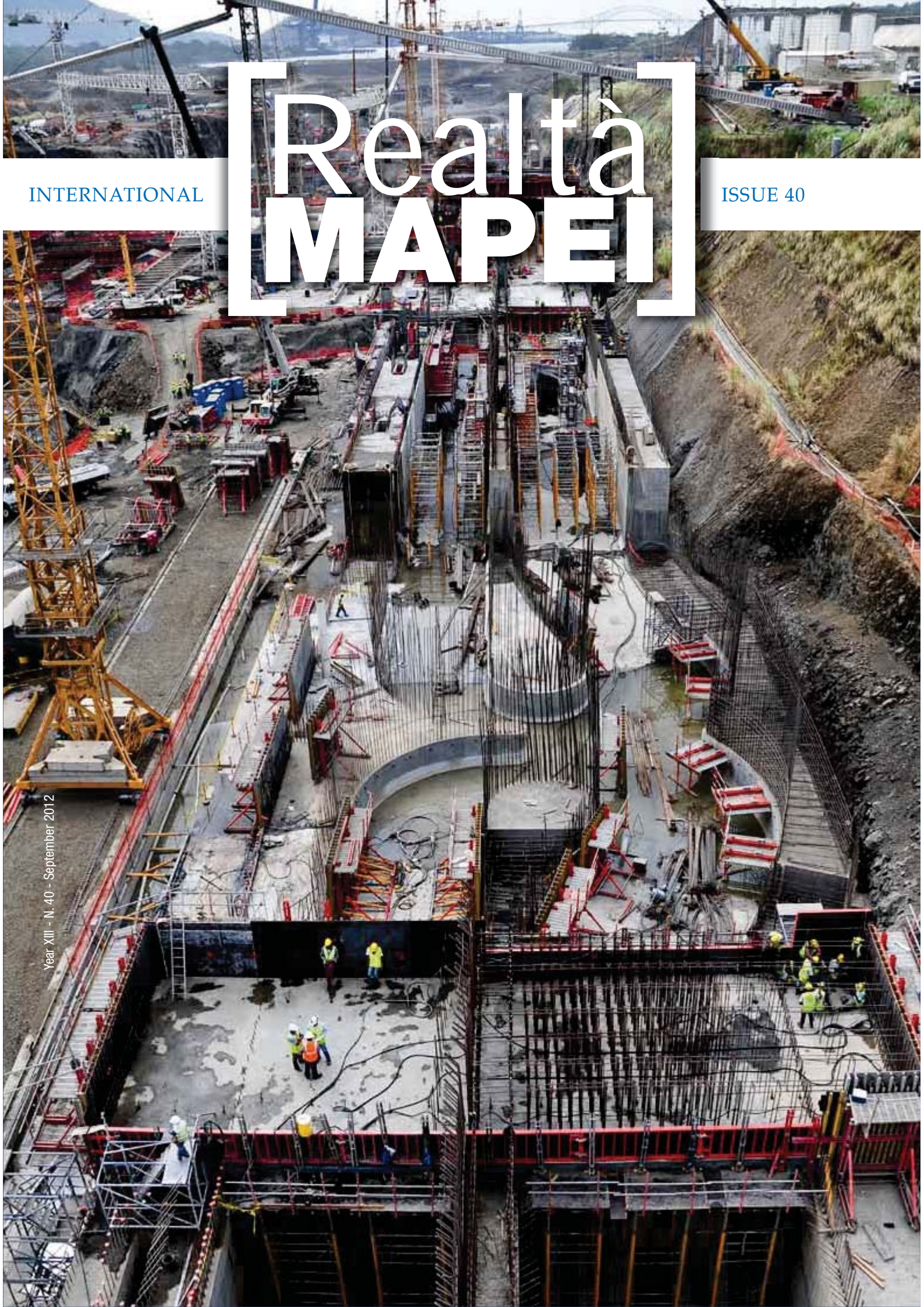


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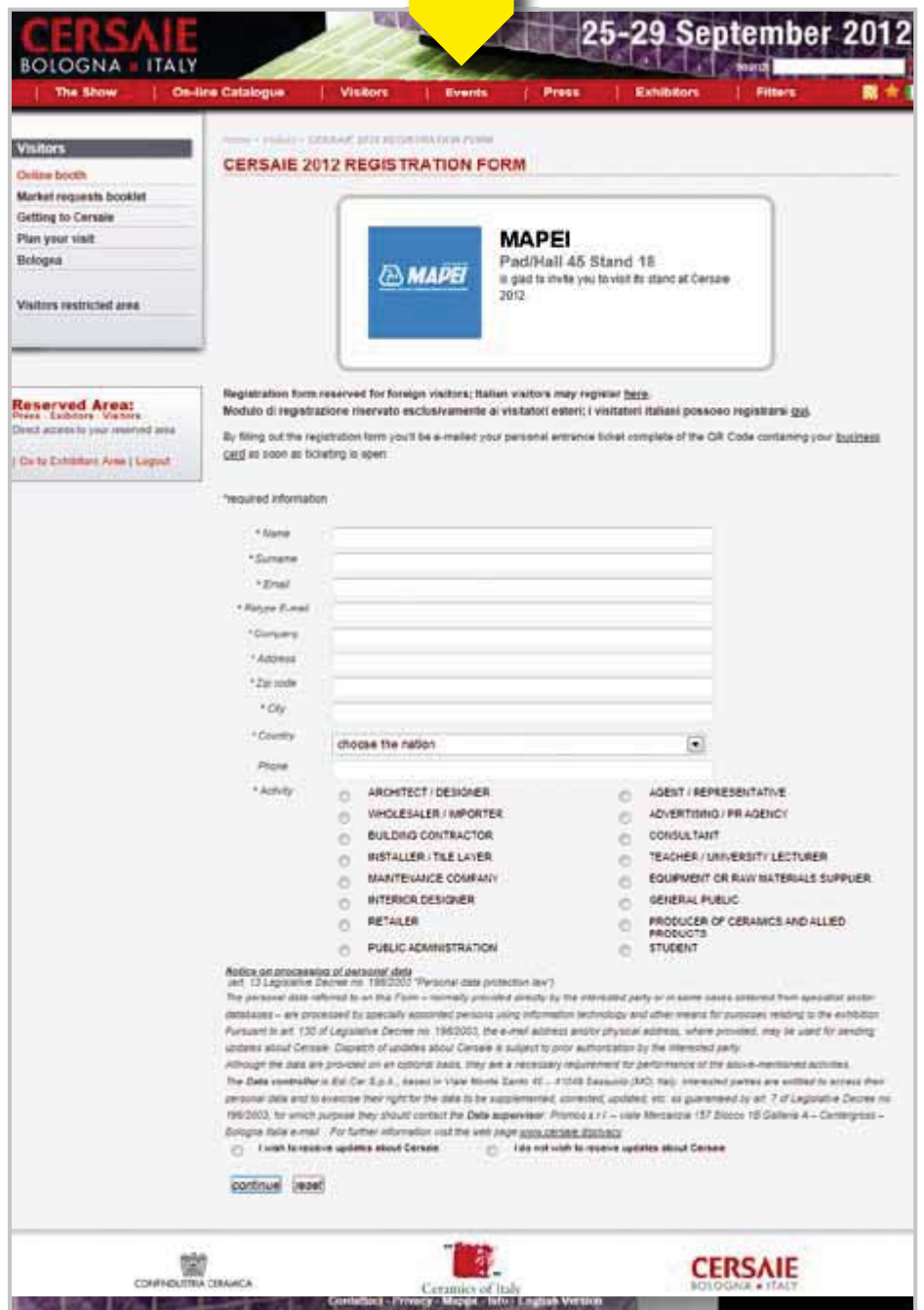
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COVER STORY: Mapei was involved in the project of doubling the Panama Canal.

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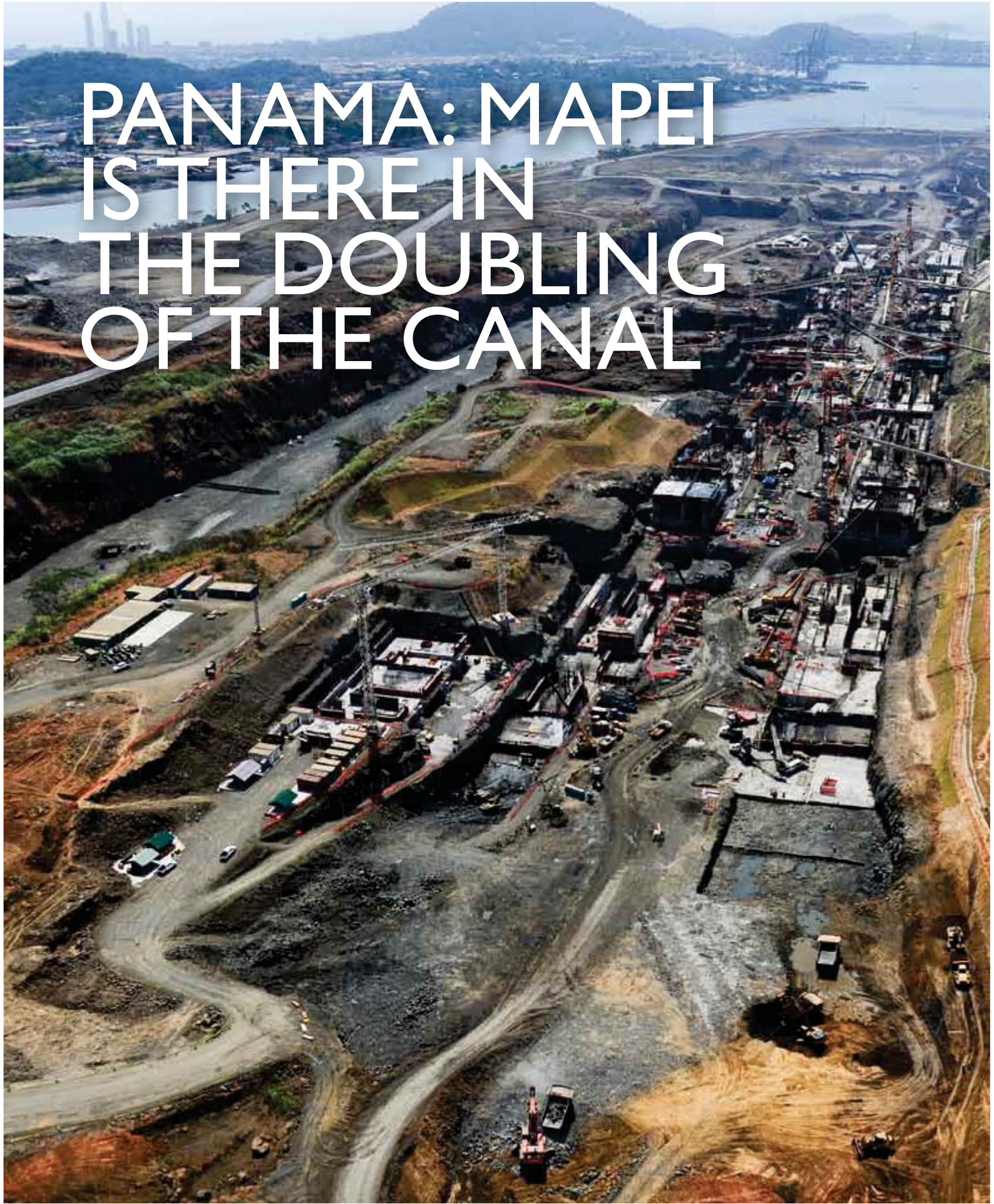
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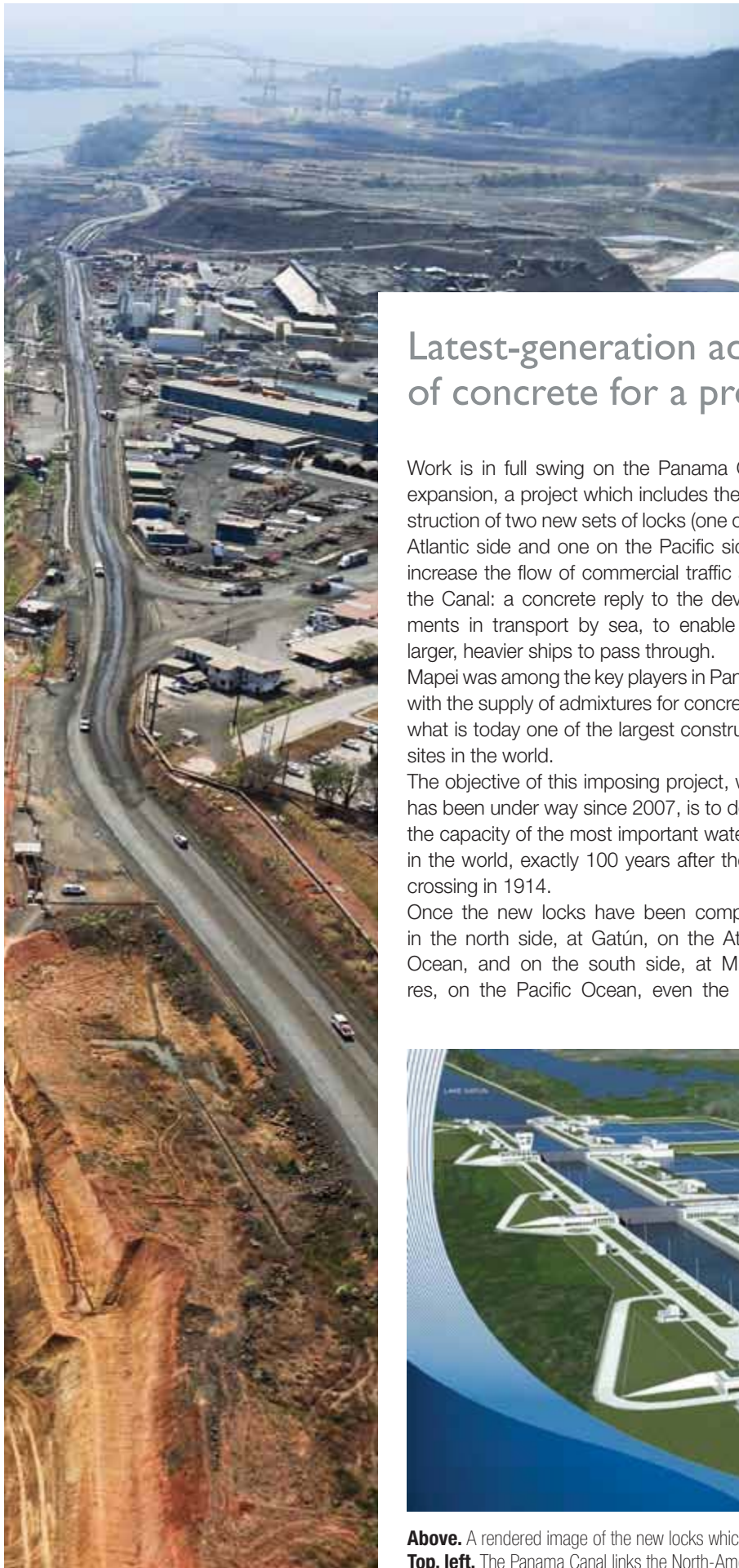


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PANAMA: MAPEI IS THERE IN THE DOUBLING OF THE CANAL





Latest-generation admixtures for 5,500,000 m³ of concrete for a project in progress

Work is in full swing on the Panama Canal expansion, a project which 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 along the Canal: a concrete reply to the developments in transport by sea, to enable even larger, heavier ships to pass through.

Mapei was among the key players in Panama, with the supply of admixtures for concrete for what is today one of the largest construction sites in the world.

The objective of this imposing project, which has been under way since 2007, is to double the capacity of the most important waterway in the world, exactly 100 years after the first crossing in 1914.

Once the new locks have been completed in the north side, at Gatún, on the Atlantic Ocean, and on the south side, at Miraflores, on the Pacific Ocean, even the Post-

Panamax maxi container ships will be able to navigate along the 80 km long canal. These ships, up to 366 m long and 49 m wide, can carry up to 12,000 TEU (Twenty-Foot Equivalent Units, the standard international volume for ISO container transport), compared with the 4,400 TEU currently allowed for the so-called Panamax ships.

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 new waterway is scheduled to be completed in 2014, the centenary of the inauguration of the existing canal.

The Canal expansion project is the result of an agreement between the Panama Canal Authority (ACP), a Panama Government body delegated to running the infrastructure, and the Grupo Unido por el Canal (GUPC) consortium, comprising of Sacyr Vallehermoso



Above. A rendered image of the new locks which are currently being built at Panama Canal.
Top, left. The Panama Canal links the North-American and the South-American continents.

PROJECTS





(Spain), Impregilo (Italy), Jan de Nul (Belgium) and Constructora Urbana (Panama) companies, with an overall value of 3.22 billion US dollars.

The total cost of the project is 5.25 billion dollars, and will be financed by the government by increasing toll charges by 3.5% for the next twenty years.

Restructuring the Original Canal

The project also includes restructuring work on the original canal.

And in this case too, Mapei offered a contribution for renovation and consolidation work for the Gatún Lock, located approximately 30 m below ground and considered to be the most imposing reinforced concrete structure ever constructed. This project uses a special type of concrete and Mapei has supplied admixtures to make it: PLANITOP 15, an inorganic powder product added to the concrete cast into formwork, and the liquid admixture MAPECURE SRA, specially formulated to reduce the formation of cracks caused by hygro-metric shrinkage in normal and self-compacting concrete.

THE CANAL IN NUMBERS

Inauguration of the Canal: 15th of August 1914

First Official Crossing: the Ancon ships in 9 hours 40 minutes

Length of the Canal: 80 km

Dimensions: maximum depth 12 meters, variable width from 240 to 300 m in Lake Gatún and 90-150 m in correspondence with the so-called Culebra Cut

Canal Operating Mechanism: through a system of locks divided into compartments, with entry and exit gates to lift the ships, which then navigate to Lake Gatún to be lowered down to sea level

Dimensions of Chambers in the Locks: 33.53 m wide, 304.8 m long

Number of Workers During Construction of the Canal from 1904 to 1913: 56,307 from every part of the world

Number of Employees in September 2010: 9759

Average Time Required to Navigate the Canal: 8-10 hours for average size ships

Number of Ships Navigating the Canal from 1914 to 2010: 1,004,037

Two Enormous Locks

The key elements of this project are the two enormous 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.

Above. A schematic layout of the Canal, from the locks at Gatún to the locks at Miraflores.



