lazzari (Sinensis SpA)
Client: Infrastrutture Lombarde
Works Direction: Carlo Maria Badi
Contractor: Nico Scarl
Laying Companies: Coesa (façades); Emmezeta (substrates)
Mapei Co-ordinators: Massimiliano Nicastro and Fabio Bergamaschi, Mapei SpA (Italy)

Stella Apartment Complex

Isola Verde, Chioggia - Italy

Isola Verde is a small, well-served tourist spot in the Chioggia district, between the mouths of the rivers Adige and Brenta.
Thanks to its constant flow of tourists, the owners decided to upgrade this apartment complex comprising two buildings and turn it partially into a residence for tourists.
The Mapei Technical Services Department was asked to carry out a survey of the building site to assess the condition of the external renders and the reinforced concrete structure.
After analysing the existing render and taking all the samples and measurements required, the first step was to partially demolish the areas of render and concrete that had been damaged or had become detached. The surfaces were then cleaned using high pressure water jets to prepare them for the next phase.
All the damaged reinforcement rods were protected by applying a coat of MAPEFER 1K one-component, anti-corrosion, cementitious mortar and the areas where the concrete had been demolished were repaired with MAPEGROUT BM. To levelling the surfaces before applying the finishing products, a coat of MAPETHERM AR1 GG cementitious mortar reinforced with MAPENET 150 glass fibre mesh was applied.
Once the substrate was cured and dry, MALECH acrylic resin undercoat in water dispersion and SILANCOLOR PRIMER transpirant siloxane undercoat were applied.
For the base coat, coloured acrylic QUARZOLITE BASE COAT and the coloured acrylic undercoat SILANCOLOR BASE COAT were used.
The Mapei Technical Services Department recommended two products for the final coating: QUARZOLITE TONACHINO high-protection, thick-layered acrylic coating and SILANCOLOR AC TONACHINO, a water-repellent, thick-layered acrylic-siloxane coating.
Work was completed by applying a painting cycle comprising ELASTOCOLOR PAINT, QUARZOLITE PAINT and SILANCOLOR AC PAINT.

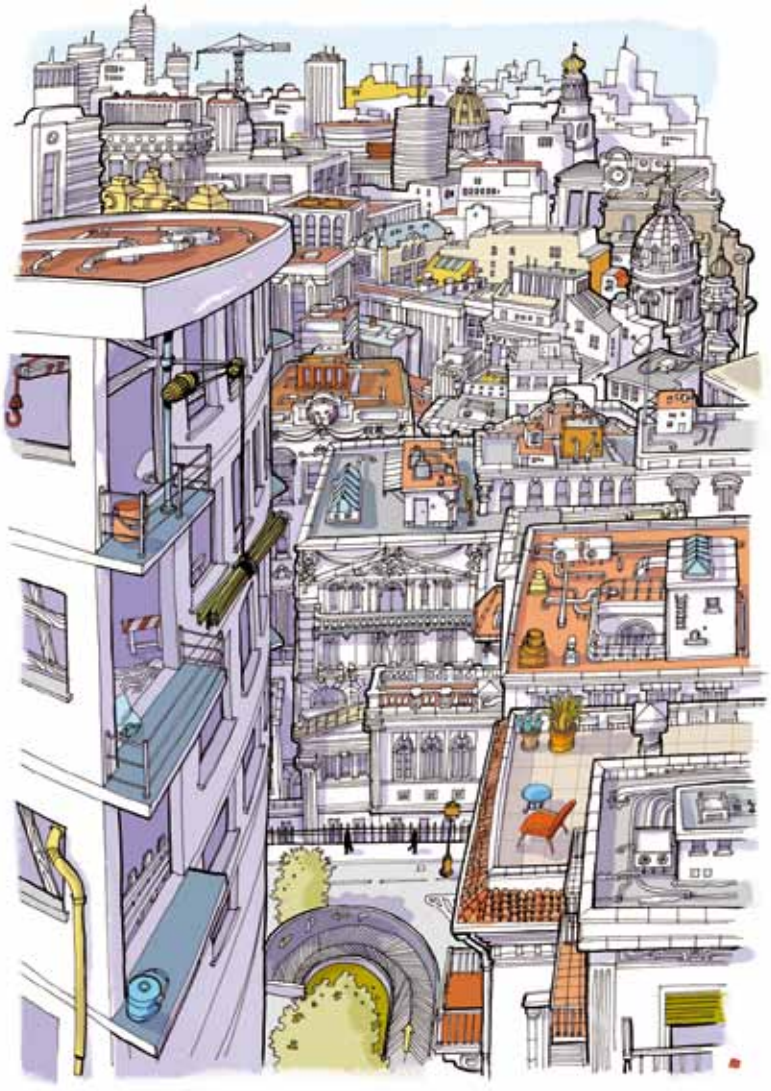


TECHNICAL DATA

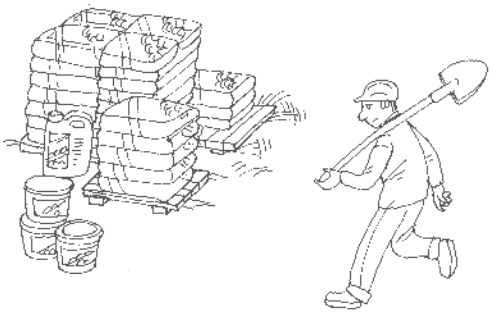
Period of the Mapei Intervention:
2011-2012
Contractors: Caon F.lli di Caon Elio & C. Snc
Mapei Co-ordinators: SIGE, Cristiano Bordignon, Mapei SpA (Italy)

MAPEI PRODUCTS: ELASTOCOLOR PAINT, MALECH, MAPEFER 1K, MAPEGROUT BM, MAPENET 150, MAPETHERM AR1 GG, QUARZOLITE BASE COAT, QUARZOLITE PAINT, QUARZOLITE TONACHINO, SILANCOLOR AC PAINT, SILANCOLOR AC TONACHINO, SILANCOLOR BASE COAT, SILANCOLOR PRIMER.

PRODUCTS FOR WATERPROOFING



Mapei offers a wide range of specific, safe and durable waterproofing solutions from foundations to roof tops. The leading product for waterproofing above ground is MAPELASTIC, the highly-renowned, two-component, elastic, cementitious waterproofing mortar. For waterproofing structures below ground level, the Company offers the MAPEPROOF bentonite waterproofing sheets. For large civil works, there are the MAPEPLAN synthetic membranes made from thermoplastic polymers.



Hotel Complexes

Varadero - Cuba

Varadero is a popular tourist location in the province of Matanzas in Cuba and has one of the largest, most beautiful beaches in the Caribbean, known also as Playa Azul, or the “blue beach”. The Varadero peninsula is long and narrow and is just 1.2 km wide, yet has 22 km of white sandy beaches that slope gently down towards the sea. It is separated from Cuba by the Kawama canal.

Numerous tourist villages and complexes have sprung up along the beaches and their number is growing rapidly. In fact today, there are numerous investment projects in the area that aim at making it the most important tourist spot in the whole of Cuba, with clients from the upper end of the market staying in the local four and five-star hotels.

And since 1999 up until 2012, Mapei has been involved in the construction of seventeen hotels on the Varadero peninsula, and has supplied numerous products for waterproofing, preparing substrates, installing ceramic wall and floor coverings, grouting joints, finishing off surfaces and for renovating masonry work.

Further proof of the breadth and versatility of the products offered by Mapei, with the ability to solve any problem encountered on building sites anywhere in the world.

TECHNICAL DATA

Period of the Mapei Intervention: 1999-2012
Works Direction: AEI Arcos-Bouygues/ Micons
Contractors: Micons and other companies
Mapei Distributor: Arca ’99 srl
Mapei Coordinators: Renato Soffi (Mapei SpA, Italy) and Pedro Graniela (Arca ’99, Cuba)

Swimming Pool at Hotel St. Mauritius

Forte dei Marmi - Italy

The Hotel St. Mauritius stands in a thick Mediterranean pinewood in Forte dei Marmi (Italy) and is one of the historic hotel structures in this renowned Tuscany holiday spot.
The hotel swimming-pool had various problems (water seepage, detached mosaic and cracks in the concrete), and was completely renovated in 2011.
After removing the render on the side walls down to the level of the concrete, the metal spacers down to a depth of 2 cm were removed and the holes were repaired with ADESILEX PG1, which was then dusted with sand while still fresh.
After a dovetail demolition of section 7-8 cm deep around the perimeter at the corner between the floor slab and the side walls, MAPEPROOF SWELL was extruded along the cold joint and the damaged concrete was repaired using MAPEGROUT 430.
The cracks in the substrate of the floor were sealed with EPORIP and the surface was then sprinkled with sand while still fresh.
A bonded sloping screed was built using TOPCEM PRONTO after brush-applying a coat of EPORIP using the fresh on fresh technique. The side walls and screed were smoothed by applying PLANITOP FAST 330 directly on the concrete and strips of MAPEBAND were bonded around the perimeter using ADESILEX PG4. Two coats of MAPELASTIC were spread on all the surfaces to waterproof them, with MAPENET 150 glass fibre mesh embedded between the first and second layer. The mosaic was installed using ADESILEX P10 adhesive mixed with ISOLASTIC diluted with water.
The joints of the high quality mosaic tiles were made even more attractive by grouting them with KERAPOXY DESIGN. The expansion joints were then sealed with MAPESIL AC.

MAPEI PRODUCTS: ADESILEX PG1, ADESILEX PG4, ADESILEX P10, EPORIP, ISOLASTIC, KERAPOXY DESIGN, MAPEBAND, MAPEGROUT 430, MAPELASTIC, MAPENET 150, MAPEPROOF SWELL, MAPESIL AC, PLANITOP FAST 330, TOPCEM PRONTO.

TECHNICAL DATA

Year of Construction: 1971

Year of the Mapei Intervention: 2012
Client: Hotel St. Mauritius, Forte dei Marmi (Province of Lucca, Italy)
Works Direction: Leonardo Morelli
Contractor: VRM Costruzioni di Vecoli Raffaelli e Morelli S.N.C, Lucca
Laying Company: VRM Costruzioni di Vecoli Raffaelli e Morelli S.N.C,
Laid Materials: mosaics by Bisazza
Mapei Co-ordinators: Valerio Verdigi and Massimo Lombardi, Mapei SpA (Italy)

Toccacielo Hotel

Marina di Nova Siri - Italy

The Toccacielo tourist village in the Province of Matera (Southern Italy) has a hotel and five small multi-property residential buildings. The idea behind the architectural style of the village was to integrate the village into the surrounding landscape. Construction work on the complex started in 2008 and was completed in 2011. Numerous Mapei products played an important role on this building site, and were used to waterproof surfaces in different areas, to install internal and external porcelain tile floor and wall coverings, to install ceramic coverings in the swimming pool, and to provide the external surfaces with a protective, water-repellent coating. The swimming pool's vertical surfaces and screeds were smoothed with PLANITOP FAST 330 in its grey shade. The MAPEBAND strips were then bonded around the perimeter of the swimming pool with MAPELASTIC FOUNDATION. MAPELASTIC FOUNDATION was also used to waterproof the internal surfaces of the swimming pool, while the walking paths around the pool were waterproofed by applying two layers of MAPELASTIC reinforced with MAPENET 150 glass fibre mesh. MAPELASTIC was also used for waterproofing balconies and terraces in this complex. The clinker covering installed in the swimming pool was bonded with ELASTORAPID adhesive in its white shade, while tile joints were grouted with ULTRACOLOR PLUS.
KERAFLEX in its grey shade was the adhesive chosen to install the internal and external porcelain tile covering. TIXOBOND WHITE was used for bonding the ceramic wall tiles in the bathrooms and kitchens. Tile joints in both wall and floor coverings were grouted with KERACOLOR FF.
"Carparo" limestone slabs were installed on the external façades using KERAFLEX MAXI S1 adhesive in its white shade, followed by a coat of water-repellent ANTIPLUVIOL W.

MAPEI PRODUCTS: ANTIPLUVIOL W, ELASTORAPID BIANCO, KERAFLEX, KERAFLEX MAXI S1, KERACOLOR FF, MAPEBAND, MAPELASTIC, MAPELASTIC FOUNDATION, MAPENET 150, PLANITOP FAST 330, TIXOBOND WHITE.

TECHNICAL DATA

Year of Construction: 2011

Period of the Mapei Intervention: 2008-2011
Client: Toccacielo Srl
Project and Works Direction: Sergio Stigliano
Contractor: Bollita Costruzioni Società Cooperativa, Nova Siri (Italy)
Laying Company: Bollita Costruzioni Srl
Mapei Coordinator: Giuseppe La Neve, Mapei SpA (Italy)

Nagarathar Sivan Temple

Georgetown, Penang - Malaysia

The island of Penang, off the north-west coast of the Malaysian peninsula, was a British colony from 1786 to 1957. Known as the "Pearl of the Orient", the island is a renowned tourist destination, famous for its beautiful beaches, resort hotels, traditional local cuisine and diverse, cultural heritage.
Indians form one of the main ethnic groups, most of them followers of the Hindu religion.
Many of the Hindu temples on the island were founded by the Nattukottai Chettiar, the first Indian settlers in Malaysia, who were mainly merchants and financiers of local commerce and industry. One of these temples is the Nagarathar Sivan, constructed more than 150 years ago. The three roofs of the temple were starting to leak through cracks which had formed following the previous restoration works about 10 years back. The Temple trustees decided to carry out waterproofing works to solve the problem and selected the Mapei proposal because it offered very fast installation with minimal labour, as well as resistance to UV rays and durability in the tropical climatic conditions typical of the area.
The proposed Mapei system comprised the application of PRIMER SN after the surfaces had been thoroughly cleaned, sprinkling quartz sand on the surface of the primer to enhance mechanical strengths, and then spraying the surfaces with a coat of PURTOP 400 M hybrid polyurethane waterproofing membrane. The cycle was completed by applying a coat of MAPEFLOOR FINISH 55 two-component polyurethane finish which is highly resistant to UV rays and wear, and sealing the expansion joints with MAPEFLEX PU 45 polyurethane sealant.

MAPEI PRODUCTS: MAPEFLEX PU 45, MAPEFLOOR FINISH 55, PRIMER SN, PURTOP 400 M.

TECHNICAL DATA

Period of Construction:
late 19th century

Period of the Mapei Intervention:
March 2012
Client: Registered Trustees Nattukottai Chettiar Temples
Contractors: Adept Technical Services Sdn Bhd, Living Factory Sdn Bhd
Mapei Co-ordinator: Lim Kean Meng, Mapei Malaysia Sdn Bhd (Malaysia)

Duca degli Abruzzi Public House Complex

Bari - Italy

Architectural renovation work, repairs to the masonry structure, static upgrading of certain areas of the structures and waterproofing interventions involving the Duca degli Abruzzi house complex owned by the I.A.C.P. (Istituto Autonomo Case Popolari) Council for public housing are just a part of the overall urban redevelopment programme promoted by the Bari City Council. The work, both demanding and complex, also included the collaboration between the project designers and the Mapei Technical Services experts. To waterproof the roofs, the solution proposed was the PURTOP 600 cycle, a completely new concept in waterproofing membranes developed in the Mapei R&D laboratories.

The terraces had two types of substrate, in terrazzo tile and with a bitumen sheath, for a total area of around 6200 m^2. In the first case, after the old terrazzo substrate was prepared with a sanding machine and then cleaning it, a coat of PRIMER SN two-component, solvent-free, epoxy primer was applied. While the primer was still fresh, the surface was sprinkled with QUARTZ 0.25, and after removing all traces of dust from the surface, PURTOP 600 membrane was applied by spray. Thanks to its excellent flexibility, resistance to chemicals and its capacity to bond to a wide range of substrates, PURTOP 600 is suitable for use in a wide variety of fields, such as horizontal, sloping and curved surfaces not subject to traffic on civil and insutrial buildings, as well as for waterproofing covering roofs such as those subjected to pedestrian use. The last step was to apply MAPEPLOOR FINISH 55 polyurethane finish. The surfaces coated with the bituminous sheath were carefully cleaned to remove all traces of oil, grease, dirt and any other type of material that could compromise the adhesion of PRIMER BI. At this point, PURTOP 600 was applied by spray using high-pressure bi-mixer type pump. As with the terrazzo balconies, the last step was to apply MAPEFLOOR FINISH 55.