A BRIEF HISTORY OF THE CANAL

The Panama Canal is one of the most important feats of engineering in the world, and is a must for anyone visiting the city. It was dug out in one of the tightest points and in the lowest part of the Central Cordillera of the isthmus, which links the North American and South American continents. It takes a ship from 6 to 10 hours to navigate the Canal, which is made up of various elements: Gatún Lake, the Culebra Cut and the system of locks (Miraflores and Pedro Miguel on the Pacific side and Gatún on the Atlantic side). Gatún Lake, whose waters are fundamental for the functioning of the inter-oceanic waterway, was the largest artificial lake in the world for a number of decades. The locks system, which allows ships to carry out a change in level of 26 metres and so avoid having to circumnavigate South America, used to be the most imposing reinforced concrete structure ever built. Constructed by the United States between 1904 and 1914, it is 81 km long and is still a symbol of the strategic importance that the isthmus has maintained since the 16th century, and today is still one of the most important communications routes in the world.



signed to move the vessels from the sea level to the level of Gatun lake (27 m) and back down again.

Each chamber will have three lateral water reutilization basins for a total of 9 basins per lock and 18 basins in total. Like in the existing locks the new locks will be filled and emptied by gravity, without the use of pumps (200 million liters for each crossing).

The new lock chambers will be 427 m long, 55 m wide and 18 m deep for a total length of 1,5 km. The two enormous reinforced concrete structures will be completed with a new canal access on the Pacific side.

It will be the Italian company Cimolai, from Pordenone (Northern Italy), that will supply the new gates. Work will involve constructing 16 aluminium plate sliding gates, each one measuring 28 m in height, 58 m in length and 16 m in width.

The Canal today has two lock lanes. The new project consists of adding a third lane through the construction of two lock facilities. Every new lock facility will have three consecutive chambers named lower, medium and upper chamber regulated by four sliding gates, de-



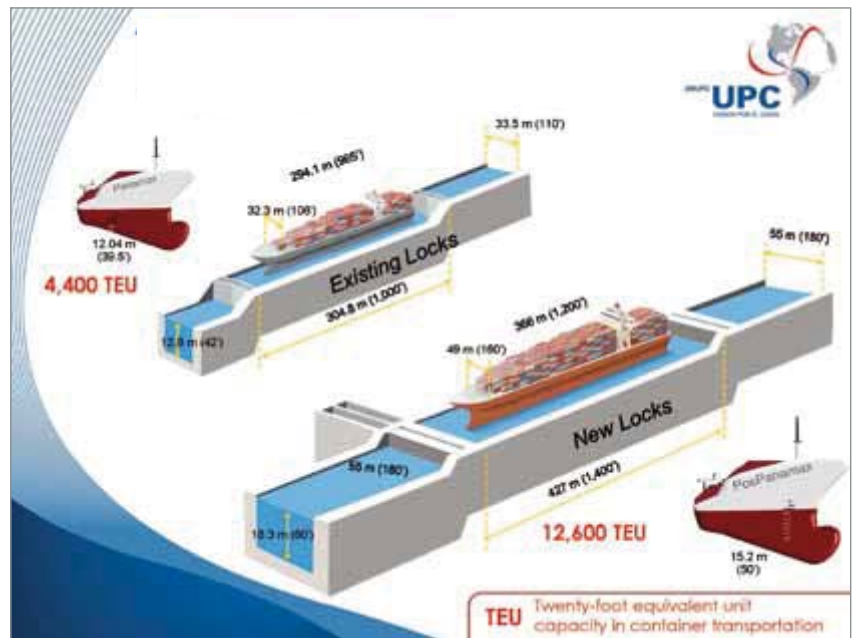
Cement paste samples were tested to verify the compatibility and to find the best plasticising capacity of various samples of admixture in combination with the types of cement scheduled to be used on the structure (CE-MEX cement, type II ASTM and Panama cement, type II ASTM).

In the first phase of testing, to overcome problems which arise when using complex raw materials (basaltic aggregates and basaltic pozzolan), admixtures from many other competitors on the international market were also tested. After numerous checks, carried out in the purpose-built Mapei laboratory in Panama, and then by cross-referencing the results

In these pages.

The two locks are currently being built, one is on the Atlantic Ocean and the other is on the Pacific Ocean. They are 1.5 km long and feature huge size.

The sketches below show a comparison between the existing locks and the new ones.



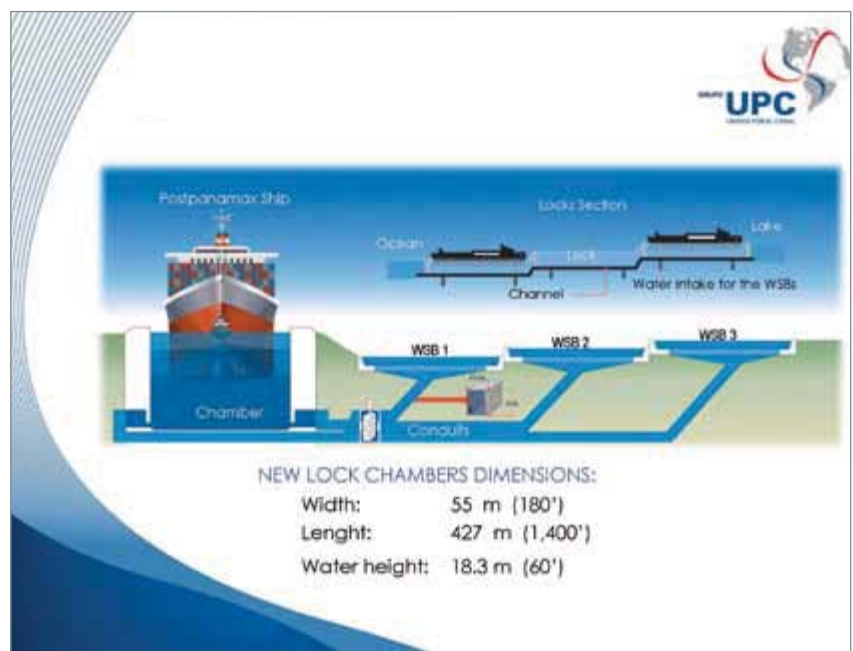
The locks will be transported to Panama by sea and then installed on site between July 2013 and January 2014.

Cutting-edge Admixtures for Durable, Long-lasting Concrete

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 admixture technology was introduced, and will be used to make 5,500,000 m³ of concrete designed specifically for this grand structure.

The aim is to ensure, through special tests on concrete, that the building will last 100 years. The first tests, carried out at the GUPC consortium site laboratory, started in Panama in September 2010.



PROJECTS



with the GUPC laboratory, in mid December the admixture DYNAMON XP2 was judged to be the only solution suitable for use with the materials which had been actually chosen and which will be used in future on both the Atlantic side, where they are using Panama cement, and on the Pacific side, where they are using CEMEX cement. This led to Mapei's winning the Short Term Supply Contract.

In early 2011, after starting production of the concrete and aggregates, several serious problems concerning a considerable loss of mechanical strength and durability in the concrete were solved thanks to the contribution of Mapei. In this phase, Mapei's support was concentrated on various activities: a study and new chemical and mineralogical characterisation of the raw materials used (fine sand, pozzolan and cement); technical suggestions and advice to help make a correct choice for the flocculating and coagulating materials used to treat the water for cleaning the aggregates; a chemical and petrographic analysis and control of the pozzolanic activity of the fine basalt sand to reduce or optimise its content of natural pozzolan.

Following a request from the client, Mapei then started to develop a new product which could work well with the new mix designs being verified at the GUPC laboratory. After an arduous competition, which included participants from our competitors, Mapei technicians managed to design a new, highly-evolved admixture called DYNAMON XP2 EVOLUTION 1, with the name chosen to give a sense of continuity to the enormous amount of work previously carried out on the old admixture. This product featured better maintenance of workability and application properties, in dosages even lower compared with the competitors.

The 21st of December 2011 is the date of

Above.

For this building project Mapei developed a new tailor-made admixture: DYNAMON XP2 EVOLUTION 1. The concrete made with it features excellent workability and ease of application.





Above. Mapei admixtures were selected to make the mass concrete structures and for the marine concrete to be used to make the external sides and internal sides the concrete locks, respectively.

the final contract for the New Panama Canal project. Formalised with the signatures of Giorgio Squinzi, CEO of the Mapei Group, and Bernardo Gonzales, Project Manager for GUPC, it represents a success story for Mapei. A victory which is the fruit of perfect team work and a consolidated *modus operandi* which included constant technical assistance on site to solve both large and small problems, and the decisive support of the Mapei Research & Development laboratories which investigated every material to find the most advanced technological solutions to make the best products.

TECHNICAL DATA

Panama Canal, Panama City and Colon (Panama)

Period of Construction: 1910-1914

Period of the Mapei Intervention: 2010-2014

Intervention by Mapei: supplying admixtures for the concrete used for building the new canal's locks and renovating the existing ones

Project: 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 Constructora Urbana (Panama)

Works Director: eng. Bernardo Gonzales (GUPC)

Mapei Distributor: Mapei Construction Chemicals Panama S.A.

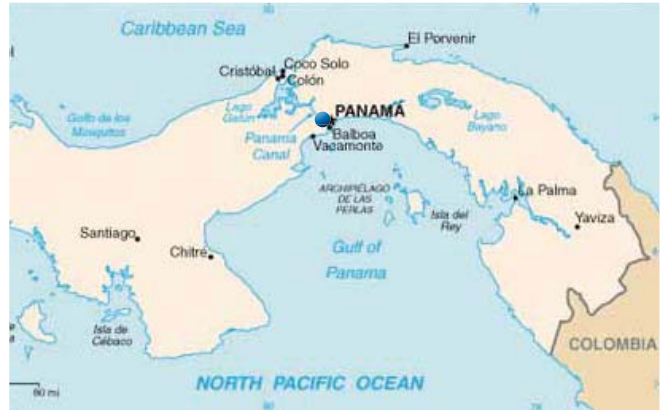
Mapei Coordinator: Roberto Saccone, Mapei SpA (Italy); Thomas Lundgren, Mapei Corp. (USA)

MAPEI PRODUCTS

Preparing the concrete mix for the renovation of existing locks: Planitop 15 (only distributed on the America contents by the Mapei Americas subsidiaries) and Mapecure SRA

Preparing the concrete mix for the construction of the new locks: Dynamon XP2 and Dynamon XP2 Evolution 1 (specially developed by Mapei for this project)

For further information see www.mapei.com.



MAPEI IN PANAMA

An important gateway to Latin America

Mapei has been awarded a contract worth 15 million US dollars to supply their latest generation of admixtures for the concrete used in the Panama Canal Expansion Project (see the article on the following pages). This is an extremely important result, the fruit of the enormous potential for innovation of the Company, with ad-hoc products specifically developed for this site, and chosen for their efficiency in maintaining workability times and casting concrete.

Not only is Panama the location for this grand building site, but it is also destined to become a fulcrum for Mapei in Latin America. "The presence of Mapei in the Panama Project", said Veronica Squinzi, Global Development Director for the Mapei Group, "Represents for the company a gateway to this particular area, a presence which is already guaranteed through one of our subsidiaries with its own offices, staff and production facilities. And that's not all. Panama is also a bridge for our North American team dedicated to corporate activities for admixtures and concrete".

Construction Chemicals Panama Sa was founded in April 2011

following the acquisition of the part of the Cimpex International Sa business involved in the supply of admixtures for the Panama Canal.

At a later date, Mapei acquired the remaining business activities from Cimpex. The current General Manager is Fabian Giugno, while Renato Soffi (head of the company's operation in Rome and central Italy) coordinates all their activities from Italy.

The company's headquarters are in Panama City along one of the main trunk roads. Work is currently under way along this road to construct the n. 1 underground railway line, and Mapei is supplying products for this site too. Apart from the offices, in Panama City there is also a Mapei production facility which manufactures admixtures for concrete. The company has 20 employees, and the forecast turnover for 2012 is 7 million dollars. Mapei Panama sells the products from the range of admixtures manufactured by the company itself, and markets most of the other Mapei product lines by buying them from Mapei SpA (Italy), Mapei Argentina and Mapei Corp., the Group's United States subsidiary.



Dynamon SX

For Major Projects

- Allowing high water reduction in the mix
- Optimization of workability retention times
- Accelerated development of mechanical strength

The development of new products and new application systems plays a fundamental role in the various design phases of the construction on the job site. Construction is faster and the final structure is more reliable and durable. **Dynamon SX** is the superplasticizing admixtures line for the major engineering projects market.





In this page. The pictures show the buffet enjoyed by the Mapei guests before the Cirque du Soleil show held in Barcelona last March. Several Ibermapei's Board members and clients, as well as Giorgio Squinzi, CEO of the Group, and Adriana Spazzoli, the Group's Operational Marketing and Communication Director, took part in the celebrations.



MAPEI CELEBRATES ITS 75TH ANNIVERSARY IN SPAIN

A show by the Cirque du Soleil to once again commemorate this important landmark

Spain has also sent its best wishes to Mapei: Ibermapei, the Group's Spanish subsidiary, organised a major event in Barcelona to celebrate the company's 75th anniversary. Last March about 100 of Mapei's Spanish customers and friends met with Giorgio Squinzi, the Group's CEO, and Adriana Spazzoli, the Group's Operational Marketing & Communication Director, to celebrate this very special anniversary together. The meeting took place in the VIP area of Tapis Rouge facilities of Cirque du Soleil, where a welcome cocktail was served with some typical Spanish dishes. Giorgio Squinzi welcomed and thanked all his guests, pointing out that Mapei is one big family composed of staff, customers and

distributors, also adding that "this 75th anniversary is not just a celebration but also an opportunity to look back and congratulate ourselves on what we have achieved and our various successes. At the same time it should also encourage us to look ahead with confidence, so as to keep on working and providing the market with innovative products".

Francesc Busquets, the General Manager of Ibermapei, emphasised "how proud we are of the achievement we are celebrating" and underlined the great progress the company has made over the last few years, despite the tricky economic situation that has also affected the building industry.

The guests were then transferred into the



main tent of the Cirque du Soleil, the Canadian circus famous for its striking shows of the very highest artistic value, performed without using animals, just mimes, acrobats and jugglers. The scheduled show was entitled "Corteo", a funeral procession that turns into a celebratory procession as a tribute to the world of clowns. In a fantasy world between the heavens and earth, the actors and acrobats performed for the audience in a carnival-like procession demonstrating real grace and poetry. By combining the big and small, tragic and ridiculous, the magic of perfection and charm of imperfection, the clowns revealed the fragility, hope and gentleness that reside in all of us. Music, lyrics and instruments accompanied this procession in which illusion jests with reality. During the interval the Ibermapei team laid on a pleasant surprise for its guests: a giant cake to celebrate Mapei's 75th anniversary. At the end of the evening, those taking part received a small gift as a souvenir of this very special evening.



In this page.

The pictures show some moments of the enchanting "Corteo" show, performed by the Cirque du Soleil in Barcelona.



A NEW POLY-FUNCTIONAL CENTRE

Ibermapei, the Group's Spanish subsidiary founded in 1992 in Badalona, has grown continuously over the years, leading to the opening also of two production facilities in Amposta and Cabanillas del Campo, three distribution depots (Badalona, Onda, Marratxi on the island of Mallorca, Amposta and Cabanillas del Campo), and a new headquarters in Barcelona.

On the 30th of July 2012, the new headquarters has been opened in Santa Perpertua de Mogoda near Barcelona. It covers an area of 3,750 m², and also has large storage areas for Mapei products, offices, a showroom where training courses and seminars are held and a test room where demonstrations by Mapei technicians are held.



MADRID - 8TH-11TH OF MAY

MAPEI AT CONSTRUTEC 2012

Plenty of novelties and a forum on renovation techniques at the Spanish exhibition

Construtec, International Building Exhibition was held this year in Madrid from the 8th to the 11th of May. Mapei was also there, and welcomed visitors to their stand who wanted to see the latest developments in adhesives, sealants and chemical products for the building industry. The Sales Manager of Ibermapei (the Spanish subsidiary of the Group), Joaquim Cantacorps, explained that the company was presenting “new solutions for coating façades with a new range of products from the MAPE-ANTIQUE range”.

“We have made a step forward,” he said, “in our “green” vision of building with MAPETHERM TILE SYSTEM, a thermal insulation system for external surfaces with a ceramic coating”. Ibermapei also presented the range of MAPEFIX chemical fasteners for anchoring requirements; the ULTRACOAT range completing the company’s proposal of products for installing and maintaining parquet; the latest technology in elastic sealants and adhesives, with a new hybrid product called MAPEFLEX MS45; ULTRALITE S2, a one-component, highly-deformable, lightweight cementitious adhesive for ceramic and stone with extended open time, very high yield, good buttering capacity and good workability, ideal for thin porcelain tiles.

3rd Forum on Innovations in Renovation and Construction Techniques

Within the framework of Construtec, Mapei organised the 3rd Forum on Innovations in Renovation and Construction Techniques, which proved to be

very popular with the public. The General Manager and CEO of Ibermapei (the Spanish subsidiary of the Group), Francesc Busquets, explained that the aim was “To have an incisive presence in the renovation sector. We have invited highly-acclaimed, well-known experts in this sector”. In his presentation “High-strength Shotcrete Used to Support Tunnels, Thickness Control and Convergence”, Carlos López, geologist and General Manager of the Spanish company Euro Geotecnica, illustrated how the thickness of shotcrete applied in tunnels may be reduced without affecting its safety.

López explained that “There have always been limitations in tunnel work because of the quality and strength of the concrete due to the quality of alkaline admixtures which, designed to offer high initial strength, led to a reduction in final strength. Our aim is to reduce the thickness of the concrete while maintaining the safety constant. Reducing the thickness of the concrete means less concrete needs to be applied: 25% less transport is required, 25% less concrete needs to be applied and, as a result, 25% less time is required to form the lining”.

During his presentation Marc Benito, Manager of the UTT (Underground Technology Team) division of Ibermapei, underlined how “the mechanical and application performance we get from shotcrete de-

The 3rd Forum on Innovations in Renovation and Construction Techniques, organised by Ibermapei, proved to be very popular with the public.



From left on. Gabriel Ortín and Francesc Busquets for Ibermapei and María Carmen Andrade, teacher at CISDEN (a Spanish Centre for the Analysis of the Safety, Structural Durability and Materials).