MAPEI PRODUCTS: MAPEFLOOR FINISH 55, PRIMER BI, PRIMER SN, PURTOP 600, QUARTZ 0.25.

TECHNICAL DATA

Period of Construction: 1910-1920
Project: Mauro Amoruso and Michele De Vincentiis

Year of the Mapei Intervention: 2011
Project: Francesca Arena, Maddalena Ciliberti and Gennaro Namoini
Client: I.A.C.P. (Istituto Autonomo Case Popolari) Council for Public Housing, Bari
Works Direction: Francesca Arena, Maddalena Ciliberti, Gennaro Namoini
Contractor: Cooperativa Archeologia
Laying Company: Tecno PRO.VE.R.
Mapei Co-ordinators: Michelangelo Sorrenti and Arianna Coltella, Mapei SpA (Italy)

Marynarska 12 Complex

Warsaw - Poland

To meet the increasing demand for office space in the Polish capital, commercial and business complexes have been springing up everywhere. One of these is the Marynarska 12 complex, located in the Służewiec business district. The complex covers an area of 40,000 m^2 and is scheduled to be completed in mid-2013. It will consist of 8 floors of commercial and service areas above street level and further 3 floors below street level. It will also have a large car park and a green patio. To waterproof all the areas below street level, 5x45 m rolls of MAPEPROOF PL bentonite sheets (a product manufactured and distributed in Poland by Mapei Polska) were used, along with 5x40 m and 5x45 m rolls of MAPEPROOF LW bentonite waterproofing sheets. Because of their different bentonite content, MAPEPROOF LW was used for the areas lower down, while MAPEPROOF PL was used in the areas closer to the surface. Together, these products have created a waterproof barrier over an area of more than 16000 m^2.

The bentonite sheets comprise two layers of geo-textile fabric, needle-punched together to form a sandwich around a uniform layer of natural sodium bentonite. Once they had been delivered on the building site, they were laid by staggering the joints and overlapping the edges by 10 cm, and then fastened in place with nails and MAPEPROOF CD washers approximately every 50 cm. Reinforced concrete was then poured on. In order to help work progress more quickly, it was carried out by working in parallel on separate phases of the job. While excavation work was carried out in one area of the site, the MAPEPROOF waterproof sheets were laid in a second area, while in a third area the walls were being built.

MAPEI PRODUCTS: MAPEPROOF CD, MAPEPROOF LW, MAPEPROOF PL*.
*NB. THIS PRODUCT IS MANUFACTURED AND DISTRIBUTED IN POLAND BY MAPEI POLSKA.

TECHNICAL DATA

Period of Construction: 2011-mid 2013

Year of the Mapei Intervention: 2012
Client: Ghelamco Polska Sp. Z o.o.
Laying Company for Waterproofing Materials: Imbudizol
Works Direction: Zbigniew Marszałek, Imbudizol
Mapei Co-ordinator: Mikolaj Alexandrowicz, Mapei Polska (Poland)

Septe Castle Hotel

Mozzagrogna - Italy

The Septe Castle is one of the most beautiful medieval castles in central Italy. After restoration work lasting several years, the castle has been turned into a hotel and has been declared a national Monument by the Italian Ministry for Cultural Affairs.
Mapei's Technical Services Department was contacted by the contractor to act as consultants for the waterproofing work on the terrace, accessible from various suites in the hotel. Repair work on the waterproofing layer started by demolishing the flooring and existing screed. The new screed was isolated from the substrate, and MAPEBAND alkali-resistant rubber tape with felt was bonded in certain specific areas.
Any cracks present in the screed were sealed by filling them with EPORIP. The frontal drains were bonded to the substrate by back-buttering with ADESILEX PG4. The surface was then sprinkled over with quartz sand to improve the adhesion of MAPELASTIC. The drains at floor level were made using the special DRAIN VERTICAL kit, comprised of a polypropylene drain-pipe, a polypropylene drain, a telescopic extension pipe, a plug and a steel grate. The metal waterspout passing through the floor slab was sealed with MAPEPROOF SWELL and finished off with a small fillet under the lip in ADESILEX PG4. All the corners between the vertical and horizontal surfaces and the control joints were waterproofed with MAPEBAND. At this point, work continued on waterproofing the horizontal surfaces by embedding MAPENET 150 alkali-resistant glass fibre mesh between two layers of MAPELASTIC.
To finish off the intervention, ceramic tiles were installed with KERAFLEX MAXI S1 improved cementitious adhesive, which considerably reduces the amount of dust given off when mixing the product. The tile joints were grouted with KERACOLOR GG, while the control joints and the joint between the floors and skirting were sealed with MAPESIL AC.

MAPEI PRODUCTS: ADESILEX PG4, DRAIN VERTICAL, EPORIP, KERACOLOR GG, KERAFLEX MAXI S1, MAPEBAND, MAPELASTIC, MAPENET 150, MAPESIL AC.

TECHNICAL DATA

Period of Construction:
9th-10th century
Year of the Mapei Intervention: 2012
Project: Ennio di Prinzio
Client: Hotel Castello di Septe
Laying Company: Trozzi Maurizio
Mapei Coordinator: Alessandro Barnabè, Mapei SpA (Italy)

Residential and Business Complex

Varaždin - Croatia

A newly-constructed complex comprising 55 apartments and 5 offices is the first ever A energy class consumption building in the city of Varaždin, in Croatia. In order to obtain this level of certification, the client and designers decided to cover the roof with insulating panels and contacted Mapei Technical Services Department, who proposed applying the MAPEPLAN system produced by Polyglass, a Mapei Group's subsidiary specialised in the production of waterproofing membranes. MAPEPLAN is a new range of synthetic waterproofing membranes and, thanks to the use of exclusive multi-extrusion coating technology, the company is able to produce PVC-P and TPO/FPO high-performance membranes with excellent durability. MAPEPLAN is also available in the version Smart White, which has a top layer made with a special white colour and guarantees excellent solar reflectance. This type of covering reduces the roof surface temperature by 50% and, as a result, this helps the temperature inside the building to stay constant.
In this particular case, Mapei recommended the use of MAPEPLAN T M, a synthetic waterproofing membrane in flexible polyolefin TPO/FPO reinforced with polyester net, made from high quality raw materials and produced using the multi-extrusion coating process. MAPEPLAN T M remains flexible at low temperatures, it is resistant to UV rays and weathering, permeable to vapour and has excellent resistance to fire. The walls and floors in the bathrooms and balconies were also waterproofed with Mapei products. MAPELASTIC two-component, flexible, cementitious waterproofing mortar was used on the balconies with MAPENET 150 alkali-resistant glass fibre mesh embedded between each layer, while the bathrooms' walls and floors were waterproofed with MAPELASTIC and MAPEBAND tape.

MAPEI PRODUCTS: MAPEBAND, MAPELASTIC, MAPENET 150, MAPEPLAN T M.

TECHNICAL DATA

Period of Construction: 2010-2012

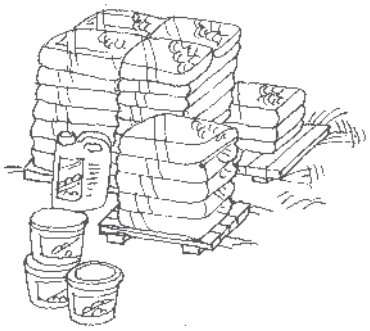
Period of the Mapei Intervention: 2010-2012
Client: Marlex Invest d.o.o.
Project: Nives Gorski
Works Director/Project Manager: Dario Horvatić
Contractor: Marlex Invest d.o.o.
Company in Charge of Waterproofing Works: Tectum d.o.o.
Mapei Co-ordinators: Marco Pagliani, Mapei SpA (Italy); Kresimir Dobranic, Mapei Croatia d.o.o. (Croatia)

Zalando Logistics Hub

Erfurt-Vieselbach - Germany

Zalando, an on-line distribution company for numerous brands of footwear and clothing, was formed in Germany by two young business entrepreneurs, Robert Gentz and David Schneider. Today, it is the leading company in many European countries and offers thousands of models through its simple, user-friendly site and its exceptional logistics system.
This system includes an enormous, new logistics hub in Erfurt-Vieselbach, in central Germany, with warehouses and office space covering an area of 100,000 m^2. The structure is used mainly to supply their clients in seven different European countries.
Mapei also played their part in the creation of this highly-efficient hub by supplying the waterproofing membranes applied on 100,000 m^2 of roofing.
1.5 mm thick MAPEPLAN M 15 high quality PVC membranes were used for the roofs. These membranes, supplied in 1.6 m wide sheets, are characterised by their excellent mechanical properties and high resistance to atmospheric agents (such as UV rays) and ageing.