The Mapei booth at Construtec, the International Building Exhibition held in Madrid, welcomed many visitors.



depends on various factors, including correct preparation, correct transport and, above all, correct application”.

Corrosion in reinforced concrete structures was the second theme discussed during the forum. In her presentation “Protection from Corrosion in Reinforcing Steel in Reinforced Concrete Structures: Repairs and Prevention”, María Carmen Andrade, a lecturer at CISDEN (Centro de Investigación en Seguridad y Durabilidad Estructural y de Material – Centre for the Analysis of the Safety, Structural Durability and Materials), analysed the principal repair and protection methods adopted for this type of structure. On the subject of protection systems, Andrade mentioned the use of stainless steel reinforcement, galvanization, cathodic protection, reinforcing steel covered with epoxy resin, admixtures and the concrete’s coatings as the most common methods employed to protect reinforced concrete structures from corrosion.

Regarding Mapei solutions for protecting and repairing concrete structures, the head of Ibermapei Technical Service Department, Gabriel Ortín, introduced MAPEGROUT LM2K, a product which has the advantage of incorporating corrosion inhibitors in mass that can be applied in a vast range of thicknesses from 3 mm to 20 mm, and which can be used in a wide range of applications.

And lastly, with a presentation entitled “Trends in Energy Renovation in Existing Buildings”, the architect Margarita de Luxán listed the environmental benefits deriving from the renovation of existing constructions, affirming that “Renovating a building leads to a 60% saving in energy consumption compared with demolishing and rebuilding, and prevents such a high impact on the environment. Demolishing a building causes acoustic contamination and requires energy to drive demolition equipment. Construction of a new building has more of an impact on the environment due to the preparation of materials, transport to and from site, etc.” Gabriel Ortín, presented the MAPETHERM systems for thermally insulating external façades. Ortín underlined how “Insulating surfaces leads to their temperature being more much more similar to the comfort temperature in the rooms. And what is more, by insulating exter-

nal surfaces, the insulating capacity of the materials reduces the amount of dissipated heat and energy savings are more consistent in that, by putting thermal insulation systems on external surfaces, the temperature in inside areas is controlled and there is no need to keep central heating/cooling systems running during the night”.

The concept of sustainability is an important part of the Mapei philosophy. As Joaquim Cantacorps commented “The concept of green building is in our DNA. We are pushing the LEED (Leadership in Energy and Environmental Design) concept in construction technology as much as possible, taking into account that in other countries green building by applying the LEED concept has become the driving force for the construction industry”.



At Construtec Ibermapei introduced MAPETHERM TILE SYSTEM thermal insulation system for external façades with ceramic coverings.

FERRARI MASERATI IN BARCELONA

Installing ceramic with Mapei products in the new showroom

Since November 2011, there is a new landmark for Maserati and Ferrari fans and clients in Barcelona (Spain), with the inauguration of the new, spectacular Ferrari Maserati Barcelona dealership, located in the Zona Franca district. Here, clients find an official distributor for new and used cars, a workshop and a display area where accessories and merchandise are on sale. The new Spanish dealership, an addition to those already opened in Madrid, Marbella, Valencia and Vigo, has been integrated into Cars Gallery Barcelona, a structure which houses the most prestigious brands of automobile over an area of 5,500 m². Apart from Ferrari and Maserati, there are also other famous brands, such as Aston Martin, Bentley and Lotus. The new area, which contains the latest novelties representing the corporate image of the two companies, was inaugurated with an event with more than 400 guests, including clients, journalists and fans of the world of motor sports, who were given the chance to take a close look at the latest model from the Ferrari family. And there was also an extra-special guest, the Spanish racing driver Marc Gené.

The new sales point covers an area of 4,500 m². It is a modern, elegant place designed to offer exclusive service to the clients of both brands of car. It is divided into two distinct areas, one to display the cars and another in which clients may choose, test and touch

the various components of the cars, such as wheels, steering wheels and seats.

Mapei supplied the products used to install the 3x1 m porcelain tiles by Laminam on the floor of the showroom area.

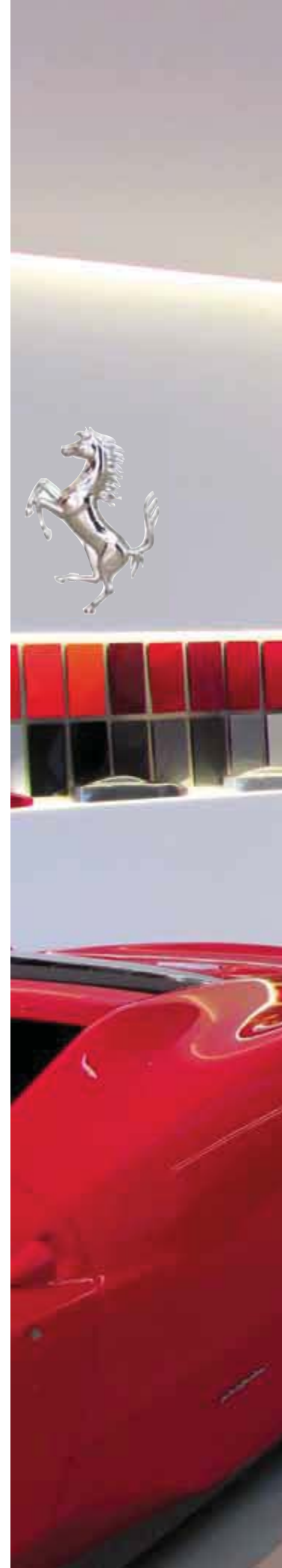
Preparation of the Substrates

The first phase of work was on the existing substrates which were cracked. It was decided to carry out repair and filling work on the substrates using EPORIP epoxy adhesive, suitable precisely for sealing cracks in screeds. Then, to prevent the cracks spreading to the new floor, MAPETEX SEL non-woven fabric was applied by bonding it to the substrate with KERAQUICK + ISOLASTIC adhesive system. The new ceramic flooring was then installed and bonded in place over this surface with KERABOND + LATEX PLUS. The joints were grouted with ULTRACOLOR PLUS high performance mortar, while the expansion joints in the floor were sealed with MAPESIL AC silicone sealant.

Installation of the Porcelain Tile Floorings

The display areas in the dealership had two different installation surfaces. Part of the flooring had an existing substrate in self-levelling mortar with a surface which was flat but cracked. In the other area, closer to the road, the installation substrate had a slope and was cracked with a particularly rough surface. To install porcelain tiles, especially large-sized ones, it is essential that substrates are completely stable and perfectly flat. It was necessary, therefore, to make the substrates suitable for installing the porcelain tiles in both areas by carrying out the following work:

- all the cracks at least 1 mm wide were opened up with a grinder, both sides were evened out and all traces of dust were vacuumed off;
- the cracks were sealed by filling them with EPORIP to bring the floor slab back to its monolithic state;
- inert material was dusted on the fresh resin to create a surface with more grip for the ce-





PROJECTS



mentitious adhesive.

In order to absorb any movement in the cracks less than 1 mm wide, and any cracks which could form at a later date and to even out the roughness in the slope, it was decided to bond an intermediate layer of MAPETEX SEL with a mix made from KERAQUICK high-performance, quick-setting cementitious adhesive mixed with LATEX PLUS elasticising latex, which guarantees high bonding strength and deformability.

The flooring was installed using KERABOND mixed with ISOLASTIC elasticising latex, to create a cementitious adhesive, classified as C2 class according to EN 12004 standard, with extended open time, with water-repellent DropEffect® and anti-mould BioBlock® technology.

Photo 1. MAPETEX SEL non-woven fabric was applied onto the substrate to prevent the cracks spreading to the new floor.

Photo 2. A view of the showroom during the installation works.

Photo 3. The ceramic flooring was installed with KERABOND+ISOLASTIC.

Photo 4. Joints in the ceramic floorings were grouted with ULTRACOLOR PLUS high-performance grout.



IN THE SPOTLIGHT

MAPETEX SEL

It is a macro-holed non-woven fabric with 1 mm diameter holes which make it completely permeable to water, and enhance the bond between the first and second layer of the waterproof membrane in which it is embedded. MAPETEX SEL is made up of synthetic, polypropylene fibres joined together with a mechanical needle-punch procedure. It is recommended for strengthening MAPELASTIC, MAPELASTIC SMART and MAPEGUM WPS; waterproofing and protecting new concrete surfaces, or those repaired using products from the MAPEGROUT or PLANITOP ranges; waterproofing concrete units subject to large deformations. MAPETEX SEL may also be used with MAPEGUM WPS membrane for internal waterproofing.



To ease any stresses in the flooring surfaces, expansion joints were made around the perimeter, in the joints between the horizontal and sloping surfaces and for every 25 m² of surface.

These joints were sealed with MAPESIL AC pure, solvent-free, anti-mould, acetic, silicone sealant available in transparent or 26 different colours, for movements up to 25%.

To calibrate the depth of the sealant, MAPE-FOAM closed-cell, extruded foam polyethylene cord was inserted in the joints.

TECHNICAL DATA

Ferrari Maserati Showroom, Barcelona (Spain)

Year of the Intervention: 2011

Intervention by Mapei: supplying products for treating the substrates and installing porcelain tiles on the floors

Laid Materials: porcelain tiles by Laminam

Project and Works Direction: QUADIS

Mapei Co-ordinators: Alberto Codina and Gabriel Ortín, Ibermapei (Spain)

MAPEI PRODUCTS

Preparation of substrates: Eporip, Mapetex Sel

Laying ceramic tiles and grouting joints: Latex Plus, Kerabond, Keraquick, Isolastic, Mapesil AC, Ultracolor Plus.

For further information see the website www.mapei.com

This article was taken from *Realidad Mapei*, n. 8, the in-house magazine edited by Ibermapei, who we would like to thank.

TOWER 185 IN FRANKFURT

A LEED Gold-certified building in the heart of the German metropolis with natural stone floors installed using Mapei products

IN THE SPOTLIGHT

ULTRACOLOR PLUS

It is a cementitious mortar (C) for grouting (G) joints, improved (2), with reduced water absorption (W) and high resistance to abrasion (A), class CG2WA according to EN 13888 standard. It is ideal for internal and external grouting of floors and walls in all types of ceramic, terracotta, stone material, and glass and marble mosaic. It features the BioBlock® technology which blocks the formation of mould and the DropEffect® which reduces the absorption of surface water.

Joints grouted with ULTRACOLOR PLUS feature water-repellence and droplet-effect; uniform colour and resistance to ultra-violet rays and atmospheric agents; smooth, compact finished surface, with low water absorbency; optimum resistance to abrasion, compression and flexural strength and optimum durability.

It can contribute to obtain **3 points** of the **LEED** (Leadership in Energy and environmental Design) certification.



The fourth-highest commercial building in Germany, Tower 185, is now complete and ready to be a “settlement” for those who will work there. The 200-metre tall skyscraper, located in a strategic position between the banking district, the expo centre and Frankfurt Main central railway station, was handed over to the client, CA Immo Deutschland, on time and within budget. The main tenant of the building is PricewaterhouseCoopers, a consultancy and analysis company which has decided to locate its Frankfurt offices here, with 2,600 employees occupying an area of approximately 68.000 m² out of a total surface area of 100.000 m².

Completion of Tower 185, by the designers to those who actually worked on site, was a staggering accomplishment.

In just 33 months, they managed to complete a building designed by the Prof. Christoph Mäckler Architekten Studio of Frankfurt according to severe eco-sustainability criteria. It is one of the first skyscrapers in Europe to have been awarded LEED Gold certification by the U.S. Green Building Council, the United States association which assesses the eco-sustainability of buildings by measuring its efficiency in the management of water and energy resources, the type of materials employed, the use of local resources and design innovation, etc.. The complex has a base formed by a low building with natural stone façades, and two portions of skyscraper coated with glass and aluminium which tower over the base and surround a third section coated entirely with glass. These forms give the building a modern, elegant look, exactly as intended by the designer and clients alike.

Natural Stone as a Characterising Element

Special attention was paid when choosing the materials for the façades and for inside the



complex. The use of carefully-selected materials, for example, has led to the building of luminous, elegant floors that are, at the same time, resistant to loads. Natural stone slabs were installed on around 9,000 m² of surfaces in the entrance hall, on the landings for the various floors and on around 16,000 m² of stairs. The slabs, measuring 600x300x30 mm, are in a uniform grey tone, and give a touch of warmth and light in the areas where they are installed.

The task of installing these floors was accomplished by using a Mapei system made up of PRIMER G, MAPESTONE TM, MAPESTONE 1 and ULTRACOLOR PLUS.

These products have helped to create floors with guaranteed resistance and durability, even when subjected to heavy loads.

Installation of Floors on Concrete Substrates and Cementitious or Calcium-sulphate Screeds

The stone was installed on concrete substrates and cementitious or calcium-sulphate screeds after priming them with synthetic resin-based PRIMER G, certified EMICODE EC1 due to its very low emission level of volatile organic compounds (VOC).

The stone was bonded with MAPESTONE 1 quick-setting and hardening mortar, a guarantee of reliability and high mechanical strength, and particularly suitable for bonding surfaces subjected to heavy loads. In fact this mortar, produced and distributed in Germany by

Mapei GmbH (a German subsidiary of the Group), is characterised by excellent adhesion, offers protection for substrates sensitive to humidity and allows floors to be installed very quickly.

Grey MAPESTONE TM cementitious mortar was used in other areas, such as the stairs and the landings on the floors, a product particularly suitable for bonding slabs of ceramic, terracotta and stone sensitive to deformations and variations in colour.

MAPESTONE TM and MAPESTONE 1 were applied using the back-buttering technique.

The joints were grouted with ULTRACOLOR PLUS high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent DropEffect® and anti-mould BioBlock® technology. This mortar won the 2011 award for innovation from the German association of ceramic and stone installers (Fachverband Fliesen und Naturstein), who were highly appreciative of its innovative properties, such as reliable mechanical strength and very low emissions of VOC.

A Convincing Result

The floors in Tower 185 stand out for their elegance, luminosity, resistance to loads and reliability. All this has been made possible thanks to the experience of the team of floor layers and the use of technically innovative

products, such as those produced by Mapei. Mapei technicians' constant on-site assistance to the floor layers made solving technical problems directly on site much easier.

This article was taken from issue n.12 of *Realtà Mapei*, the in-house magazine published by Mapei GmbH (Austria), Mapei GmbH (Germany) and Mapei Suisse SA (Switzerland), whom we kindly thank. The photos used for this article were supplied by CA Immo, whom we kindly thank.

On the left. The Tower 185 skyscraper: a new star of the Frankfurt skyline.

Below. Natural stone floors were installed in Tower 185's spectacular entrance hall using Mapei products.

TECHNICAL DATA

Tower 185, Frankfurt am Main (Germany)

Period of Construction: 2009-2011

Period of the Mapei Intervention: 2010-2011

Intervention by Mapei: supplying products and technical assistance for laying stone floors

Project: Prof. Christoph Mäckler

Architekten, Frankfurt

Client: CA Immo Deutschland, Frankfurt

Contractor: OmniCom Gesellschaft für innovatives Bauen mbH, Frankfurt

Laying Company: Zeidler & Wimmel GmbH, Kirchheim (Germany)

Laid Materials: "Crema Marfil" stone slabs by Zeidler & Wimmel GmbH

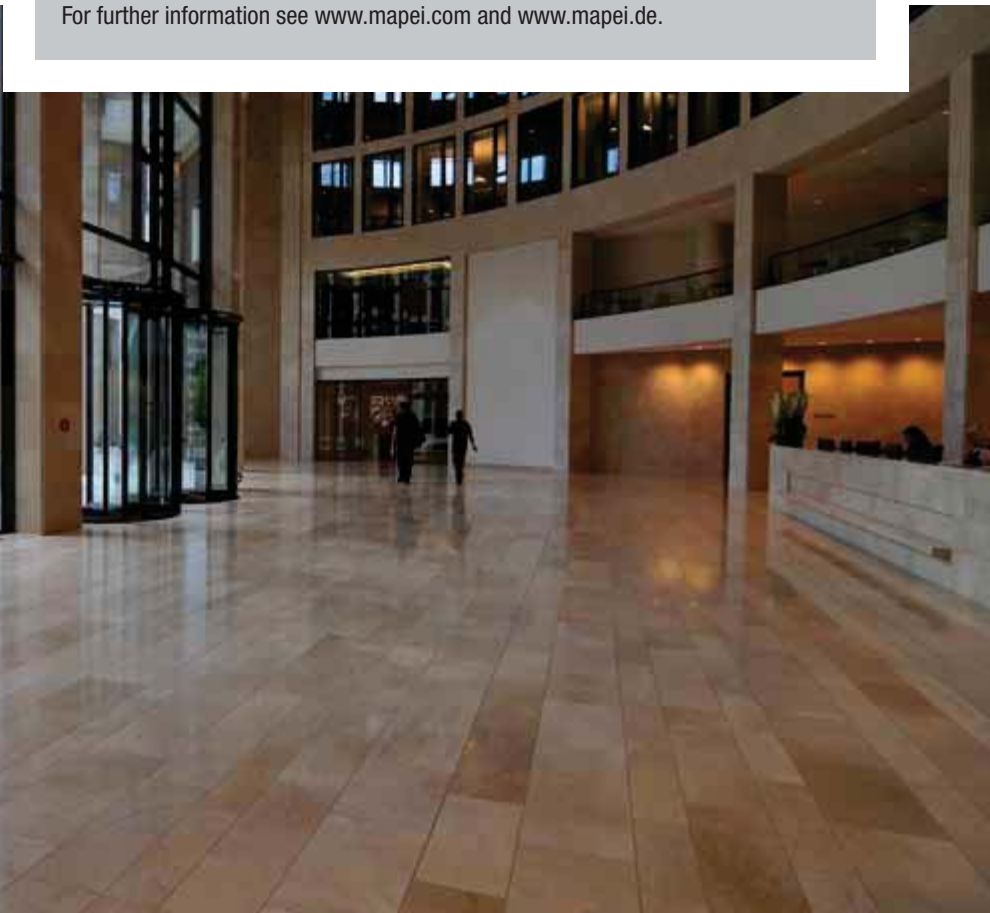
Mapei Co-ordinators: Walter Mauer and Klaus Held, Mapei GmbH (Germany)

MAPEI PRODUCTS

Preparing the substrates: Primer G.

Laying stone floors: Mapestone TM*, Mapestone 1*, Ultracolor Plus (*N.B. these mortars are manufactured and distributed on the German market by Mapei GmbH, a German subsidiary of the Mapei Group)

For further information see www.mapei.com and www.mapei.de.



FROM RUSSIA WITH MAPEI

Cutting-edge manufacturing plants and a motivated sales force for a market with enormous potential



The story of Mapei in Russia dates back to 1997 with the founding of Mapei OOO, a limited liability company which, through an office in Moscow, marketed the Group's products at a local level. In 2002, after the acquisition of the Sopro Group by the Mapei Group, Mapei OOO also started manufacturing products in a small plant at Juzhny Port, in the Moscow area on the banks of the River Moskva. ZAO Mapei was then created in 2004, a public limited company created initially to manufacture and market various Mapei products.

In 2008, in order to offer a better supply service for the entire Moscow area, a new manufacturing plant was opened in Stupino, a city with a population of 69,000 around 100 kilometres from the Russian capital. The plant covers about 3 hectares and its rated capacity today is 60,000 tonnes of products per year.

Since then, the company's expansion programme in Russia has continued non-stop, and the forecast is to open a further four

plants in the country, starting with the one in Yekaterinburg (in the Urals region), and then further north (in the St. Petersburg area) and beyond.

The city of Yekaterinburg, situated to the east of the Urals, became famous for the massacre of the Romanov family, of which the last Tsar was a member, and he was imprisoned here during the October Revolution in 1917. Today, it is the gateway to the Siberian market, as well as being the capital of the second richest regions in the country and an important mining area going through a period of strong growth. The Mapei manufacturing plant, which is currently under construction in this area, will become operative later this year in December. It is situated 2000 kilometres from the Stupino plant along the road that links Yekaterinburg and Chelyabinsk, and is also in a strategic position to supply the market in nearby Kazakhstan, a country in rapid expansion thanks to the revenue from petrol reserves.

Above. Mapei's presence in the Russian Federation includes a manufacturing plant in the Moscow area, a second plant currently under construction in the north (in Yekaterinburg), headquarters and offices in Moscow, 11 local offices and 11 distributors around the country.

Below. The Mapei Group's Russian subsidiary, ZAO Mapei, has a manufacturing plant in Stupino, approximately 100 km from Moscow.

Above. The Mapei manufacturing plant in Yekaterinburg is currently under construction and will be completed in December 2012.





In June 2007 ZAO Mapei opened new offices in a prestigious district in Moscow. And in addition, there are also 11 regional offices looking after Mapei clients from all over the country. From the day it was founded, ZAO Mapei has constantly increased its presence in the various regions of the Russian Federation, along with its commercial network and the number of employees: from 11 distributors and a staff of just 3 in 2004, to 160 distributors and a staff of 120 in 2011. It comes as no surprise, therefore, that sales for the Russian subsidiary have grown from 3.8 to 662.6 million Roubles in the same period, and that the forecast for turnover in 2012 is 720 million Roubles (equal to 18.5 million Euros). This objective will very probably be reached thanks to an increase in the number of ZAO Mapei production lines: the Russian subsidiary that today has the capacity to produce solutions for the installation of ceramics, stone, resilient and textile materials and parquet, as well as materials for the building industry, is planning to introduce Mapei's lines of cementitious and resin floorings and wall coatings onto the Russian market.

And all this to meet the demands of a market with 140 million inhabitants, federal reserves of 400 billion Euros, inflation rate of 4.8%, in which the construction market, with 9.8 million m² of buildings constructed in the first three months of the year, has grown by 5.2%. The building sector in Russia grew slightly in 2011, especially in the second half of the year, a trend which is expected to continue for the whole of 2012. According to the Russian authorities, 67 million m² of residential buildings will be constructed, and the civil and residential building sectors will be the driving forces for the building industry. Growth in the construction market will follow the growth of the Russian economy: although the growth rate will be lower compared with other years, the GDP is nevertheless expected to rise by over 4%.



At the MosBuild trade fair held in April, in the presence of the CEO of the Mapei Group Giorgio Squinzi, the awards for the best ZAO Mapei sales personnel for 2011 were presented. And at the Atlas Park Hotel in Domodovo (a small town 37 km from Moscow), a workshop was also held for all the sales staff to prepare them for the new challenges that ZAO Mapei can expect in the near future.

Above, top. Two photos of the ZAO Mapei headquarters and offices in Moscow.
Below. In April 2012, the awards for the best ZAO Mapei sales personnel were presented, in the presence of the CEO of the Mapei Group Giorgio Squinzi.



MOSCOW - 10TH-13TH OF APRIL



MOSBUILD 2012

A world of solutions from ZAO Mapei on show at the largest trade exhibition for the building industry in Russia

This year's MosBuild, the largest Russian exhibition for the building industry, coating materials and furnishing, celebrated its 18th edition with an element of novelty: it was held entirely at the Moscow Expocentre, abandoning its traditional "second home" at the Crocus exhibition centre in another district of the Russian capital for logistical reasons.

This year's event, organised by ITE (International Trade Exhibitions), was longer than usual and went on for almost two weeks: from the 2nd to the 5th of April the exhibition was dedicated to design and dé-

cor (bathrooms, ceramics and ceramic technology, doors and window fittings, flooring, coatings and paints), while from the 10th to the 13th of April it was the turn of the construction industry and architecture (building, plumbing and lighting materials, tools, finishing products, country life, stonework, etc.). More than 2,000 exhibitors took part in the event over a total exhibition area of 135,000 m², and welcomed more than 100,000 visitors from 62 different countries.

ZAO Mapei at MosBuild: Products, Demonstrations, Panels and Projects

ZAO Mapei, the Russian subsidiary of the Mapei Group, took part in MosBuild 2012 with a stand divided into two floors.

The aim was to share with visitors to the stand (real estate companies, construction firms, designers, architects, distributors and journalists) the history of the company and its experience and knowhow of innovative materials for the building industry. The

graphics designed for the stand served as a reminder of the 75th anniversary of the foundation of the Group.

Posters and display panels showed images of prestigious building projects to illustrate Mapei's presence on the international scene along with the most prestigious building projects from the Russian market. There were also presentations and practical demonstrations to highlight the characteristics and advantages of Mapei systems for installing ceramics, stone, resilient and textile materials, parquet and, on a more general note, solutions for all building operations.

The demonstrations by Mapei technicians showed how to apply MAPEGUM WPS quick-drying, flexible membrane for waterproofing internal surfaces; ULTRAMASTIC III ready-to-use, high-performance paste adhesive with extended open time and no vertical slip for installing ceramic tiles on walls and floors; ULTRABOND AQUA-CONTACT solvent-free, elastomeric, double-buttering adhesive in water dispersion, ideal for installing PVC and rubber profiles and coverings, especially where immediate bonding is required; ULTRABOND ECO FIX solvent-free adhesive in water dispersion with permanent tack, with very low emissions level of volatile organic compounds (VOC), for self-laying flooring tiles.

The advantages and characteristics of KERAPOXY DESIGN two-component, anti-acid, translucent, decorative epoxy mortar for grouting joints of glass mosaics, ceramic tiles and stone were also shown on a mosaic panel depicting the Mapei logo. In fact, KERAPOXY DESIGN can be used to create particularly decorative joints, especially when used in combination with MAPEGLITTER polyester, aluminium and epoxy resin metal-effect coloured glitter.



Mapei technicians carried out several products demonstrations, focusing on MAPEGUM WPS and ULTRABOND.



Over 2000 exhibitors took part in Mosbuild and visitors came from 62 countries.



This year MosBuild was entirely held at Expocentre in Moscow.

At MosBuild 2012, ZAO Mapei also took part in the special E3 programme (Ecology. Energy. Efficiency.), a presentation of products which respect the environment and solutions offering a valid contribution to energy efficiency and eco-sustainability in the building industry. Only companies which comply with rigorous standards regarding environmental impact and are certified by Russian and international bodies and institutions were invited to take part at this event. Mapei was among these companies thanks also to its range of more than 150 products, easily recognisable with the "Green Innovation" logo, all helping designers and contractors to execute innovative projects with LEED (Leadership in Energy and Environmental Design) certification.

The next edition of MosBuild will be held in Moscow from the 2nd to the 5th and from the 16th to the 19th of April 2013.



A CONTINENT OF PROJECTS

Thanks to the contribution of Mapei, numerous hotels, manufacturing plants, commercial and residential complexes and public and private constructions have been built in Russia. The following pages contain just a few examples



GALERIA SHOPPING CENTRE ST. PETERSBURG

In 2010, porcelain tiles were installed on the floors and walls of 300 shops, in the cinema and in the bowling area of this huge poly-functional complex with ADESILEX P9 after preparing the flooring screeds with TOPCEM PRONTO. The joints were grouted with ULTRACOLOR PLUS and the expansion joints were sealed with MAPEFLEX PU21.

GAMMA HEALTH COMPLEX – OLGINKA

Olginka town is located on the seaside of the Black Sea in Krasnodarsky Krai. There is a modern, 5-storey health complex with numerous entertainment and relaxation areas. ADESILEX P4, ULTRACOLOR, KERABOND T, ULTRACOLOR PLUS, KERABOND T+ISOLASTIC, ADESILEX P9, KERACRETE+KERACRETE POWDER and KERANET were used to install the ceramic and mosaic along the pedestrian entrance area to the complex, on the floors and walls of the main rooms, in the restaurant, the rooms and bathrooms in the hotel and in the lobby, the spa rooms, corridors, stairs and swimming pools.





**LIMPOPO AQUATIC PARK
YEKATERINBURG**

Between 2005 and 2007, ceramic tiles and mosaics were installed on the surfaces inside and around the swimming pools of this aquatic centre with ADESILEX P10 after levelling the substrates with NIVOPLAN. The joints were grouted with ULTRACOLOR PLUS. MAPEFLUID PZ500 admixture was added to the concrete used to build some of the vertical structures for the complex.

**MARINA ROSHCHA
UNDERGROUND RAILWAY
STATION – MOSCOW**

The Marina Roshcha underground railway station is located in a district in the north of the Russian capital. The walls alongside the tracks were decorated with mosaics installed on curved surfaces. The mosaics, which portray the surrounding areas, are enclosed in large frames and were installed with KERABOND T+ISOLASTIC.



**HYATT REGENCY HOTEL
YEKATERINBURG**

The Hyatt Regency is the first one of the leading 5-star hotel chain in Yekaterinburg, and was built between 2005 and 2009. The hotel also contains shops, offices, a spa centre, a fitness centre and a swimming pool on the 20th floor. MAPELASTIC, MAPEBAND, NIVOPLAN, ELASTORAPID and ULTRACOLOR PLUS were used to prepare the substrates and install ceramics and mosaics on surfaces in the swimming pool, the spa centre, in bathrooms, etc. MAPEGROUT THIXOTROPIC was also used to repair and level off a number of concrete elements. Natural stone was bonded in corridors and on the stairs with GRANIRAPID.



PROJECTS



MOSCOW CITY, MIBC MOSCOW INTERNATIONAL BUSINESS CENTRE MOSCOW

There are 19 skyscrapers in this poly-functional business and commercial complex in Moscow. One of them is called the "Federation", a building that is home of the VTB Bank OJSCe, and once completed in 2016 it will be the tallest skyscraper in Europe. ULTRABOND ECO FIX was used to install textile flooring on the floating screeds. The joints of the ceramic wall and floor tiles in the bathrooms and service areas were grouted with ULTRACOLOR PLUS.



KOLTSOV DRAMA THEATRE VORONEZH

This is one of Russia's oldest theatres and dates back to the beginning of the nineteenth century. MAPELAY EXTRA adhesive was used to lay ceramic tiles on several surfaces in bathrooms and service areas.

KROLSKY TUNNEL KRASNOYARSK

To construct this 2253.6 m long tunnel between 2005 and 2008 along the railway line which links the cities of Abakan and Taishet in central Russia, MAPEBLOX T tail seal grease was used during tunnel boring operations using the full-section TBM technique, the first time ever in Russia. DYNAMON SG 40 super-plasticiser was added to the concrete used for the top layer on the tunnel walls.





TANECO PETROCHEMICAL AND REFINERY PLANT - NIZHNEKAMSK

This imposing petrochemical plant is currently under construction in the Republic of Tatarstan, which is part of the Russian Federation. Completion is scheduled for 2013, and it will offer a significant contribution to the development of energy from gas and petrol from the Republic and to promoting development in the surrounding area. Between 2011 and 2012, PLANIGROUT 300 was used for anchoring, MAPEGROUT THIXOTROPIC and EPOJET were used to treat cracks in concrete structures and for various repair interventions on the concrete, while MAPEGROUT MF and MAPEFER 1K were used to repair concrete columns. MAPEFILL 10 (produced locally by ZAO Mapei) was used in the construction of various concrete structures.



RADISSON SAS LAZURNAYA PEAK HOTEL - KRASNAYAPOLYANA

This top category hotel is in a mountainous area near the city of Sochi, which will host the 2014 Winter Olympic Games. It includes a luxurious spa centre and 116 rooms with panoramic views, and is a prestigious destination for skiing fans. MAPEGROUT THIXOTROPIC and MAPEFER 1K were used to renovate the entrance, ADESILEX P9, KERACRETE POLVERE+ KERACRETE, MAPESIL AC and PRIMER G were used to prepare the substrates and install ceramic tiles and mosaics in the swimming pools, bathrooms, rooms and corridors and KERABOND T+ISOLASTIC, KERANET and ULTRACOLOR PLUS were used to install marble in the lobby and to grout and clean the joints.



GRAND HOTEL POLYANA - SOCHI

Between 2011 and 2012, the Mapei products MAPEBAND, MAPELASTIC, PRIMER G, NIVOPLAN PLUS, KERABOND, ISOLASTIC, ULTRACOLOR PLUS, KERACRETE and ADESILEX P9 were used to prepare and waterproof substrates and to install ceramics and mosaics in the outdoor swimming pools.

PROJECTS



TIKHVIN CLUB HOUSE YEKATERINBURG

This imposing residential complex, which also has an underground fitness centre, shops, coffee bars and restaurants, was built in 2009. Mapei products such as TOPCEM PRONTO, NIVOPLAN, ADESILEX P9 and ULTRACOLOR PLUS were used to prepare screeds, level off and waterproof substrates and to grout joints in the ceramic and porcelain tile and natural stone flooring in the shops and in the corridors in the apartments. MAPELASTIC was used to waterproof internal and external substrates in various areas, including the fountain with the Tikhvin Club logo near the entrance to the main building.



TERMINAL D, SHEREMETYEVO AIRPORT - MOSCOW

Sheremetyevo Airport is the most important in Russia, particularly for international traffic. Terminal D was completed in 2009 to enable the airport to have a capacity of 15 million passengers a year. It covers an area of 168,000 m², and has parking spaces for 33 planes, 159 check-in desks and a car park for 4012 vehicles. Porcelain tile flooring was installed in the departures and arrivals areas with ADESILEX P4. Cementitious residues were also cleaned from these floors with KERANET.

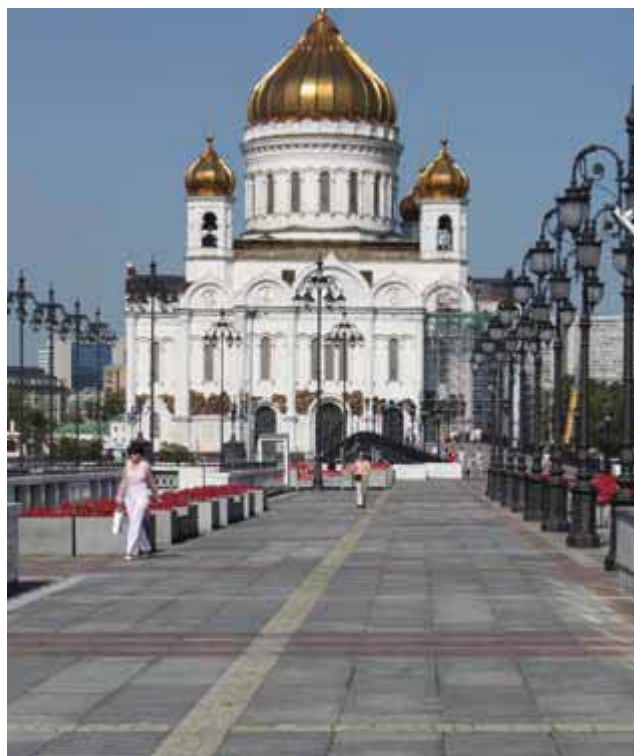


CATHEDRAL OF CHRIST THE SAVIOUR - MOSCOW

This cathedral, located on the banks of the River Moskva, is the tallest Orthodox Church in the world and has been at the centre of a number of important events in the history of Russia.

The footpath leading to the cathedral is 277 m long and between 12 and 32 m wide.

MAPEGROUT THIXOTROPIC and STABILCEM were used during restoration work for the joints between blocks of concrete along this footpath.





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Fast setting and drying, high performance grout for joints from 2 to 20 mm. Discover the world of Mapei: www.mapei.com

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- Anti-efflorescence
- Water-repellent with DropEffect®
- Anti-mould with BioBlock® technology
- Available in 26 colours
- Classified as CG2 in compliance with EN 13888



For 75 years we've been helping to build large and small dreams.



FLOORING MARKET TRENDS: RESILIENT IS BOUNCING BACK IN THE USA

A market research by National Floor Trends magazine shows that US resilient flooring distributors are going to increase their sales



To help keep the readers current on key industry issues and trends, *National Floor Trends* (a magazine dedicated to the latest trends in the US flooring industry) sponsors several market studies each year. These studies serve as the foundation for a series of informative, educational features designed to give a deeper, more insightful look at the state of the various segments of the floor covering industry. The purpose of *NFT's* resilient market study is to provide accurate information regarding the opinions and preferences of floor covering retailers concerning resilient flooring, along with an up-to-date view of the market. Specifically, the study seeks to identify:

- Resilient flooring sales trends – individual as well as part of the overall market
- Factors affecting the resilient flooring business
- Sourcing of resilient flooring products
- Resilient flooring product ratings based on consumer perception
- Attributes influencing retailers' decisions to sell/promote particular brands
- Challenges facing the resilient market in the next 2 years.

The survey went out in March 2012 to 9,798 active, qualified domestic *NFT* subscribers, selected on an Nth name basis, whose primary business is flooring dealer/contractor.