MAPEI PRODUCT: MAPEPLAN M 15.



TECHNICAL DATA

Period of Construction: 2011-2012
Project: Max Bögl GmbH

Periods of the Mapei Intervention: March-June 2012; September-December 2012
Client: Goodmann Rheinberg Logistics, Luxembourg
Contractor: Max Bögl Bauservice GmbH & Co. KG
Laying Companies for Waterproofing Membranes: Gebrüder Hetland GmbH (Bad Salzuflen, Germany); Jansen Bedachungen GmbH (Erfurt, Germany)
Mapei Co-ordinator: Heiko Peist, Mapei GmbH (Germany)

ADMIXTURES FOR CONCRETE

A complete series of products to help tackle the technological challenges of the concrete of today and of the future. The line includes hyper-plasticisers, super-plasticisers, air-entraining agents, accelerators, retardants, anti-evaporating agents and form release agents, developed with the aim of increasing the impermeability, durability, strength and maintenance of workability of concrete.

TECHNICAL DATA

Year of Construction: 2012

Year of the Mapei Intervention: 2012
Project: Arup Italia
Works Direction: Stefano Perotti, Claudio Guido
Main Contractors: S.G.F. – I.N.C. SpA (Milan, Italy); Impresa Bacchi (Milan)
Building Companies: IA; DL; DOKA (for formworks)
Concrete Supplier: Monvil Beton (Cusano Milanino, Italy)
Mapei Co-ordinators: Pietro Lattarulo and Gianluca Bianchin, Mapei SpA (Italy)

Isozaki Tower

Milan - Italy

Once completed, the new tower designed by the architects Arata Isozaki and Andrea Maffei in the new CityLife district in Milan (Italy), will be over 200 m tall. The tower is designed to accommodate up to 3,800 people over a total floor space of 53,000 m^2. There will be 50 floors in the tower, 46 of which are for management and business use. The design of the tower comprises a reinforced concrete structure with steel-concrete modules reaching a total height of 223 m from the level of the foundations. The foundations are made of a foundation slab on piles. The foundation slab is rectangular and measures 63.1 by 27 m. It varies in thickness from 2.5 m to 3.5 m and, because of the mixed nature of the foundations, sits on both the underlying ground and on 62 drilled piles. This type of foundations was chosen mainly because of the mechanical characteristics of the ground. The foundation slab was cast in two steps, the first to a thickness of 2.5 m and the second for the remaining metre of thickness. Special care was required to design the mix used for the slab. The final concrete mix was obtained by using class 32.5 CEM III/A blast-furnace cement, aggregates from a quarry owned by the manufacturer of the concrete and limestone fillers containing MAPEPLAST PZ 300 powdered mineral additive with pozzolanic activity. The superplasticizer DYNAMON SR 914 was used in combination with VISCOSTAR 3K viscosity modifying admixture, to form a C32/40 LH XC2-XC4 SCC concrete with high self-compacting properties and controlled development of heat hydration.
The tests were carried out on site on concrete cubes protected with insulating panels. They were monitored using thermocouples, which demonstrated that the thermal characteristics of the mix complied with the specifications. The tests included the values of its tensile and flexural strength, as well as the hydraulic shrinkage of the mix.

MAPEI PRODUCTSI: MAPEPLAST PZ 300, DYNAMON SR 914, VISCOSTAR 3K.
For further information see the dedicated article on the *Realtà Mapei International* n. 42.

S.F.I.R. Sugar Refinery

Brindisi - Italy

The main activity of this plant is to refine raw cane sugar that arrives by ship at the port of the city. The storage plant for the refined sugar has a 41 m concrete tower and four 31 m storage silos, each with an internal diameter of 13 m. The silos are made from concrete cast into a movable formwork system. With this technique, the steel reinforcement can be laid and the concrete can be cast at the same time as the formwork is gradually installed upwards. The method consists in creating 1.2 m high formwork with the same shape as the walls to be built at the base of the construction.

The concrete is then cast into the formwork in layers between 10 to 30 cm thick and then the formwork is gradually moving up according to how quickly the concrete hardens, at a velocity of approximately 20 cm per hour, or around 3 to 5 m per day.

The super-plasticising retardant admixture MAPEFLUID R104 was used in the water-cement mix.

Mapei products were also used to make the reinforced concrete foundation slab for the heat recovery boiler and the internal concrete floors, with an average thickness of 25 cm.

DYNAMON FLOOR 1, an acrylic-based super-plasticising admixture developed specifically for concrete floors, was added to the mix.

The plant is equipped with a circular reinforced concrete collection and water treatment basin for the water from the production process and from the rainwater collection plant. DYNAMON BT2 admixture was added to the concrete mix used to construct the basin.

Some areas of the surface of the structure had to be levelled over with MONOFINISH mortar. It was then treated with MALECH primer and finished with ELASTOCOLOR PAINT to obtain a uniform colour.

MAPEI PRODUCTS: DYNAMON BT2, DYNAMON FLOOR 1, ELASTOCOLOR PAINT, MALECH, MAPEFLUID R104, MONOFINISH.

TECHNICAL DATA

Period of Construction:
2008-2011

Period of the Mapei Intervention:
2008-2011
Project: arch. Giovanni Gavelli
Client: S.F.I.R. Raffineria di Brindisi SpA
Works Direction: Angelo Rizziello
Contractors: Brindisi Costruisce Scarl; Cogit
Mapei Co-ordinator: Danilo De Matteis, Mapei SpA (Italy)

Xiluodu Hydro-electric Power Station

Zhaotong, Yunnan – People's Republic of China

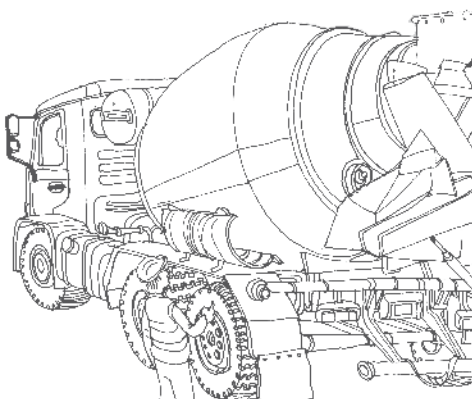
The Xiluodu Hydro-electric Power Station lies on the banks of the Jinsha River in the Yunnan region, south-west China. With an annual production rate of 13.8 million kilowatts of energy, once work has been completed in December 2013, it will be the second-largest dam in the world, second only to the famous Three Gorges Dam. The project required an investment of around 8.5 billion Euros, and includes the use of around 6.5 million m^3 of concrete to construct a 278 m tall dam. It will have five flood discharging tunnels with maximum flood resistance of 60m/s and flood discharging power of 98 million kW, and two underground power generation plants, each one with 9 French turbine generators with a capacity of 770,000 kW each. To install the underground plants, complex construction systems and the use of admixtures to make high quality concrete in compliance with both national standards and the project design specifications were required. The design specifications for the concrete were particularly severe, especially regarding the water reduction, the slump retention, the mechanical strength, the maintenance of workability, and its compatibility with the other materials used on site. The admixture DYNAMON X404, which had already been successfully used for the concrete used in the construction of the Three Gorges Dam (at the time distributed under the name MAPEFLUID X404; see issue n. 20 of *Realtà Mapei International*), was chosen because it had proven to meet these requirements. A team of Mapei technical experts offered their support to the construction company when the material was analysed and during on-site trials. The team modified the components and properties of the admixture slightly to reduce the air loss and the formation of bubbles. This resulted in an improvement in the durability and final mechanical strength of the mix and a reduction in the risk of concrete cracking due to thermal stress.

MAPEI PRODUCT: DYNAMON X404.

TECHNICAL DATA

Period of Construction: 2008-2013

Period of the Mapei Intervention: June 2009-August 2012
Project: Hydrochina Chengdu Engineering Corporation
Client: China Three Gorges Corporation
Contractors: Balance of Gold Construction Materials (Chengdu) Co. Ltd; for the concrete: Chinese People's Armed Police Hydropower Troops
Works Management: Zhang Jiye
Mapei Distributor: Balance of Gold Constuction Materials (Chengdu) Co. Ltd
Mapei Coordinator: Jerry Zhou, Mapei Construction Materials (Shanghai) Co. Ltd. (People's Republic of China)



Panama Canal

Panama

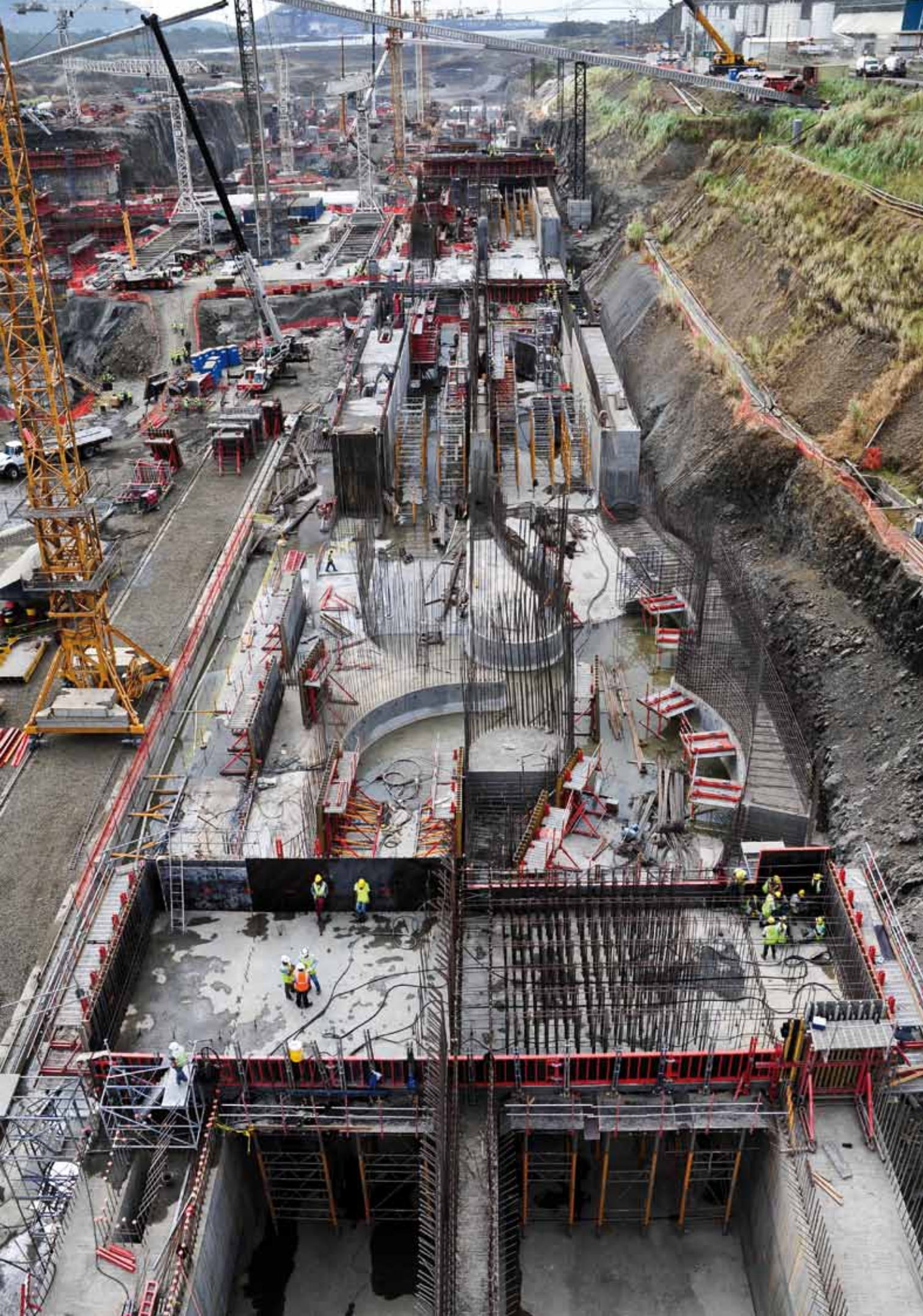
Today, the Panama Canal is an artificial channel that crosses the Panama isthmus for an overall length of 81.1 km, joining the Atlantic and Pacific Oceans. The Panama Canal expansion includes the construction of two new sets of locks (one on the Atlantic side and one on the Pacific side) to increase the flow of commercial traffic. Work commenced in 2007 with the objective of doubling the capacity of the most important waterway in the world, exactly 100 years after the first crossing in 1914. The project also includes restructuring work on the original canal. Mapei offered a contribution for renovation and consolidation work for the Gatún Lock. This project used a special type of concrete and Mapei has supplied admixtures to make it: the inorganic powder PLANITOP 15 and the liquid admixture MAPECURE SRA. As for the two new enormous reinforced concrete locks, one on the Atlantic coast and the other on the Pacific coast, work includes excavating and dredging the canal access on both sides for a total length of 11,2 km and a total width of 218 m. Mapei admixtures were selected to build all concrete structures including mass concrete as well as marine concrete, to be used to make the external sides and internal sides of the concrete locks, respectively. The latest generation in Mapei admixture technology will be used to make 5,500,000 m^3 of concrete designed specifically for this structure. After numerous checks, the admixture DYNAMON XP2 was judged to be the only solution suitable for use on both the Atlantic and the Pacific sides. In early 2011, after starting production of the concrete and aggregates, several serious problems concerning mechanical strength and durability were solved thanks to the contribution of Mapei. Following a request from the client, Mapei developed a new product which could work well with the new mix designs: DYNAMON XP2 EVOLUTION 1, featuring better maintenance of workability and application properties.

MAPEI PRODUCTS: DYNAMON XP2, DYNAMON XP2 EVOLUTION 1 (THE LATTER WAS SPECIALLY DEVELOPED BY MAPEI FOR THIS PROJECT) MAPECURE SRA, PLANITOP 15.
For further information on this project, see the dedicated article on the *Realtà Mapei International* n. 40.