At first glance, it looks like a tough corner may have finally been turned by the industry as a whole: after reporting a mean average of just over 1.9 million US dollars in gross annual sales in 2011, survey respondents are anticipating total gross annual sales in 2012 to reach almost 2.8 million US dollars. That jump is set to pull resilient flooring along with it; mean annual sales of resilient alone are reported

at more than 269,000 US dollars, and the segment now makes up almost 20% of total flooring product sales, according to respondents, second only to carpet (Chart 1).

When asked to name the fastest growing product category sold in their store last year, respondents put resilient at the top of the heap with 23%, followed by hardwood (20%) and carpet (17%). Breaking the category down, Fiberglass reinforced vinyl (27%) and resilient sheet vinyl (21%) remain relatively stable from last year. For luxury vinyl tile, however, sales as a percentage saw an enormous jump year over year, from 17% to 25% (Chart 2).

While carpet continues to dominate

showroom floor space at 44%, resilient products maintain its silver medal standing with respondents. And there's no reason to suggest a bronze anywhere in the near future: with contract/commercial anticipated as the second-fastest growing segment this year (21%, up from 15% in 2011), resilient flooring should continue to see strong growth.

How much resilient is sold is one thing, but why a certain brand is sold or promoted is quite another. Respondents were able to multiple reasons, but two stand out: product reliability and quality, while still No. 1, dropped 10 % from last year, while distributor service/support jumped from 11% in 2011 to 27% in 2012.

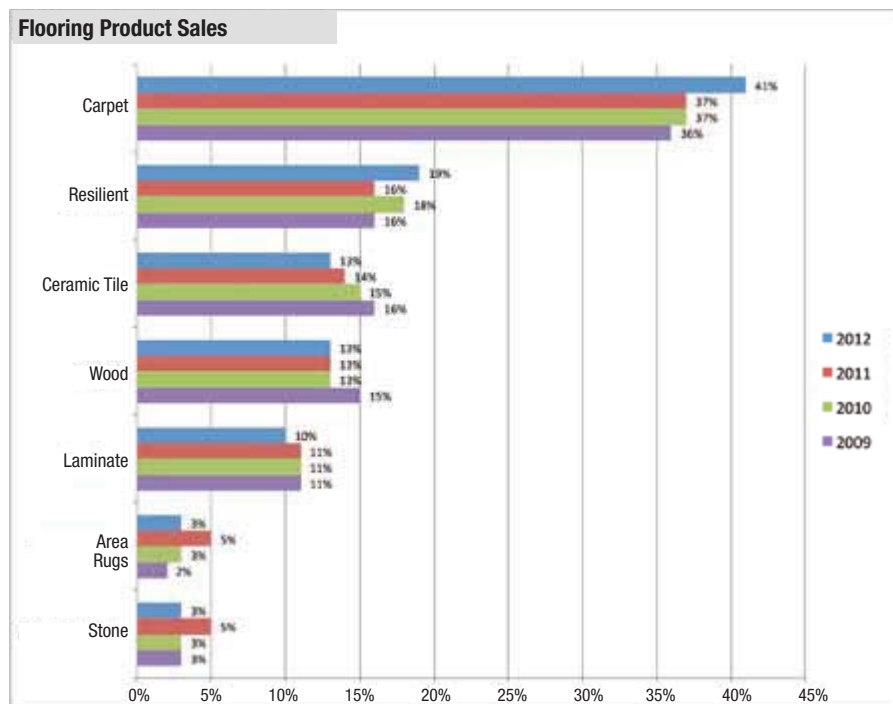


Chart 1. The chart shows the market shares held by the different flooring categories in the US flooring market and their development in the 2009-2012 period.



Resilient Floor Covering Sales by Product Category

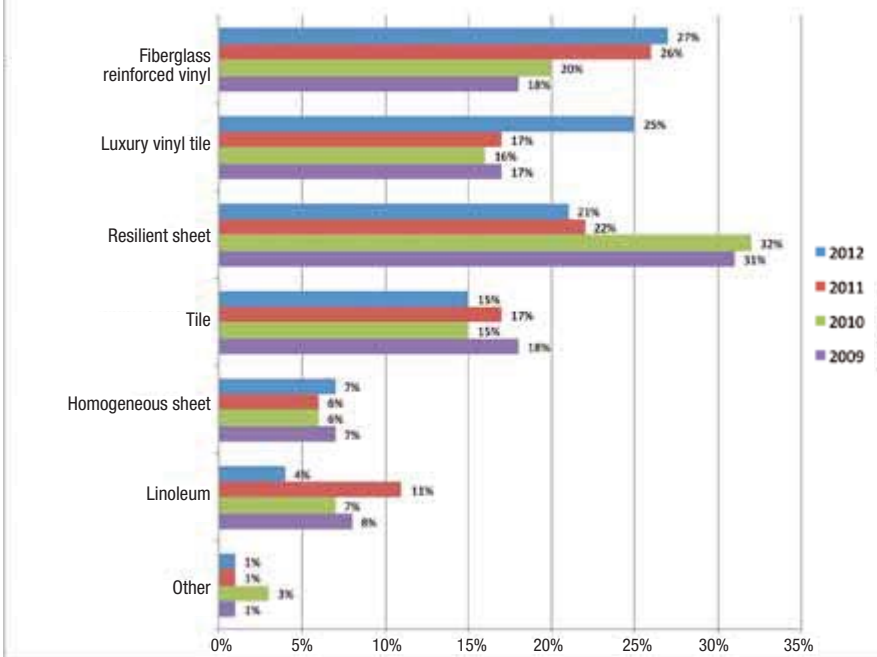


Chart 2. The chart shows the market shares held by the various segments making up the US resilient flooring market and their development in the 2009-2012 period.

That would help explain, then, when asked where they source their resilient flooring, respondents overwhelmingly named “flooring distributor” as their go-to option (74%, a whopping 13% bump year-over-year). “Domestic manufacturer” took a nosedive from 27% to 18%, while “import manufacturer” dropped by a third (Chart 3).

To the Web, then, and all things World Wide: when it comes to Internet marketing and sales, “grinding it out” may be the most appropriate phrase. 32% of respondents say they use the Internet to promote their products, but only 6% use the platform to sell direct. More than 60 percent do neither.

Styles, trends and purchasing power will always influence the floor covering market, commercial and residential. If the economy keeps showing gains, the resilient segment should see its hard earned gains continue to grow in the coming months and years.

The NFT Market Study Series is intended to help manufacturers and retailers better understand their markets and, more importantly, each other. This article is a snapshot of a comprehensive study examining trends and opinions in and of the floor covering industry. The conclusions are based on the opinions, preferences and purchasing behavior of professionals who agreed to participate in the survey. The survey was conducted and findings were compiled by BNP Market Research, a division of the editorial group BNP Media.

Sources of Resilient Flooring

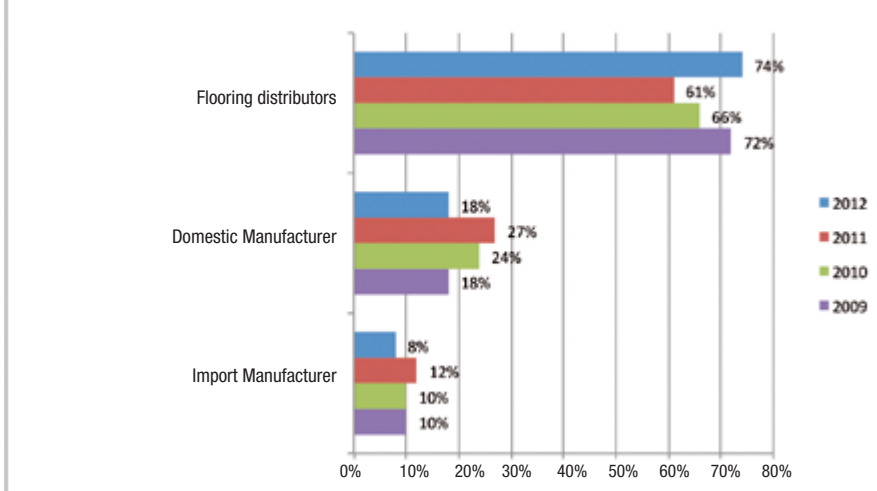


Chart 3. The chart shows the main distribution channels in the US resilient flooring in the 2009-2012 period.



This article was taken from NFT, n. 6 June 12, whom we would like to thank.

VINAVIL: PRODUCT AND PROCESS SUSTAINABILITY

Chemistry and sustainability: an essential combination for the future of the industrial development

Below. A scene from the "Open Days" event, held in the Vinavil manufacturing facility in Villadossola (Italy) in May, 2011.

Above on facing page. Part of the biological treatment process at Villadossola plant.

"Sustainable development means meeting the needs of the present without compromising those of future generations". This is the definition given by the United Nations Environmental Commission back in 1984. An essential requirement of development in the chemicals industry is that sustainable products and processes must be developed along the entire production chain, from raw materials to the production and application of intermediate products. Sustainability is based on three fundamental aspects, illustrated in Figure 1: social, environmental and economical. Only when these three areas overlap does a product or production process become completely sustainable. Let's take a more detailed look at each of these aspects.

Social Considerations

From a social perspective, it is very important that there is transparent, constructive dialogue with suppliers of raw materials. They must be sourced to the highest standards of safety, preferably delivered by rail or ship to eliminate the negative impact of road transport, and must be stored in suitable warehouses in compliance with current norms and regulations. On this subject, Vinavil manufacturing plants are structured to source the most important raw material (vinyl acetate monomer) through the railway hub in Villadossola (Northern Italy) and the port of Ravenna (Central Italy), respectively. In the production field, it is very important that objectives and results are com-





municated clearly and in full to all those operating in and around the manufacturing facility. A constant, constructive bond with local communities, trade unions, inspection bodies and agencies, external research organisations and universities is essential. Safeguarding the health and safety of employees and the local community, and constantly increasing attention to the human and professional value of people, are fundamental. And in this sector, Vinavil boasts an excellent level of education and training (12% of the workforce are university graduates and 72% have high school diplomas), with constant refresher courses through specific training modules. And what is more, a drastic reduction of work-related injuries has been achieved (zero in the last calendar year at the Villadossola manufacturing plant).

The bond with the local community has been strengthened by organising special events, such as "Open Days" (in 2011, the international year of chemistry, there were more than 2,000 visitors to the Ravenna and Villadossola manufacturing facilities), and by providing sponsorship for sporting and cultural events (such as the "Festival delle Settimane Musicali di Stresa" music festival in Stresa, Italy).

Vinavil provides a positive contribution to social sustainability during application of the products to prevent health risks to users, and offers support to clients to model the characteristics of products to meet specific requirements. Technical documentation is updated constantly and is available in a number of languages, both as a hard copy or on-line at the website (www.vinavil.com).

Environmental Considerations

Raw materials must never be even "potentially" hazardous. This is why Vinavil plants no longer use phthalates, alkylphenol ethoxylates or derivatives of boron and cobalt. The use of bulk quantities and recyclable packaging is encouraged, and the company tends to favour sourc-

ing raw materials from geographically-optimised processes and facilities. From a long term perspective, more space will have to be given to raw materials from renewable resources (or "bio-based"), to counteract the progressive accumulation of greenhouse gases. Figure 2 represents one future development currently being considered by sector specialists: ethanol produced via an enzymatic process from cellulose residues could be transformed into acetic monomers and ethylene, which are the main raw materials for most Vinavil products. Ongoing experimentation, being carried out also in Italy, has yet to confirm the technical and economic feasibility of this path. Vinavil production processes are constantly developed and updated to meet the requirements of environmental sustainability, with targeted interventions to optimise process control aimed at reducing consumption of materials and energy, and the production of by-products and waste.

The cogeneration plant in the Villadossola manufacturing facility (Photo 3), and other minor interventions such as the installation of high-performance lighting systems, have led to an overall saving in fuel of approximately 1,300 tonnes/year, and a reduction in the emission of carbon dioxide by at least 3,000 tonnes/year. All the cooling units in the two

Figure 1

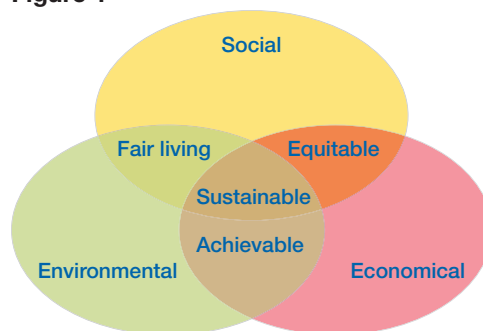


Figure 2

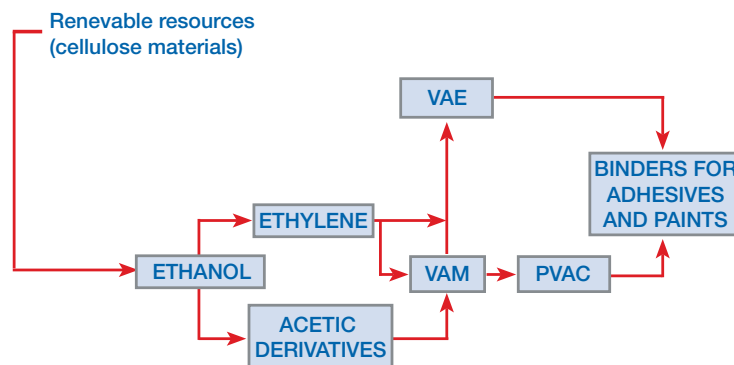


Figure 1. Sustainable development is based on interaction between social, environmental and economical aspects.

Figure 2. Ethanol derived from cellulose residues could be used to obtain raw materials for Vinavil products.

manufacturing facilities containing harmful substances for the ozone layer have been replaced and, as for the packaging of finished products, the emphasis is put on the use of recyclable materials and bulk transport by rail. Particularly efficient purification processes for wastewaters guarantee that the most stringent limits for emissions are complied with: liquid waste undergoes chemical, mechanical and biological treatment, while gaseous waste is collected and sent to a dedicated incinerator at Villadossola plant (Photo 4). As further proof of the company's effort and commitment, both manufacturing facilities have been awarded ISO 9001, ISO 14000 and OHSAS 18001 certification, while the Ravenna facility is part of the EMAS project, to further increase its environmental performance with the maximum level of managerial transparency.

Vinavil is part of the Federchimica (Italian Federation of Chemical Industry) programme Responsible Care, and was



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Photo 3. A view of the cogeneration plant commissioned at the Vinavil facility in Villadossola. The plant runs on methane and produces electricity, steam and hot water exclusively for use in the works.

recently awarded the Certificate of Excellence by the official body Certiquality for the high standards of the activities carried out in the two plants.

To make the application of the products even more environmentally sustainable, Vinavil has developed high-performance adhesive dispersions with a lower consumption of materials and energy, which involves drying with radio-waves (Figure 5) and, in the textile sector, has replaced traditional reticulation systems (at high temperatures) with systems which reticulate at room temperature. To reduce the impact of production and application on the environment even further, Vinavil has almost completely eliminated the use of formaldehyde in production processes and is working to reduce the emission

level of volatile organic compounds (VOC) even further.

A significant example is in the paints field, where VOC emissions are measured according to their level in the can, and by the emissions given off by the product after application over a period of time.

The VOC content in a can defined by European Directive 2004/42/EC, which defines VOC as any organic compound with a boiling point up to 250° C, may be determined by calculation or using simple analytical methods, such as gravimetric analysis, or by more sophisticated techniques, such as gas chromatography. This, however, does not give a true picture of what really happens, or the impact of emissions on the environment after applying paint. In this particular case, VOC emissions have more of an impact over a period of time, and are studied using special instruments called environmental test chambers (according to ISO 16000 part 6, 2004).

Vinavil's range of products include polymer dispersions of vinyl acetate/ethylene, which may be used as a binder with low impact on the environment (that is, without added solvents) in water-based paints, and have the capacity of minimising the release of VOC into the environment.

Vinavil's efforts in this field were rewarded in 2008 by Federchimica, with the "Prod-

Photo 4. Incineration of the vent gases from the production plants at Vinavil facility in Villadossola.

Figure 5. Vinavil has developed high-performance dispersions for adhesives dried by radio-waves, with a lower consumption in materials and energy. The diagram illustrates the drying system for a bonded joint activated for 5 minutes.

Figure 6. Emission of greenhouse gases in Italy (equivalent millions of tonnes of CO₂).

» PRODUCTS COMPLYING WITH ECO-SUSTAINABLE REQUIREMENTS



4

uct Stewardship” prize awarded for the definition of two nano-metric acrylic dispersions for use in the sector of coating products for buildings.

Economic Considerations

Products and processes with the necessary requirements for environmental and social sustainability are a reality, but they are not competitive if they are not economically viable. Over the last few years, the Italian chemicals industry has abundantly exceeded the objectives of the Kyoto protocol for 2012 (Figure 6). This effort must continue along the three phases of the process (*raw materials, production and application*) through a reduction in the consumption of energy, an increase in yield and waste recovery, interventions to intensify production pro-

cesses, the introduction of new processes with lower energy consumption and, in the longer term, the progressive introduction of alternative sources of energy and renewable feedstocks. And with this objective in mind, an increasing amount of *raw materials* could, and should, come from natural resources not in direct competition with the food chain, but with comparable importance: the price of bio-ethanol could already become competitive today with that of petrol when the price of crude oil is higher than 60/70 dollars a barrel. Bio-ethanol could be the “building block” for conventional raw materials for dispersion binders chemistry, as shown in Figure 2, and compete with new raw materials for new dispersion binders based on the bio-resources currently available (starches, glycerol, lignin

and lactic acid). The *production* of binders could also be carried out using existing processes, fed by the same raw materials obtained from renewable sources, or with new, highly-selective production technology. If that were the case, the investments required to replace production plants currently in operation could have an acceptable economical return.

On a long term basis, there is a similar situation for the binders *application* sector. The advantages offered by new, appropriate application processes for what could be a new generation of adhesives must justify the investment required to replace the old ones.

Conclusion

The chemicals industry has been operating efficiently towards the sustainability of products and processes, and in particular to reduce the level of greenhouse gases. This commitment must continue, and forms one of the fundamental lines of research for the Mapei Group and Vinavil. Sustainability must be acknowledged by the market as a fundamental value: efficient information strategies are required, along with concrete points of reference, incentives for solutions and legitimate barriers for products which do not meet these requirements. The REACH (European Community Regulation on chemicals and their safe use) norm must be considered an opportunity, not an obligation. To progress, intermittent technological advances will be required on a medium to long-term basis, to define new products and processes from renewable resources. Vinavil is also committed to considering advantageous solutions on this front. The scientific and industrial community, together with associations from the sector, have a key role in obtaining these results.