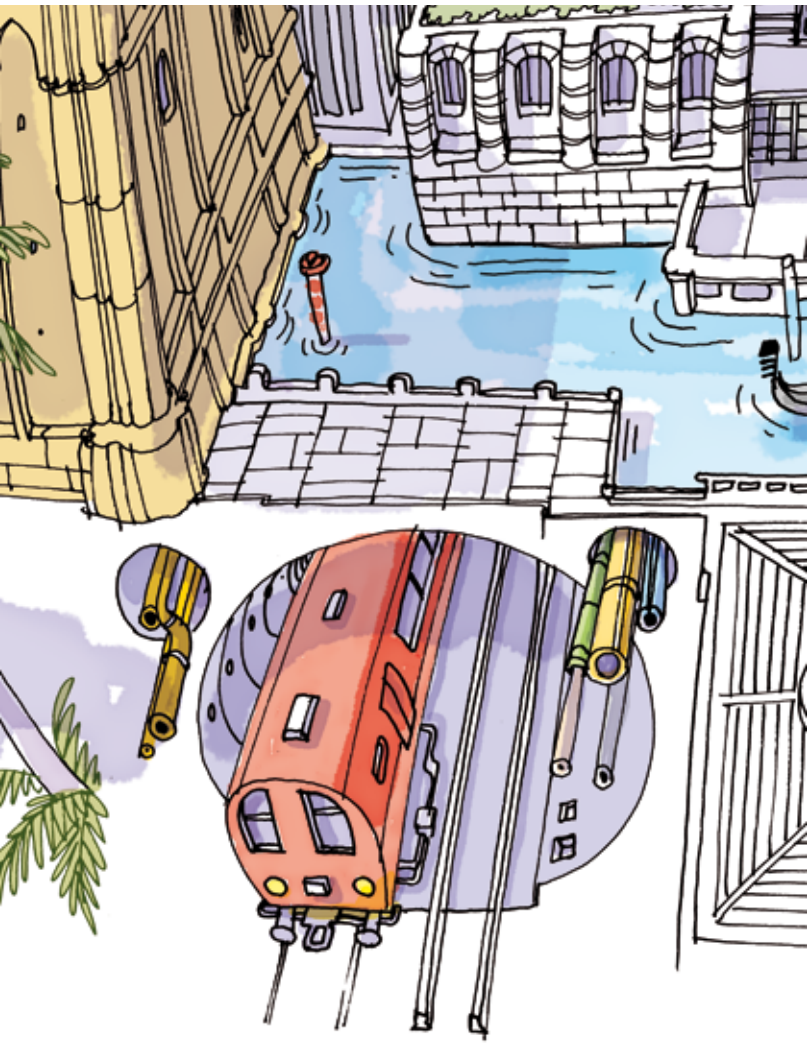
TECHNICAL DATA

Period of Construction: 1910-1914

Period of the Mapei Intervention: 2010-2014
Projects: Mike Newberry (CICP, Panama), Bernardo González (Grupo Unido Panama Canal, Panama)
Client: Administración Canal de Panamá
Contractor: GUPC (Grupo Unido Panama Canal), including Impregilo (Italy), Sacyr Vallehermoso (Spain), Jan de Nul (Belgium) and Constuctora Urbana (Panama)
Works Director: eng. Bernardo Gonzales (GUPC)
Mapei Distributor: Mapei Construction Chemicals Panama S.A.
Mapei Coordinator: Roberto Saccone, Mapei SpA (Italy); Thomas Lundgren, Mapei Corp. (USA)



PRODUCTS FOR UNDERGROUND CONSTRUCTIONS



Underground works have unique characteristics due to their complexity during the design phase, but especially because of severe work environments. This is the reason why the Mapei UTT (Underground Technology Team) was created, as well as dedicated products, such as setting accelerators for shotcrete and synthetic membranes for waterproofing tunnels and underground structures.

E6 Highway: Dal to Minnesund Stretch

Eidsvoll - Norway

The E6 is a European highway running from the southern part of Sweden to the northern border between Norway and Russia. This is an important road with similar characteristics to those of a motorway. The road has two carriageways, each one with two lanes, along part of the stretch running to Dal, around 60 km north of Oslo. According to the design presented by the Norwegian government, to make the road safer and to help traffic flow more smoothly, the E6 had to be widened to 4 lanes and be separated in the middle by a central reservation between the towns of Dal and Minnesund. Construction of the highway was divided into two main parts. The first section is around 11 km long and was awarded to a construction company in the autumn of 2009. The design included a number of new bridges, underpasses and flyovers for traffic to cross the E6. The second part is 6 km long and was awarded to a different construction company at the same time. This section also includes new bridges longer than the previous ones, as well as underpasses and flyovers. A new tunnel also had to be built alongside the existing one in Eidsvoll. Both sections were inaugurated in November 2011. The Mapei AS (the Group's Norwegian subsidiary) Technical Services Department was on site during construction work, and recommended a wide range of well-proven products to optimise the operations, especially when temperatures were particularly low. The products used included MAPEQUICK AF-2000 accelerator for shotcrete, REDIREP 45 RSF to repair concrete, MAPEPOXY L, NONSET 50, NONSET 400 FF and NONSET 400 for structural anchoring, and MAPEPOXY BI-IMP resin for injections.

MAPEI PRODUCTS: MAPECURE CCI-2000*, MAPEPOXY* BI IMP*, MAPEPOXY L*, MAPEQUICK AF 2000, NONSET 50* NONSET 400*, NONSET 400 FF*, REDIREP 45 RSF*, ZINKBOLT*.
*N.B. THESE PRODUCTS ARE MANUFACTURED AND DISTRIBUTED IN THE NORTHERN EUROPEAN COUNTRIES BY MAPEI AS (NORWAY).

TECHNICAL DATA

Period of Construction: 2009-2011

Period of the Mapei Intervention: 2009-2011
Client: Norwegian Public Roads Administration
Contractor: Veidekke/Mesta
Mapei Co-ordinators: Bjarne Ruud, Roy Hansen and Ann-Elisabeth Bøyeie, Mapei AS (Norway)


ЛЪВОВ МОСТ
LVIV MOST

Sofia City Underground Railway Line 2

Sofia - Bulgaria

The Sofia underground railway network has two main lines and 27 stations along its 31 km of track. Even though it had been designed at the end of the 1960's, it wasn't until the 1990's that the initial excavation work started. Line 1 started running in 2009. Construction work on the second line, which connects the Obelya and Lozenets districts of the city, started in 2007 - the same year that Bulgaria joined the European Union - and was officially inaugurated by the President of the European Commission, José Manuel Barroso, on the 31st of August 2012. Line 2 is 11 km long and has 11 stations. Thanks to the support of the UTT division, Mapei Bulgaria (the Group's local subsidiary) was involved in the building works for line 2, and worked alongside the construction companies that took part in the project. Various Mapei products were successfully used to construct the tunnel, including MAPEQUICK AF 1000 and MAPEQUICK AF 2000 accelerators for fast-setting shotcrete. They were used to formulate both the dry-mix and the wet-mix shotcrete systems applied on the surfaces of the tunnel. As far as the new stations were concerned, MAPEPLAN TU WL synthetic waterproofing membrane, MAPETHERM AR 2 cementitious mortar reinforced with MAPETHERM NET mesh, ECO PRIM GRIP primer and FOAMJET 260 LV polyurethane injection foam were used in the construction of four of them.
Around 40,000 m^2 of stone slabs and ceramic tiles were installed on the walls and floors using the adhesives KERAFLEX MAXI S1 and ADESILEX P9, while the joints were grouted with ULTRACOLOR PLUS. A protective finish was then applied on the walls that hadn't been tiled using coloured QUARZOLITE BASE COAT followed by the siloxane coating SILANCOLOR TONACHINO, in the colours specified by the designers.

MAPEI PRODUCTS: ADESILEX P9, ECO PRIM GRIP, FOAMJET 260 LV, KERAFLEX MAXI S1, MAPEPLAN TU WL, MAPEQUICK AF 1000, MAPEQUICK AF 2000, MAPETHERM AR1, MAPETHERM NET, QUARZOLITE BASE COAT, QUARZOLITE TONACHINO, ULTRACOLOR PLUS.

TECHNICAL DATA

Period of Construction: 2010-2012

Period of the Mapei Intervention: 2010-2012
Project: Sybel Yapici (for the stations)
Client: Metropolitan Sofia
Contractors: Trace Group Hold plc and Dogush Insaat ve Ticaret A.S. (for tunnels and stations); Ares Engineering (for the injections)
Laying Companies: Granitex, Te – Trade Group
Mapei Co-ordinators: Enrico Dal Negro, Emanuele Rodolico and Alessandro Boscaro, Mapei SpA (Italy); Martin Stoyanov, Mapei Bulgaria

MTRC XRL Contract 822 Guangzhou-Shenzhen-Hong Kong Railway Line

Hong Kong S.A.R. - People's Republic of China

This high-speed railway line, designed to link the cities of Guangzhou, Shenzhen and Hong Kong from 2015, will allow Hong Kong Special Administrative Region (S.A.R.) to be connected to the rest of the national high-speed railway network in the People's Republic of China, and to reach the cities of Shanghai and Beijing in just 6 and 8 hours respectively. The line is just a small part of an ambitious national plan to expand the Chinese railway transport system, which will be completed in 2020. The Express Rail Link (XRL) is a 26 km long stretch of the Guangzhou-Shenzhen-Hong Kong line in the area around Hong Kong. The Mass Transit Railway Corporation (MTRC) is responsible for the construction of the tunnels along this line, using construction techniques that have a low impact on the environment and guaranteeing the structural integrity of the area around the construction area and a limited impact on the surrounding neighbourhoods. The "mechanized tunnelling" and "drill and blast" methods in particular have been used. Contract 822 is the longest tunnel (7.7 km) of the XRL Hong Kong section. This is a twin-track single-bore tunnel from 16 to 22 m wide going down to a depth of around 960 m. To waterproof the tunnel's surfaces, Mapei has supplied a complete system of products such as MAPEPLAN TU S, MAPEPLAN GEO 500 (distributed in Hong Kong by Mapei China Ltd), MAPEPLAN DISK and MAPEPLAN COLLAR.

MAPEPLAN TU S is a synthetic, single-layer PVC-P membrane with a orange signal layer. It has high mechanical properties, excellent workability and high welding characteristics.

The MAPEPLAN TU S system has also been supplied to waterproof other tunnels along the XRL, with completion scheduled by the end of 2013.

MAPEI PRODUCTS: MAPEPLAN TU S, MAPEPLAN GEO 500 (DISTRIBUTED IN HONG KONG BY MAPEI CHINA LTD), MAPEPLAN DISK, MAPEPLAN COLLAR.

TECHNICAL DATA

Period of Construction:
March 2010 - May 2015

Period of the Mapei Intervention:
February 2012 - December 2013
Client: Mass Transit Railway Corporation (MTRC)
Contractors: Leighton Contractors (Asia) Ltd.
Applicator of Waterproofing Materials: Metro Specialist HK Ltd.
Mapei Co-ordinator: Stuart Watt, Mapei China Ltd. (Hong Kong S.A.R)

Koralm Tunnel

Graz - Klagenfurt - Austria

The cities of Graz and Klagenfurt are the two main cities in southern Austria. A range of mountains called the Koralpe, part of the Pre-Alps in south-west Styria, lies between the two cities. From 2020, Graz and Klagenfurt will be linked together by a modern, 130 km-long railway line, called the Koralm line. And at this very moment, right below this range of mountains, the Koralm Tunnel is under construction. The tunnel will stretch for 32,9 km and will be made up of two minor tunnels running parallel to each other. Each tunnel will have a railway line running through it, and they will be connected together at regular 500 m intervals. The construction project is divided into three separate phases. Mapei GmbH, the Austrian subsidiary of the Mapei Group, was chosen to supply the admixtures for the shotcrete used during the first phase (KAT1) of the project.
These include accelerators for fast-setting shotcrete from the MAPEQUICK range (MAPEQUICK 043 FFG, MAPEQUICK 043 FFG (SBE) and MAPEQUICK 043 FFG /3G, the latter product manufactured and distributed on the Austrian market by Mapei GmbH). They work by acting on the hydration of the silicates present in the cement, and improve the development of the concrete's mechanical properties after very short, short and long curing times. By using MAPECURE E 30 on the other hand, an emulsion produced and distributed on the Austrian market by Mapei GmbH, protection against rapid evaporation of water from the surfaces of the concrete due to wind and sunlight was guaranteed.

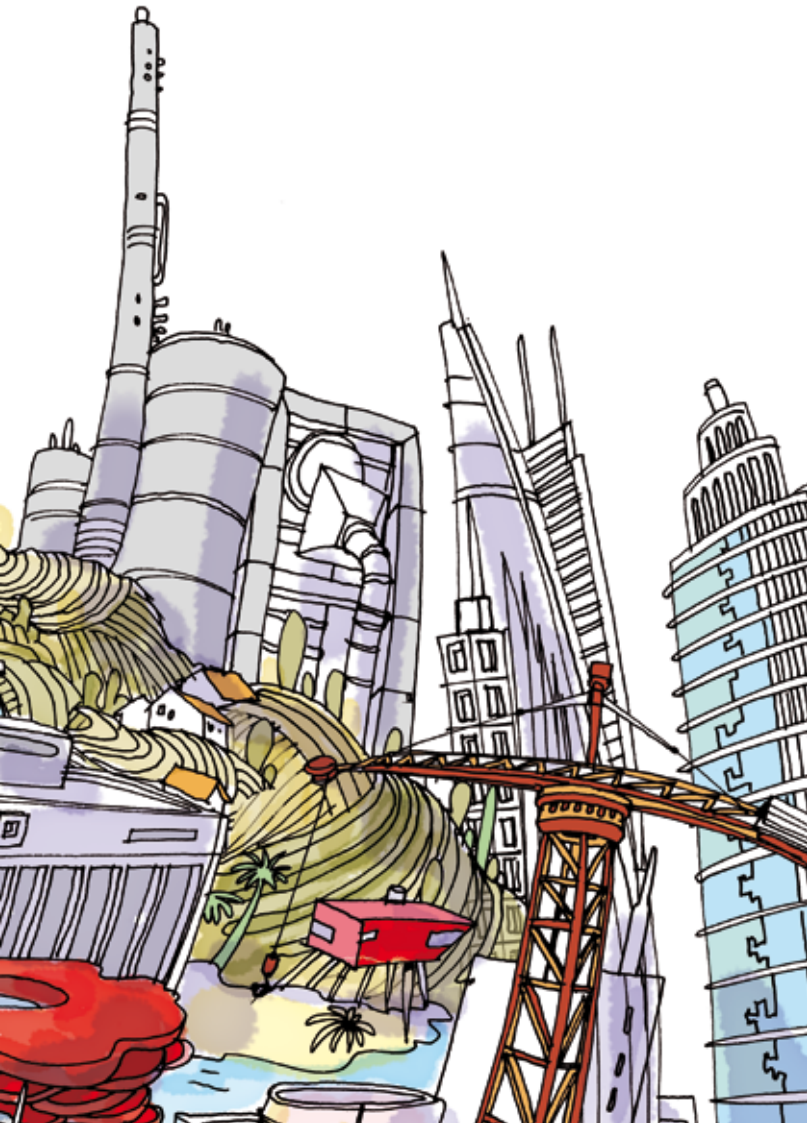
MAPEI PRODUCTS: MAPECURE E 30 (N.B. THIS PRODUCT IS MANUFACTURED AND DISTRIBUTED ON THE AUSTRIAN MARKET BY MAPEI GMBH), MAPEQUICK 043 FFG, MAPEQUICK 043 FFG (SBE), MAPEQUICK 043 FFG /3G (N.B. THE LATTER PRODUCT IS MANUFACTURED AND DISTRIBUTED ON THE AUSTRIAN MARKET BY MAPEI GMBH).

TECHNICAL DATA

Period of Construction: 1999-2023

Period of the Mapei Intervention: 2010-2012
Project: Projektgemeinschaft Koralmtunnel
Client: ÖBB-Infrastruktur Bau AG
Contractor: W&F Wayss & Freytag Ingenieurbau
Mapei Co-ordinators: Ing. Clemens Sandler, Peter Panzl and Dr. Ing. Veit Reinstadler, Mapei GmbH (Austria)

GRINDING AIDS FOR CEMENT



Grinding aids are formulated to solve the problem of agglomeration inside tubular grinding mills in cement plants and improve the quality of cement. Their use allows the operating conditions of plants to be optimised, while offering important economical advantages. Mapei produces MA.G.A. (Mapei Grinding Aids) and MA.P.E. (Mapei Performance Enhancers).

Sichuan Yadong Cement Plant

Chengdu – People's Republic of China

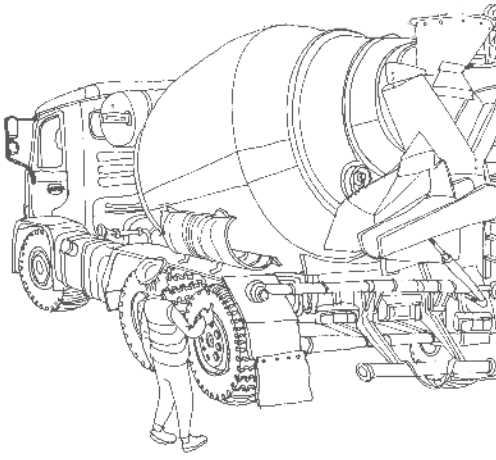
Sichuan Yadong Cement Plant is located in Chengdu with 11 million inhabitants, which is a tourist city and the economic centre in southwest China.
It is owned by Far Eastern Group in Taiwan, an industrial group with interests in various sectors, such as textiles, building, tourism, transport and finance. Since 1957, the Group has a sector dedicated to cement manufacturing. Asia Cement, with several manufacturing plants in the People's Republic of China, and the maximum annual production more than 14 million tonnes.
Sichuan Yadong Cement Plant was founded in 2004. For the Far Eastern Group, it is considered to be one of the most important companies, and it has allocated more than 455 million Euros to be invested in three phases. Each phase includes the construction of a cement production line with a capacity of 2 million tonnes per year.
After numerous tests, in-depth analysis, modification to the formulas and product optimisation, Mapei has been declared official supplier of the Sichuan Yadong Cement Plant, with grinding aids from the MA.G.A. range. In particular, a special admixture called MA.G.A./C 131 has been developed, characterised by high stability and performance. Mapei has also supplied invaluable technical support to the operations group running the cement plant.
The cement from the Sichuan Yadong works had agglomeration (pack-set) problems in all the grinding plants. The properties of MA.G.A./C 131, and in particular its capacity to reduce the attraction forces of cement particles, allowed these problems to be overcome by modifying the structure of the hydrates. By using this product in the Sichuan Yadong plant, output has been increased by 23% and the amount of clinker required has been reduced by 5%.