This report reflects the position of Vinavil expressed during the round-table meeting organised by Federchimica/AVISA (the Italian Association of manufacturers of adhesives and sealants, printing and silk-screen inks, paints and varnishes) in Pordenone (Northern Italy) on the 28th of October 2011, and at the “Sustainability and Painting Products” convention organised by AITIVA (the Italian Association of Technicians of the Paints and Similar Substances Industries) in Piacenza (Northern Italy) on the 24th and 25th of November, 2011.

Figure 5

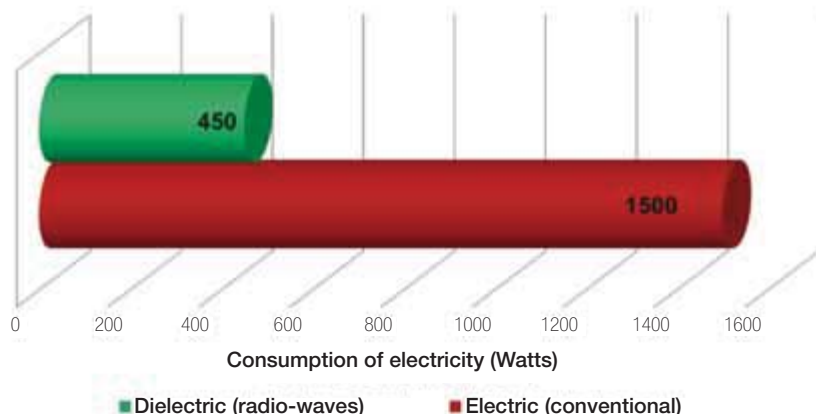
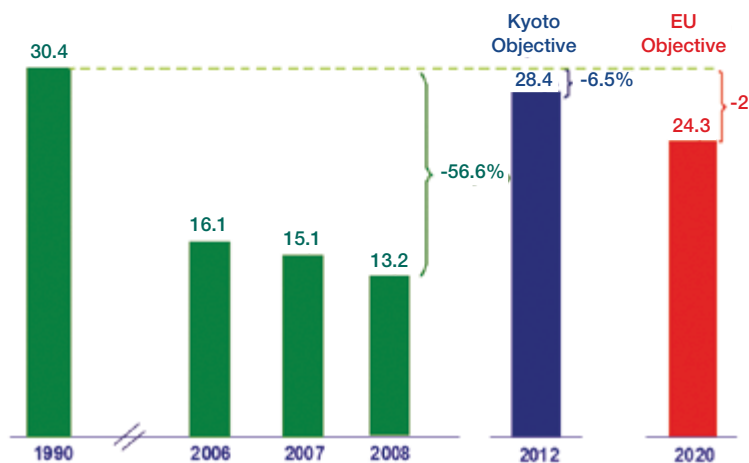


Figure 6



Source: ISPRA, Istat, 2012

VINAVIL WINS THE 2011 OSCAR MASI AWARD



An award goes to the new Vinavil polymer Raviflex BL3S, used in the production of chewing-gum with low adhesive impact, which makes it much easier to remove



On the 15th of May 2012, Vinavil won the Oscar Masi Award for industrial innovation, an award instituted in 1984 to honour the memory of Professor Oscar Masi, one of the promoters of AIRI (the Italian Association for Industrial Research), former Chairman and tireless promoter of the Association from the year of foundation (1974).

The award is assigned each year to the AIRI member that has demonstrated particular innovation for a product, a process or a system in the sector chosen for the annual competition, and that has been developed and distributed in Italy and that has relevant characteristics of creativity, innovation and advanced technology.

Mapei had already won this award in 2008 for innovation in the field of "Advanced Materials and Application Technology" with the HPSS technology featured by the company's products for reclaiming contaminated land.

The 2011 Oscar Masi award for "Product and Process Chemistry Innovation" was attributed to Vinavil for the production technology of Raviflex BL3S, a new polymeric component of gum base used in chewing-gum with low adhesive impact.

Vinavil has developed this new polymer on an industrial scale. When inserted in the gum base in amounts from 15% to 20%, chewing-gum no longer sticks to teeth during mastication and, after use, it is much easier to remove from surfaces using high-pressure jets of water at room temperature. This means, therefore, that chewing-gum can be eliminated less laboriously from pavements and any other surface to which it normally sticks so firmly.

This innovative product is particularly significant from a technical and commercial point of view. It is aimed at the chewing-gum market, which globally has a double-digit rate of annual growth. Moreover it offers a valid solution to a serious, widespread problem of environmental pollution. The award was handed over by Prof. Renato Ugo, Chairman of AIRI, to Zaverio Rovea, Vinavil CEO, in the presence of Ivan Fuso Nerini, Head of Vinavil special products, and main instigator of this technical solution developed in the Vinavil Research Laboratories. Francesco Pignataro, Vinavil R&D Director, and Fabio Abbà, Head of Analytical Department, were present at the ceremony and received commemorative medals for their part in the research project. Prof. Amil-

WHAT IS AIRI



AIRI, or Associazione Italiana per la Ricerca Industriale (Italian Association for Industrial Research), of which Mapei is a fellow member, is a meeting place for around 100 members that carry out and promote industrial research activities in Italy: industrial groups, companies and company research centres, universities, public research bodies, associations, science parks and financial institutions.

Members of the Association employ around 35,000 industrial researchers, a third of the total in Italy. AIRI has always strongly backed up the recognition in Italy of private research centres according to the European definition as "Research Bodies". It has also carried out studies into methods to define the priorities of research at Italian national level and has helped develop the



care Collina, responsible for relations between the Mapei Group and the scientific community, was there, too. Unfortunately, a key player in the project, couldn't be there: Salvatore Paffumi, master of emulsion polymerisation and mass polymerisation of vinyl monomers and real craftsman behind the creation of the product. Struck down by a serious illness last December, he was undergoing treatment in hospital. To him go our thanks for this innovative product, high praise from the Association in recognition of his work and best wishes from all those who know him.

The Italian Minister for Education, Universities and Research, Francesco Profumo, who could not take part at the event because of Ministerial commitments, sent a letter for the occasion to AIRI, in which he offered his congratulations to Giorgio Squinzi, CEO of the Mapei Group, and to Vinavil, adding: "Although Italy and the rest of Europe are going through a very difficult period, the only way to get back on the road of growing is to work together and invest in people, research and innovation".

"This is a further proof" underlined Prof. Renato Ugo "that there are numerous areas of



development in every sector, and that Italian researchers have proven once again that they are world-class innovators. Good ideas are simple and this one from Vinavil, at the end of the day, is simply a "reverse" glue. Nobody had thought of it before, and it is certainly a simple, winning solution to a complex problem".

To Vinavil and to their close-knit research team, congratulations from the entire Mapei Group!

Left. On 15 May, 2012, the Oscar Masi award was handed over by Prof. Renato Ugo, Chairman of AIRI, to Zaverio Rovea, Vinavil CEO, in the presence of Ivan Fuso Nerini, Head of Vinavil special products, Francesco Pignataro, Vinavil R&D Director, and Fabio Abbà, Head of Analytical Department.

National Research Programmes (PNR). AIRI proposals are characterised by their technical and managerial approach based on their experience in industrial production, together with the professionalism and expertise of industrial researchers. This pragmatic vocation has led to AIRI being recognised as an authoritative interlocutor for institutions that operate in favour of research.



RAVIFLEX BL3S TECHNOLOGY

An industrial process for the production of a viscoelastic polymer with hydrophilic properties



» EACH ONE OF THE POLYMER COMPONENTS HAS A SPECIFIC EFFECT ON CHEWINESS

Gum base forms the inert part of chewing-gum that holds the various ingredients and gives the product its excellent characteristic chewiness. It is well known that chewing-gum adheres to various surfaces. This is mainly due to the binders and resins contained in the gum base.

Styrene-butadiene, butyl rubber, polyisobutylene, polyvinyl-acetate and the copolymer of vinyl-acetate/vinyl-laurate are the binders currently permitted according to various legislations.

Each one of these polymer components has a specific effect on chewiness.

Styrene-butadiene, butyl rubber and polyisobutylene are elastomers that have an influence on elasticity, while the copolymer vinyl-acetate/vinyl-laurate and polyvinyl-acetate (PVA) are polymers that affect the plasticity.

Apart from the polymers mentioned above, which must comply with strict requirements regarding purity and toxicity, there are also

other substances, such as terpene resins, hydrogenated colophony resin ethers, emulsifiers and other technological inputs used to plasticise the elastomers and improve their chewiness.

Other ingredients may also be added to gum base to modify certain characteristics, such as monoglycerides, lecithin, vegetable oils and mineral fillers. It is the combination of all these substances that gives gum base, and therefore chewing-gum, the required properties of chewiness and plasticity without effecting its flavour and taste, carried in the formulation by introducing specific additives. The defect of this mixture of ingredients is that it does not absorb water and, once dry, adheres very strongly to all types of surface. To prevent gum sticking to teeth during mastication, polyethylene waxes and/or micro-crystals which act as detaching agents in the presence of saliva are added to the formulation. All the ingredients are lipophilic (lipophilic=fat friendly, therefore non-soluble in water). If there is no water/saliva, these substances do not prevent the dry product (i.e. masticated chewing-gum) adhering to surfaces they are left on.

Vinavil has developed a viscoelastic copolymer similar to vinyl-acetate/vinyl-laurate called Raviflex BL3S. This product is hydrophilic (hydrophilic=water friendly, therefore basically soluble) because it is partially hydrolysed. The effect of this new polymer is to combine the excellent characteristics of gum base with a reduction in its adhesiveness in the presence of polar liquids (as previously mentioned: water, saliva, etc.), without the product becoming soluble during mastication.

In fact, such terpolymer contains a lipophilic elastomer part and a hydrophilic part, with proportions regulated according to the desired characteristics of the product.

The lipophilic polymer used is a vinyl-ester of decanoic acid, specifically chosen due to its similarity to vinyl-laurate (vinyl-ester of de-





canoic acid, included in the list of positives), which reacts well with vinyl-acetate and is completely insoluble in water.

The choice for the hydrophilic part was based on the consideration that polyvinyl alcohol is inserted in the list of food additives, dissolves in water and is easily obtained from polyvinyl-acetate, produced by Vinavil for use in gum base. Vinyl alcohol doesn't actually exist as a monomer, but its polymer is obtained through the hydrolysis of polyvinyl-acetate. By acting directly on the vinyl part of the copolymer, therefore, the hydroxyl groups were inserted in the structure to give the system its required hydrophilic properties.

The terpolymer is produced in four main steps:

- a) synthesis of a "master" copolymer vinyl-acetate/vinyl-ester of decanoic acid (Veova 10);
- b) purification of this copolymer;
- c) partial hydrolysis of the copolymer to obtain a terpolymer of which the third component is, in fact, vinyl alcohol;
- d) purification of the vinyl-acetate/vinyl-ester of decanoic acid/vinyl alcohol terpolymer until it reaches the required specifications.

The level of purity of the final terpolymer is extremely high: in fact, it contains less than 1 part per million of residual monomers. Its elasto-plastic and hydrophilic properties may be regulated according to various process conditions to obtain chewing-gum with excellent, innovative characteristics.

The use of polymers containing vinyl alcohol

- reduces impact on the environment, in that the gum may be removed after soaking in water

- allows for optimisation of the properties of adhesion and elasticity of gum base
- eliminates or significantly reduces the need for detaching agents in the formulation of gum base
- is a better carrier of aromas contained in chewing-gum and makes their taste lasting longer.

An evaluation of the chemical and physical properties of the terpolymer was carried out through dynamic mechanical analysis (DMA Netzsch, mod. 242 C) in the rheology laboratory at the Mapei Research & Development Corporate Centre in Milan.

The polymer has been patented (WO 2010/149334) and the legislation constraints have been passed to approve its use (Italian decree 17.02.2012 n. 31, modification to Italian decree 151/88, regarding ingredients for gum base).

Our sincere thanks go to Gum Base Italia and Perfetti Van-Melle companies for their contribution into the development of the formulation for both the gum base and chewing-gum using Raviflex BL3S, and for conducting all the phases for its legal approval through the competent authorities.

In the previous page.

The pictures show the chewing gum's main components: resins and elastomers.

Above. Left: the polymerisation reactor used for producing Raviflex BL3S. Right: the polymer is laid down during the cooling phase and becomes solid.



STRUCTURAL STRENGTHENING USING CARBON AND GLASS FIBRES

What can be achieved using fibre-reinforced polymers (FRP)

More and more attention is being paid to the problems encountered during conservation work, or when carrying out seismic upgrading to prevent or limit the effect of earthquakes on our building stock.

This attention ranges from ordinary buildings to buildings of historical and artistic interest, and has never before been the subject of so much interest, especially in seismic countries like Italy. Most of the historical urban stock, particularly in ancient cities such as those in southern Italy, is made up of buildings constructed with various types and quality of masonry, often with cement-core or poorly compacted walls made from rough-cut blocks and pozzolanic mortar with poor mechanical properties. These constructions are often located in areas with a high risk of seis-

mic activity, and the aim of any renovation and consolidation work must be, at least partially, to prevent or limit damage in the event of an earthquake. In this type of context, the materials and technologies employed to carry out conservative restoration work must be compatible with the mechanical characteristics of the existing masonry, so that the strengthening applied is non-invasive and guarantees the conservation and protection of buildings of historical and artistic interest. An alternative to the conventional materials and techniques normally used to strengthen buildings is offered by *fibre-reinforced polymers*, also known as FRP: recently developed composite materials made up of an organic polymer matrix impregnated with fibres reinforcements with high me-

chanical properties. The fibres used are in either carbon or glass and remain highly durable over the years. Buildings strengthened with FRP are obtained by adding fibre-reinforced composite fabrics, bars, plates and meshes to a building in normal or pre-stressed reinforced concrete. These materials offer various advantages, such as high mechanical performances, low architectural impact, high durability, ease of application and the possibility to carry out interventions which are reversible. These characteristics are all particularly important when the building stock where the intervention is being carried out is of historical or artistic interest.

FRP materials are usually used for the following:

- to restore the durability and load-bearing capacity of damaged structures, on structures where the accidental design loads have varied or on structures whose static load-bearing properties are unsuitable due to calculation errors in the design phase or errors during construction;
- to upgrade structures to bring them into line with new legislation (e.g. seismic norms and regulations);
- to repair structures damaged by seismic activity;
- when building new structures.



In these photos.

Examples of where fibre-reinforced polymer materials have been used for structural strengthening.



Mapei has developed a complete system of FRP products for strengthening buildings and structures:

- adhesives: Adesilex PG2 and Adesilex PG1
- tubes and plates: Carbotube and Carboplate
- glass fibre meshes: Mapegrid G120 and Mapegrid G 220
- basalt fibre meshes: Mapegrid B250
- epoxy primers, mortars and resins: MapeWrap 11, MapeWrap 12, MapeWrap 21, MapeWrap 31 and MapeWrap Primer 1
- carbon fibre and glass fibre fabrics: MapeWrap C and MapeWrap G



MapeWrap System

System for the strengthening and static and anti-sismic upgrading of load-bearing structures.

Ideal for reinforced concrete, masonry, tuff and steel structures.

- Easy and speed of application
 - Excellent durability
 - No risk of problems related to corrosion of the applied reinforcement
 - No mass increase: works using MAPEWRAP SYSTEM do not increase the mass
 - Complete reversibility of the intervention
 - Certified as "A-class Application" in compliance with Italian regulation CNR-DT 200/2004
- Discover the world of Mapei: www.mapei.com



For 75 years we've been helping to build large and small dreams.





The Lusomapei stand at Tektónica 2012 stood out for its striking light-coloured graphics and the company's 75th anniversary logo.

TEKTÓNICA 2012

Innovation and energy efficiency for the Portuguese market

The 14th edition of Tektónica, the Portuguese trade fair dedicated to construction and public works, was held from the 8th to the 12th of May at the Lisbon International Exhibition Centre. This year's edition was a "mini" version with only 3 pavilions in use out of the 4 available. The current economic crisis and the situation in the Portuguese building industry were certainly no help, and the number of exhibitors and visitors recorded at the trade fair were down on 2011. It was, however, an event with a wide array of side events and stimulating features for those working in the sector. Apart from the usual SIMAC, SK and SIROR exhibitions (dedicated respectively to materials and machinery for the building industry, ceramic floor and wall coverings and bathroom and kitchen spaces, and natural stone), the Tektonica 2012 programme also included Tek Machine, Tek Wood e Tek Green, with the latter exhibition dedicated to companies specialised in sustainable building and social responsibility in the building industry. Exhibitions dedicated to restoration work, energy efficiency

and innovation were also represented in the areas Espaços Reabilitação / Espaços Eficiência Energética / Espaço Inovação.

And Mapei Was There Too

Mapei, through its Portuguese subsidiary Lusomapei, was also present at Tektónica 2012 with a stand that stood out from the others for its striking light-coloured graphics, dominated by the company colours and enriched, for this particular occasion, by the company's 75th anniversary logo. Numerous panels and progress slabs were used to show the public the variety of products on offer from Mapei.

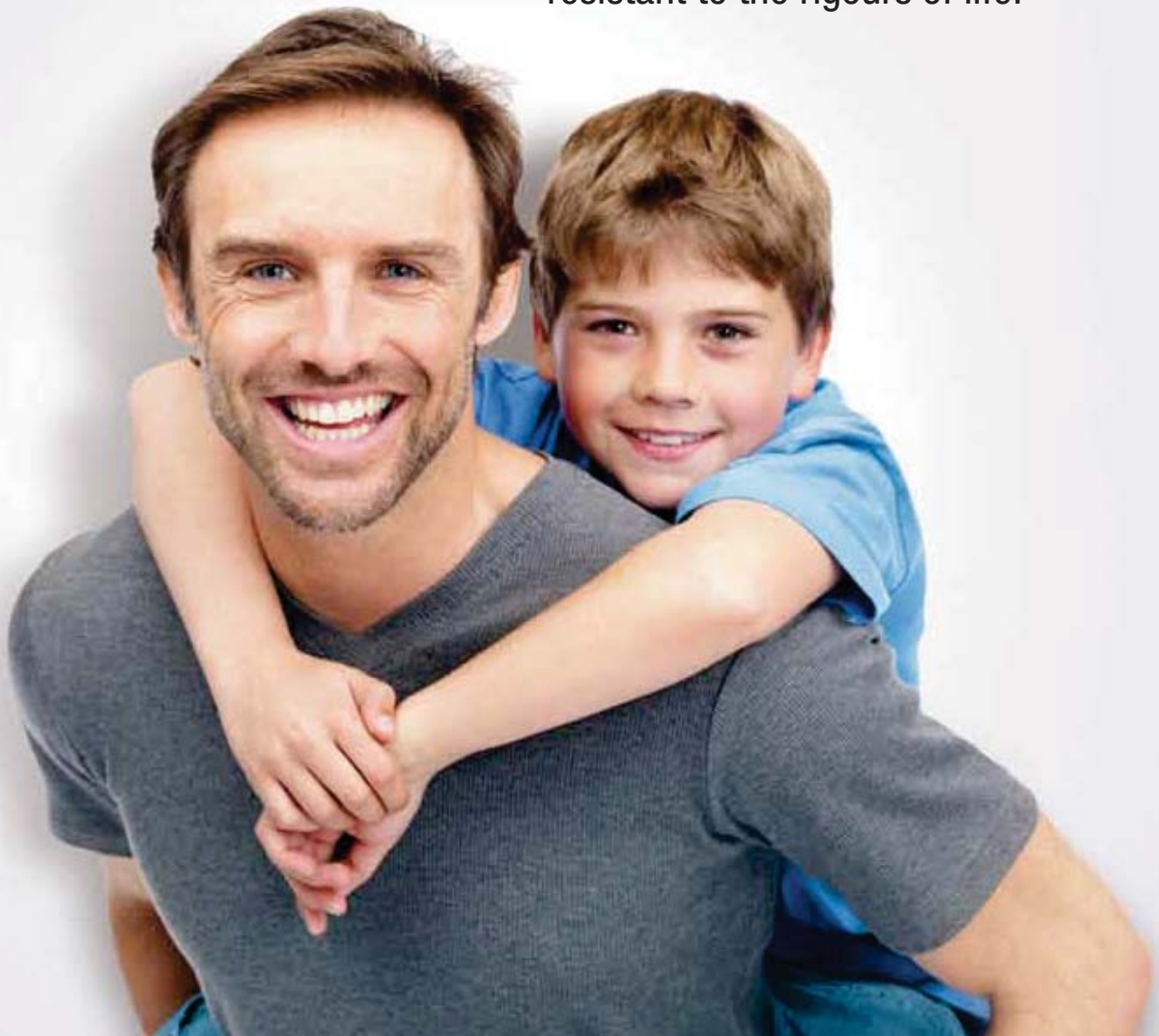
Many sector professionals jumped at the chance to find out more about the latest Mapei products presented at the trade fair, to speak with the sales team and to make the most of the special offers created specifically for this occasion from the ceramics, building, wood and resilient products lines, a clear sign of the fame the Group enjoys and its strong growth on the Portuguese market. And for Lusomapei it was also a chance to exploit the possibility offered by the fair to illustrate various promotional and training activities. One particular event was the organisation of a technical seminar to discuss the MAPETHERM insulating system with technicians specialised in this subject. The seminar was held on the 8th of May at the Lisbon International Exhibition Centre, and was coordinated by the Manager of the Lusomapei Technical Assistance Department, Nelson Moreira.

And within the framework of the Espaço Inovação initiative, Lusomapei also presented MAPETHERM TILE SYSTEM, an innovative insulation system which allows thin, large-size ceramic tiles and stone slabs to be installed on insulated surfaces.



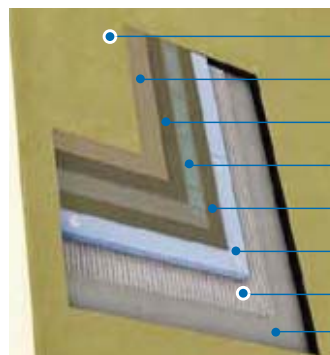
Nelson Moreira from Lusomapei illustrates the advantages of the MAPETHERM insulation system during a technical seminar.

Harmony borne from
a solid bond
resistant to the rigours of life.



Mapetherm® System

Mapei research has developed a series of **adhesives** and **wall coatings** which guarantee the **best possible thermal insulation system** for buildings while increasing **wellbeing** and **energy savings**.



finish **Silancolor Tonachino**

primer **Silancolor Base Coat**

skimming mortar **Mapetherm AR1**

glass fibre mesh **Mapetherm Net**

skimming mortar **Mapetherm AR1**

insulation **Mapetherm EPS**

adhesive **Mapetherm AR1**

cementitious render

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Let's take a deeper look together at: www.mapei.com





BRAGA HOSPITAL

Innovative, high-performance products for a cutting-edge hospital complex

In the presence of then Prime Minister of Portugal José Sócrates, a ceremony was held on the 13th of May 2011 to inaugurate a new hospital in the city of Braga, an important economic hub in Northern Portugal.

The hospital, located in the eastern part of the city, offers assistance and care for the inhabitants of Braga and the surrounding areas, for a total of 1.2 million inhabitants from Northern Portugal. The structure was extended to ten times the size of the existing hospital to offer a better service to the inhabitants of the area by improving the waiting rooms, the specialist medical areas and the diagnostic equipment used, and by introducing new specialist units.

The hospital complex covers an area of 140,000 m² occupied completely by buildings, and an area for clinical units covering approximately 99,000 m².

There are 705 rooms and it uses cutting-edge technology and equipment. The complex has a research centre and a university teaching centre of excellence.

There is a surgery unit in the hospital grounds with 9 operating theatres, a maternity unit with 8 delivery suites, an obstetrics unit and obstetrics ward, 60 outpatient clinics, auxiliary diagnostics equipment and an area dedicated to new specialisations (paediatric surgery, nephrology, nuclear medicine, radio-therapy,

Above. Braga's new hospital offers assistance and care for the inhabitants of Braga and the surrounding areas, for a total of 1.2 million inhabitants from Northern Portugal.

Photo 1. The cementitious substrates for the walls and floors in some of the internal areas, such as the bathrooms and physiotherapy pools, were waterproofed with MAPELASTIC cementitious mortar.

Photo 2. In the foyer of the main entrance hall, 60x40 cm and 50x50 cm natural stone slabs were installed on the floors and walls with ELASTORAPID. The joints were grouted with KERACOLOR FF.





IN THE SPOTLIGHT

ELASTORAPID

It is a two-component, high-performance, highly-deformable, quick-setting and drying cementitious adhesive with extended open time and no vertical slip, class **G2FTE S2** according to **EN 12004** standards.

It is suitable for internal and external walls and floors, and is used to bond all types and sizes of ceramic tile (double-fired, single-fired, porcelain, clinker, terracotta, etc.), natural stone (marble, granite, etc.) and artificial materials moderately sensitive to moisture (corresponding to class B dimensional stability according to Mapei standards), which require the use of a quick-drying adhesive. It helps to earn **2 points** towards **LEED** (Leadership in Energy and Environmental Design) certification.



etc.). The complex also has a car park with approximately 2200 parking spaces, a refreshments area, a cafeteria and a shopping area with various stores.

The new Braga Hospital is part of the José de Mello Saúde private healthcare group. It shares the philosophy of the group, which is to supply a high level healthcare through constant improvement of its human and intellectual resources.

Mapei's Contribution

In this prestigious, cutting-edge complex, innovative products were used for the installation of ceramic tiles and natural stone slabs on floors and walls, which was carried out between 2009 and 2011. The products chosen were obviously from Mapei, which has been doing business in Portugal for 11 years through the subsidiary Lusomapei.

Going into detail, the cementitious substrates for the walls and floors in some of the internal areas, such as the bathrooms and physiotherapy pools (approximately 3,000 m²), were waterproofed with MAPELASTIC two-component, flexible cementitious mortar, a product used successfully all around the world to protect and waterproof concrete surfaces, balconies, terraces, bathrooms and swimming pools.

In the bathrooms and service areas, 20x20 cm ceramic tiles were installed on the walls using MAPESSET cementitious adhesive in powder, produced and distributed on the Portuguese market by Lusomapei. The joints between the tiles were grouted with KERACOLOR FF pre-bled, high-performance, polymer-modified cementitious mortar with water-repellent

DropEffect® technology, ideal for grouting joints up to 6 mm wide. In the foyer of the main entrance hall, and in the foyers on the other floors, 60x40 cm and 50x50 cm natural stone slabs were installed on the floors and walls with ELASTORAPID two-component, high-performance, highly-deformable, quick-setting and drying cementitious adhesive with extended open time and no vertical slip. The joints in these areas were also grouted with KERACOLOR FF. The same products were also used to install natural stone slabs on the walls and floors in the corridors and on the stairways in the hospital.

TECHNICAL DATA

The New Braga Hospital, Portugal
Period of Construction: 2003-2011

Period of Intervention: 2009-2011
Intervention by Mapei: supplying products to waterproof substrates and install ceramics and natural stone slabs on internal floors and walls

Client: José de Mello Saúde
Construction Companies: Somague, Edifer and M.S.F.

Project: Arquitectos Balonas & Menamo and Morschell

Laying Companies: Somague and Edifer

Laid Materials: ceramic and stone

Works Management: MF Engenharia and Quadrante

Mapei Distributors: Socimorcasa and Materiais de Construção Cunha Gomes

Mapei Co-ordinator: Alfredo Antunes, Lusomapei (Portugal)

MAPEI PRODUCTS

Waterproofing the substrates: Mapelastic

Installation of ceramic and natural stone floor and wall coatings: Elastorapid, Mapeset (N.B. this is a product distributed on the Portuguese market by Lusomapei) and Keracolor FF. For further information see www.mapei.com



Peggy Guggenheim COLLECTION

CYCLING,
CUBO-FUTURISM
AND THE
FOURTH
DIMENSION.
JEAN
METZINGER'S
AT THE
CYCLE-RACE
TRACK

CYCLING, CUBO FUTURISM AND THE FOURTH DIMENSION. JEAN METZINGER'S "AT THE CYCLE-RACE TRACK"

Cycling and avant-garde art on display at the Peggy Guggenheim Collection in Venice

Top. A picture of Palazzo Venier dei Leoni, home of the Peggy Guggenheim Collection, seen from Canal Grande in Venice. **Above and opposite page.** Jean Metzinger's "Au Vélodrome" in Venice, 1912. Oil and collage on canvas, 130.4 x 97.1 cm (Peggy Guggenheim Collection, Venice).

An exhibition entitled "Cycling, Cubo-Futurism and the Fourth Dimension. Jean Metzinger's at the Cycle-Race Track" opened on 8th June at the Peggy Guggenheim Collection in Venice and ran until 16th September. The painting "Au Vélodrome" (1912) by the French cubist-futurist artist Jean Metzinger (1883-1956) is the main attraction of the exhibition to commemorate the centenary of its creation. The painting was purchased by Peggy Guggenheim in 1945 and is now part of her collection kept in Palazzo Venier dei Leoni.

"Au Vélodrome" illustrates the last few yards of the famous Paris-Roubaix cycling race and shows the winner of the 1912 event, Charles Crupelandt. The Paris-Roubaix race has various nicknames: the "hell of the north" for the sheer toughness of the cobbled roads along which the riders battle out the "queen of the classics" and also the "Easter race". Metzinger's painting was the first avant-garde painting to portray a sporting event in such a specific and detailed manner.

The tour of the exhibition - as the doors opened to the public on Friday, 8th June - was

given by the deviser and curator of the exhibition in person, Erasmus Weddigen - an art historian and restorer - who was the first to discover the name of the cyclist portrayed in "Au Vélodrome" and the exact year in which it was painted.

A meeting entitled "Recollections of Roubaix" was held the following morning on the terrace of Palazzo Venier dei Leoni Museum along the Canal Grande. Those in attendance included the CEO of Mapei Group Giorgio Squinzi; the editor-in-chief of the Italian sport newspaper *Gazzetta dello Sport*, Andrea Monti; Pier Bergonzi, another chief editor of the same newspaper and the great cyclist like Francesco Moser, who actually won the race over the cobblestones three years in a row (1978-1980).

Art and Mapei Cycling

Mapei was delighted to lend its support to the exhibition and side events as the main sponsor. Firstly, because of its close bonds with both the Peggy Guggenheim Collection in Venice and the Guggenheim Museum in New



York, two great shrines of world culture that Mapei has helped restore. And also due to the specific subject of the event, featuring one of cycling's most emblematic races with which Mapei has a very special relationship.

Mapei sponsored one of the world's leading cycling teams from 1993-2002: members of the Mapei team won the Paris-Roubaix race five times, actually finishing first, second and third in 1996, 1998 and 1999.

"The Paris-Roubaix - so Giorgio Squinzi claimed - is so popular because it represents the ultimate challenge of old-fashioned-style cycling of days gone by. There is not even one single climb but it is still the toughest race in the world and unless you actually get the chance to see just how exhausted the riders are when they reach the Roubaix cycling arena, you cannot understand just how tough the race actually is, beyond anybody's wildest imagination. It is the race I love most and the race in which we achieved our best results".

The exhibition also had the backing of Tempini SpA from Brescia, a company that has been specialising in finishes for architecture and in

installation services/materials for floors and coatings since 1921.

The exhibition's main media partner was *La Gazzetta dello Sport*. Other media partners included the Italian newspaper *Corriere della Sera* and Radio Italia, while the Hangar Design Group handled the event's coordinated communication image.

The Works on Display

The combination of a sporting subject and the ambitious visual layout from which "Au Vélo-drome" actually derives was the starting point for an exhibition that touches on topics like speed, dynamism and the fourth dimension. The main painting is backed up by other works being displayed together to the general public for the first time: two paintings by Metzinger on the same subject and a third, recently rediscovered, on the subject of the fourth dimension.

The exhibition also includes works on the same subject by great masters of Italian futurism like Umberto Boccioni, Fortunato Depero, Gino Severini and Mario Sironi, together with



In these pictures, from above.

Giorgio Squinzi and Adriana Spazzoli with Philip Rylands, Director of the Peggy Guggenheim Collection and, in the photos below, with other guests during the exhibition's opening.

SPECIAL EVENTS



This page.

Pictures of the opening of the exhibition and roundtable entitled "Recollections of Roubaix", which involved, among others, the cyclist Francesco Moser.

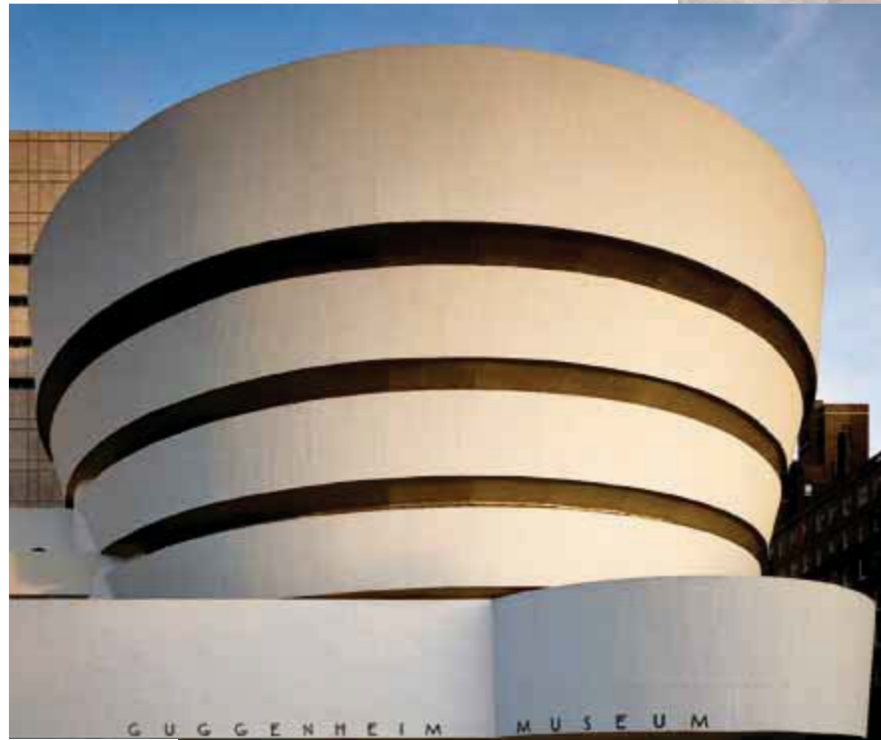
works by Marcel Duchamp connected with the theme of the elasticity of space and paintings by Georges Braque and Louis Marcoussis that illustrate the presence of the "third dimension" in art or, in other words, depth and volume. The exhibition was about the passion, both nowadays and yesteryear, for cycling and for the Paris-Roubaix race in particular, featuring models bicycles borrowed from the "La Belle Echappée" Bicycle Museum in La Fresnaye-sur-Chédouet (France), the Madonna del Ghisallo Cycling Museum, and the designer Marco Mainardi from Studio Dimensione Servizi. The theoretical and sporting themes of the exhibition converged into a bicycle on display to the general public provided by the University of Tübingen (Germany), designed to illustrate Albert Einstein's theories of space-time.

Guggenheim Collection that is connected with the issue of the endlessness time that evokes other works on display with allusions to the "philosophical nature" of cycling races. Referring to his experiences out in the field and at the Paris-Roubaix race, the one Squinzi remembers with the most emotion is the 1995 event, Franco Ballerini's first victory after puncturing five times. "I was there and so was my wife, who actually passed him the wrong wheel in an attempt to try and help him. Watching him win in 1995 was a truly extraordinary feeling because Franco really was Mr Roubaix. I keep the commemorative stone from the 1995 Paris-Roubaix race on my desk. Franco gave it to me at Christmas 2009, a couple months before he died in that terrible rally crash in February 2010".

Paul Wiedmer, a Swiss artist who lives and works between Italy and Burgdorf (Switzerland), created "Cyclosna" specially for the exhibition, a sculpture on display in the Nasher Sculptures Garden belonging to the Peggy

The stone was also on display at the Peggy Guggenheim Collection in Venice, in order to commemorate Franco Ballerini along with the world's most tremendous cycling race, the rider who was its greatest interpreter and whose memory will always live on at Mapei.