MAPEI PRODUCT: MA.G.A./C 131 N.B THIS PRODUCT HAS BEEN ESPECIALLY DEVELOPED BY MAPEI CONSTRUCTION MATERIALS (SHANGHAI) CO., LTD.

TECHNICAL DATA

Year of Construction: 2004

Period of the Mapei Intervention: November 2011 - today
Client: Sichuan Yadong Cement Co., Ltd
Mapei Distributor: Shanghai TGJ Development Co., Ltd
Mapei Coordinators: Jerry Zhou, Mapei Construction Materials (Shanghai) Co. Ltd. (People's Republic of China); Abderrahmane Talantikite, consultant for Mapei SpA (Italy)



Dyckerhoff Cement Plant

Geseke - Germany

The Dyckerhoff Group, manufacturer and distributor of cement and ready-mix concrete and part of the Buzzi Unicem Group, includes the German headquarters Dyckerhoff AG and various subsidiary companies in Germany, Luxembourg, the Netherlands, Poland, the Czech Republic, Slovakia, Ukraine, Russia and the United States.

Dyckerhoff AG has five cement plants and two grinding stations in Germany, and produced 5.4 million tonnes of cement and hydraulic binders in 2011. These plants include one in Geseke (Germany), around 50 km from the Ruhr area, which produces mainly CEM I 52.5R type cement characterised by relatively high early strengths and a low water demand. This type of cement is used to make pre-cast concrete and chemical products for the building industry, such as those produced in Mapei and Sopro (a subsidiary company of the Mapei Group) facilities in Germany.

At the start of 2011, the first contacts between Mapei and the management of the Dyckerhoff works in Geseke were made, in order to evaluate the supply of grinding aids for the cement plant. The first industrial-scale trials with a Mapei product took place in September 2011, followed by another test during the winter. The considered product was the MA.G.A./C1 grinding aid. Thanks to the quality of this product, the experience of the laboratory of the Mapei Group's Grinding Aids Division and the technical support from Mapei technicians during the tests, Mapei was selected as official supplier. Since the beginning of 2012, MA.G.A./C1 has been supplied on a continuous basis to the Geseke works, and great advantages have been derived from its use, compared with the mixture of raw materials used for the previous 28 years. The estimated annual consumption for the cement plant is around 120 tonnes of grinding aids.

TECHNICAL DATA

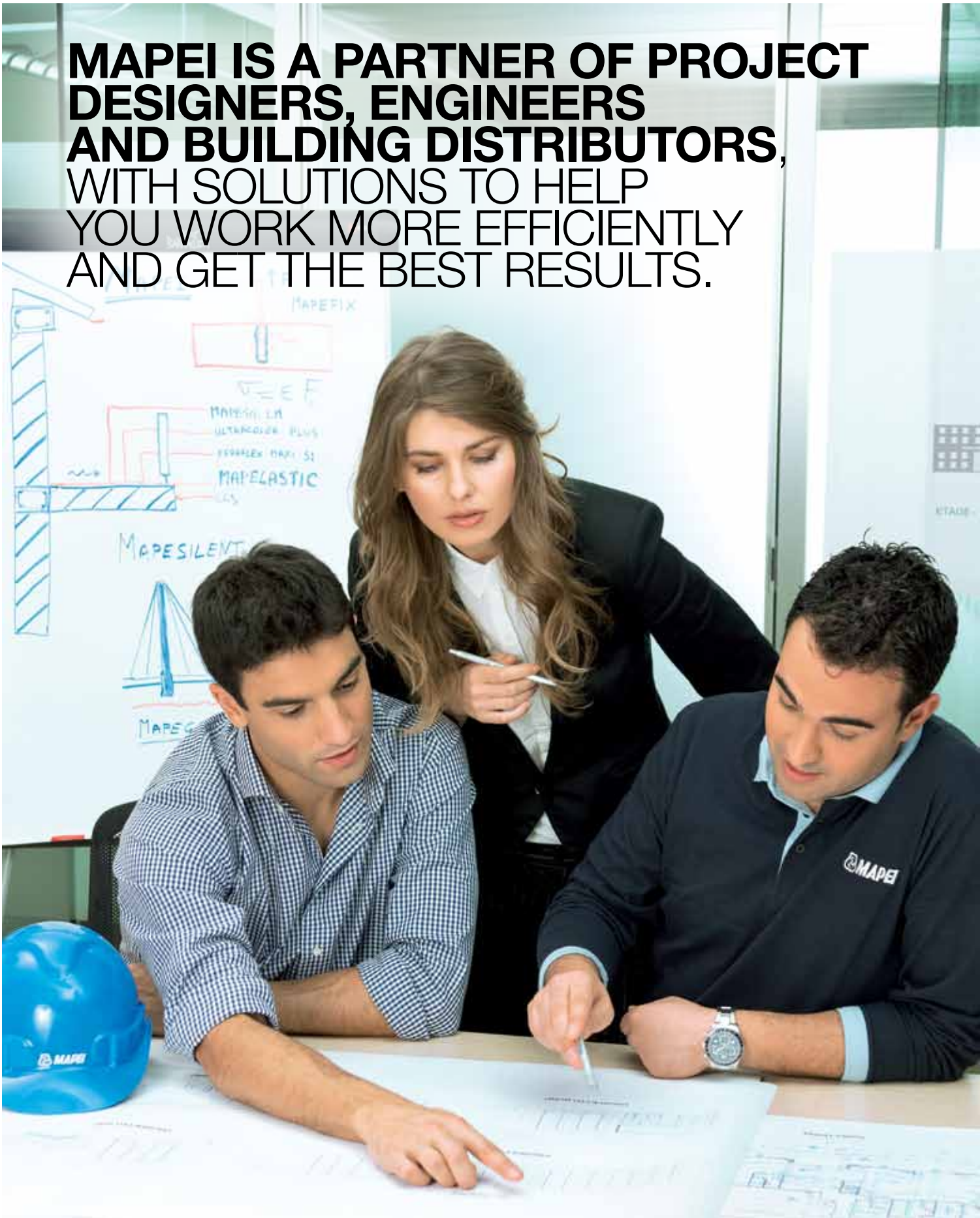
Year of Construction: 1927

Period of the Mapei Intervention: September 2011- today
Client: Dyckerhoff AG
Mapei Coordinator: Bastian Raab, Mapei GmbH (Germany)

MAPEI PRODUCT: MA.G.A./C1.

Photos: Michael Rump (Dyckerhoff AG)

MAPEI IS A PARTNER OF PROJECT DESIGNERS, ENGINEERS AND BUILDING DISTRIBUTORS, WITH SOLUTIONS TO HELP YOU WORK MORE EFFICIENTLY AND GET THE BEST RESULTS.



From the constant, ongoing exchange of experience and ideas with clients and distributors, Mapei takes all their comments on board **to guide innovation** and widen their product range and references: more than 200 new products every year go to increase a unique offer on the market, unrivalled for its range and the number of opportunities at the service of distributors and all those who work in the construction sector. From our sales points you will discover how **Mapei quality is not limited to the product** itself but extends to the competence of sales people, the value of the advice and technical support you will get and the documentation that Mapei has created for you.

INTERACTIVE DIALOGUE WITH PROJECT DESIGNERS **STARTS FROM THE TECHNICAL SPECIFICATIONS** TO THE PROJECT DESIGN.

The relationship between Mapei and the world of architecture has always aimed at developing a “hyperactive” dialogue to unite the opportunities offered by problem solving with professional growth. This dialogue ranges from the building site to the design studio. Mapei actively promotes refresher courses and workshops to perfect the application and installation techniques of their products. And these activities are supported by courses held by the Technical Services Department, with practical demonstrations and the distribution of documentation. The conventions held for project designers and building site managers are particularly appreciated by professionals, many of which are organised in collaboration with professional bodies.

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