Renovation Work on the Peggy Guggenheim Collection and the Solomon R. Guggenheim Museum in New York

The Solomon R. Guggenheim Foundation in New York manages the Peggy Guggenheim Collection in Venice, the Solomon R. Guggenheim Museum in New York, the Guggenheim Museum in Bilbao and the Deutsche Guggenheim in Berlin. Mapei has gradually strengthening its bonds with this prestigious international foundation down the years and has played a leading role in the renovation of two important Guggenheim art locations. In 2009 Mapei helped restore the façades of the Peggy Guggenheim Collection in Venice, home of the American art dealer since 1945 and home of the museum holding her invaluable collection of modern art from the first half of the 20th century ever since 1980. The Istria stone of the façades of Palazzo Venier dei Leoni has been restored to its ancient splendour and the luminous brilliance it must have had when the building was first built in the 18th century. Mapei worked on both the Istria stone façade along the Canal Grande and on restoring the façade along Rio Torreselle, where the museum entrance is located, using innovative lime- and Eco-Pozzolana-based products from the MAPE-ANTIQUE range and coloured finishes of low thickness that are highly permeable to vapour, in order to get rid of any humidity in the walls while, at the same time, keeping the surfaces dry. This important restoration operation was preceded by the renovation works carried out on the Guggenheim Museum in New York in 2008. Considered to be one of the architectural icons of the 20th century, its surfaces underwent significant restoration and repair work that the Guggenheim Foundation commissioned Mapei to carry out. Wright's building, ravaged down the years by atmospheric agents, was full of cracks that began to appear just a few years after it was first built, due to a lack of expansion joints in the reinforced concrete structure. Water and oxygen had damaged the underlying structure by penetrating through these cracks, causing rusting in numerous parts. The repair work took into account the need to maintain a certain elasticity right across the building surface to prevent cracks from forming in the future.

Above. Mapei systems were used to repair and renovate the Solomon R. Guggenheim Museum in New York.

Below. Picture of the façade during maintenance works on the Peggy Guggenheim Collection in Venice.





Above. Franco Ballerini lifts the Paris-Roubaix trophy after winning in 1998 and, in the middle, a picture from the race.

Below. The stone symbolising the Paris-Roubaix race that was awarded to the winner in 2005.



The Cubism of the Paris-Roubaix

In these pages you find the introduction by Giorgio Squinzi to the catalogue of the “Cycling, Cubo-futurism and the Fourth Dimension. Jean Metzinger’s At the Cycle-Race Track” exhibition

The Cubism of the Paris-Roubaix race, the Futurism of the world hour record, the fourth dimension of a Tour never won, that we ended up watching powerlessly and without moving. The race over the cobblestones, the craziest and most unconventional of all cycling races is the best loved and most dramatic for these very same reasons. The race across the cobblestones, the porphyry cubes that also came to symbolise our company and our way of viewing work and industry: one, two, three. Three Mapei riders arriving alone at one of the most important finishes in world cycling, certainly the most familiar and legendary finish in the sport of cycling. One, two, three. Three Mapei men who enter the cycling arena together and are actually all winners, with their arms raised in victory: Museeuw, Bortolami and Tafi. Winning together is the title of that historical day in 1996, which went on to become the philosophy for everybody all those who belonged to, and still belong to, Mapei, whether they are or were riders, staff, managers and researchers.

Cubism as a sublime expression of Impressionism. A snapshot immortalising a moment that will never be repeated. In my case and in the case of Mapei, we went on to win another four times at that prestigious finish. We won four more times on those slimy, dusty paths, always full of bumps: Museeuw won again and so did Tafi, and the never to be forgotten Franco Ballerini won twice. Shortly before passing away, Franco gave me the trophy itself as a present that is now worth its weight in gold to me.

Snapshots of cycling. Snapshots of events that will never be repeated because they were so unique.

Cycling as the myth of speed or, in other words, Futurism. The bicycle as a symbol of movement, even more so than a train or car, and more than all those other devilish inventions that have come after it. Boccioni’s “Dynamism of the Cyclist” is a sublime portrait with its lines of force that allow us all to perceive the effort, impetus and overwhelming dynamics of a certain kind of motion: sublime head-spinning dynamism exulting muscular masses and the person who actually drives his bike along through his own energy. Futurism in the form of the world hour record, that emblematic symbol of speed, strength and dynamism. What a staggering record Tony Rominger set in 1994. In a cycling arena like the one Metzinger imagined, Tony breaks all the boundaries and achieves something crazy and sublime at the same time, a combination of dynamism and harmony. Cycling as a musical score, an algebraic calculation, an exalting of both man and science. What a pleasure it was to be in that cycling arena in Bordeaux with my dear friend Ernesto Colnago, whose eyes had tears in them as he watched his gleaming steel creature. And also with my friend Aldo Sassi, who had studied that record right down to the most minute detail in order to bring out all the qualities of the rider, Tony Rominger, who was both powerful and fragile.

Cycling as chemistry, because love is also chemical. I have always had it in my heart and in my blood ever since I was a young boy, when I went to see Fausto Coppi and picked up his aluminium water bottle at the finish of a Tour of Lombardy, which I kept down the years as an invaluable souvenir of a world was about to fade away. I actually lost the water bottle once when moving house only to



be given it again a few years later by some strange stroke of fate that works in circular patterns based on the same kind of dynamism: sometimes things come back.

I have loved, followed and taken part in cycling. Cycling as a mental approach, as a metaphor of a kind of social and industrial life consisting of stages, climb and descents. But also falls and painful retirements. A life of pedalling for miles and miles, enduring hardship and cultivating fresh dreams, right from the moment the previous stage is over. Being the owner of a cycling team that gave me so much satisfaction during ten years of racing and winning four world championships, four individual world cups, and five team world cups is just like being a captain of industry, who must constantly realise that hitting targets is certainly important but it is even more important to be ready to set new goals.

Another of my victories was spotting Fabian Cancellara: I first met him at the 1999 World Championships in Verona, when he was just 18 years old, and I asked him to join the legendary Mapei youth team, which nurtured so many of today's great cyclists, such as Cadel Evans, Pippo Pozzato and Michael Rogers. He stayed with us and raced in Mapei colours during the 2001 and 2002 seasons.

But I have lost as well as won. And not enjoyed it one little bit. But I also learned that there is a good side to every defeat. I would have liked to have won a Tour de France, but I soon realised that a major stage race could not be won without "a little extra help". I lost the Tour but in some sense I won my own battle by finding my fourth dimension in the creation of the Mapei Sport Centre in

Castellanza (Italy), which is now at the very cutting edge in the world of sports medicine. And it was the Centre that allowed me to win the Tour de France indirectly through Cadel Evans in 2011.

I have always believed it was possible to win without any tricks or cheating. Not a Futurist project but a project of the future. A project shared and totally embraced by my family: by my wife Adriana and my children Marco and Veronica. And fully embraced by a man as visionary as me, who dreamt about the possibility of approaching sport in a certain way and under certain conditions: Aldo Sassi.

Over the years I have won and I have lost: and I have taken stock of all this. But I have never lost my taste for a challenge. After all cycling means passion and love, which in the end is nothing but chemistry, a subject I am very familiar with. But it is also a matter of dynamics and motion. And it is also mathematics: training tables and numbers. It is physics. For us at Mapei, cycling is like the cubist depiction of the Roubaix race, the Futurism of the world hour record, but it is also a way of breaking things down to bring forth a vision of an individual standing still in a "fourth dimension" that is exclusively spatial. We grasp the world's movements standing still here in our laboratories: from science to research, which is the real key to all for me, whether we are talking about industry or sport.

Giorgio Squinzi, CEO of the Mapei Group

Giorgio Squinzi

Above. Johan Museeuw finishes ahead of Bortolami and Tafi in the tumultuous victory in 1996.

Below. Franco Ballerini salutes the fans at the end of the 2001 Paris-Roubaix that was his farewell appearance in cycling races.







MAPEI DAY 2012

Bormio, 15th July STELVIO PASS



Together again on Europe's most beautiful Alpine road

Mapei Day 2012, which was held as usual in Bormio (Northern Italy) over the weekend in mid July, proved to be, once again, a festival of sport and an opportunity to share the company's most deeply ingrained values.

Now at its eighth edition, Mapei Day was also the icing on the cake for the celebrations to mark the seventy fifth anniversary of the founding of Mapei: and the number 75 also had its own special place on the Santini jerseys, specially designed for this occasion and for the three thousand participants who took on the mountain considered the "Queen of Cycling", and for several years now also a favourite spot for runners and roller skiers.

The event, organised by Mapei together with the Banca Popolare di Sondrio bank and the Unione Sportiva Bormiese sporting union, was held under the patronage of the Bormio Town Council, the

Province of Sondrio and the Lombardy region, and with the collaboration of the Mapei Sport Research Centre. And alongside Pirovano, the traditional sponsors of the event were also there: Mic Shimano, Colnago and Santini, along with Bormio Terme, Enervit and Giusani.

With more than 5,000 people flocking to the event in Bormio and in the Alta Valtellina area, with more than 3,000 of them actually taking part in the various races, the growing success of the manifestation and the strong bond between Mapei and the world of sport was confirmed once again, based on their belief in the same shared values: effort, constant team work and taking care of hu-

man resources.

This year, each participant had the chance to unite the pleasure of a sporting challenge with possibility of doing good: in fact, a new fund-raising system was initiated thanks to the solidarity of the "Rete del dono", the gift network, a website which unites Italian fundraisers. The aim, as in previous years, was to raise funds for four associations - Arché, Exodus, Piccola Opera di Traona, Una Onlus - through a webpage dedicated to the Mapei 2012 project "It's great to help the youngest". This initiative offers everybody the chance to make a contribution simply and quickly, either directly with a personal donation or through their own dedicated fund-raising page.



Above. Giorgio Squinzi, CEO of the Mapei Group, and Adriana Spazzoli, Mapei Group's Operational Marketing & Communication Director, were hosts for the evening, along with Piero Melazzini, Chairman of the Banca Popolare di Sondrio.

Below and left. Some photos of the Gala. Alessandro Brambilla was also on stage, commentator and speaker for the events held during Mapei Day, who interviewed the guests at the gala. Below are the cyclists Andrea Tafi and Stefano Zanini with Amedeo Colombo from the Shimano company. In the photo below to the right, Alessandro Brambilla with Mario Zangrando, President of the cycling section of the Unione Sportiva Bormiese, and Luca Mondazzi from the Mapei Sport Research Centre.



SATURDAY 14TH JULY 7 P.M.

EVENING GALA

Tradition wants that, on the Saturday evening of Mapei Day, Mapei's extended family of friends, collaborators and clients join Giorgio Squinzi, CEO of the Mapei Group, and his family before the summer holidays, to share the most memorable moments of the year.

And for an evening the Bormio Sports Centre witnessed the "marriage" between the space allocated to Genoa FC, in retreat in the Valtellina town, and Mapei. More than 1,000 guests enjoyed a dinner based on typical Valtellina dishes accompanied by live music from a jazz quartet, and films and pictures which recalled the 75 year story of the life of the company.

Giorgio Squinzi and Adriana Spazzoli, the Mapei Group's Operational Marketing & Communication Director, were hosts for the evening, along with Piero Melazzini, Chairman of the Banca Popolare di Sondrio.

They were joined on stage by Alessandro Brambilla, commentator and speaker for the events held during Mapei Day, who interviewed the guests at the gala.

The guests included Dr. Claudio Pecci, General Co-ordinator of the Mapei Sport Research Centre in Castellanza (Northern Italy), who announced the winner of the annual "Aldo Sassi" research scholarship for young graduates in Motor Sciences to promote research projects in sports. The winner was Andrea Petruolo, a young graduate in Sports Science.

Launched on Mapei Day last year, this scholarship was instituted in collaboration with Confindustria's (the Confederation of the Italian Manufacturing and Service Companies) Mai Foundation, in memory of the humanity and scientific research activity of Professor Sassi, former General Co-ordinator of the Centre, who passed away in 2010.

The only way to close the evening was to dedicate it to the climb of the Stelvio the following day. Dr. Luca Mondazzi, Head of Sports Nutrition and Dietology Service at Mapei Sport, explained how to eat correctly to face up to the energy loads required to climb the Pass. Mario Zangrando from the Unione Sportiva Bormiese illustrated the difficulty of the route to the guests.

It is big
to help
the little

Below. Giorgio Squinzi receives a commemorative plaque from the Mayor of Bormio Beppe Occhi.





GOLF TOURNAMENT SATURDAY 14TH JULY 9 A.M.

The traditional skiing races were scheduled to be held at Pirovano, but had to be called off because of the bad weather. The participants had a good time all the same in the pleasant company of the Mapei staff.

As in previous years, Saturday was the day of the Mapei Day 2012 Golf Trophy, held on the greens and fairways of the Bormio Golf Club. Apart from the tournament itself, there was also a chance for newcomers to the sport to take the first swings of their "career" on the driving range and practice green.

Although the weather was unsettled the rain never came into play, and the Stableford pairs tournament was won by Gaia Spreafico and Silvia Corbetta who, with 47 points, led the field by just one point against the second-place pair Alfredo Mazzamuto and Ernesto Rigoldi. The best gross points score was by the pair made up of Lorenzo Tomasi and Osvaldo Cella with 40 points, while the best "mixed pair" was Carlo Perego and Simona Sangregorio with 39 points and the best "friends" score was made by Marco Cantoni and Mattia Moretti, with 46 points. In the special Mapei guests group, first place went to Carlo Perego and Simona Sangregorio ahead of Marcello Zamboni and Lorenzo Musicco, while the prize for the first mixed pair went to the team of Santino Bellotti and Laura Squinzi.



On these pages. Photos from the Mapei Day 2012 Golf Trophy, which as usual was held on the greens and fairways of the Bormio Golf Club. The pairs event was won by the team made up of Gaia Spreafico and Silvia Corbetta.



Below. There was also a chance for newcomers to the sport to take the first swings of their "career" on the driving range and practice green.



SUNDAY 15TH JULY 8.40 A.M

ROLLER SKIING

For the third consecutive year, the climb up the mountain on roller skis ended in victory for Simone Paredi who, with the number one on his jersey, was soon heading the race and never lost the lead. Wearing the colours of the Italian army, he passed the finishing line in 1 hour 24 minutes and 16 seconds, with a lead of less than 20 seconds over Eugenio Bianchi from the Sormano Sci Club. Third place went to Francesco Rossi wearing the colours of the AS Lanzada team. In the ladies' race, the Italian national athlete Veronica Cavallar from the GS Monte Giner team soon built up a big lead, and finished in 1 hour 40 minutes 44 seconds (the sixth best time overall). In second place, ten minutes behind, was Ursina Badilatti from Poschiavo, winner of the first ever edition of the roller ski event, while third was Ursula Letocha of the Polish national skiing squad. The team event went to Polisportiva Valmalenco, with Brianza Skiroll in second place and the Junior Poland Ski Team in third place.



In these photos.

The climb up the mountain on roller skis on the Sunday morning was won by Simone Paredi who, with the number one on his jersey, took command early and never lost the lead.



In these photos.

The competitive and amateur races, which set off one after the other, had a large number of participants. The race was won by Daniele Caimmi, wearing the colours of the Fiamme Gialle team.



HALF MARATHON SUNDAY JULY 15TH 9 A.M

There was both a competitive event and an amateur race for the marathon runners. The pacemaker in the Fidal event was Daniele Caimmi wearing the colours of the Fiamme Gialle (the sport section of the Italian police force Guardia di Finanza), who immediately set the pace for the race. During the final bends just before the Pass, Massimiliano Zanaboni from Sondalo (Italy), who runs for the Atletica Valli Bergamansche team, upped the pace and finished less than two minutes behind. Third place on the podium went to Diego Abbatescianni from the Atletica Palzola team. In the ladies' event, Ana Nanu, former member of the Rumanian national squad and running for the GS Gabbi team, was crowned Queen of the Stelvio again this year, with a winning time of 2 hours and 40 seconds, 36th overall. Second place on the podium went to Giovanna Confortola from Livigno (Italy), followed in third place by Ilaria Zen wearing the colours of the Runner Varese team. In the team category, with 410 runners from 84 teams in the half marathon event, first place went to the team that organised the event, Bormiese Atletica, ahead of GS Avis Oggiono and GS Avis Seregno, with Melavi Ponte and GP Talamona just off the podium. In the amateur event, the fastest times were by Andrea Melotti (a promoter of Mapei waterproofing systems line) and Cinzia Ghilotti.





SUNDAY 15TH JULY 9.15 A.M

RE STELVIO



The main event of Mapei Day was without a doubt the cycling event. In fact Mapei Day started in 2005 by uniting with the classic Re Stelvio race, the bike climb from Bormio to the Stelvio Pass, this year at its 28th edition. This challenge is open to all those riders who want to test themselves on what is one of the most famous climbs in cycling. The difference in height is a climb of 1533 metres in 21 kilometres. There were 676 participants classified in the competitive event, with 862 competitors crossing the finish line. The Re Stelvio race saw yet another commanding performance by Alessandro Magli. Wearing the colours of the GS Giuliano Barcella team, he crossed the line in 1 hour 4 minutes 50 seconds, beating Riccardo Corbetta (Carimate Kuota) by 18 seconds and Andrea Acquistapace (Velo Sondriese) by 29 seconds. It was a highly competitive race right up to the end, which is demonstrated by the times of the racers who finished in the top places. In the ladies' race, the star was again Marina Ilmer (Vinschgau Raiffeisen) who stopped the clock at 1 hour 17 minutes 12 seconds, joined on the

podium by Claudia Wegman (Sportverein) and Ludovica Pedretti (UC Valdossola). In the team classification, first place went to Bormiese Ciclismo, which also had the largest number of participants in the race.

Mapei Bike Ride

Those who took part at Mapei Day were involved in a feat that any cyclist would love to include in his trophy cabinet, along the forty bends of the two hundred year old road designed by Carlo Donegani. From the first light of dawn numerous lovers of cycling warmed up around the first bends of the climb, before grouping together at the start and setting off towards the 2,758 m high Stelvio Pass. Giorgio Squinzi also took part at the bike ride, in his first climb since becoming President of Confindustria. And pedalling along with him, for the first time at Mapei Day, was the former Italian Prime Minister and former President of the European Commission Romano Prodi. At 12.15, after completing a tiring race which had started at 9.30 in the morning and lasted 21 kilometres, Squinzi





In these photos.

Photos of the Re Stelvio cycling race, with 676 participants classified in the competitive event and 862 competitors crossing the finish line. There were two VIP participants in the race: Giorgio Squinzi and Romano Prodi (in the photo on the left).

and Prodi crossed the line together, accompanied by running commentary from the legendary voice of Mapei Day Alessandro Brambilla. They were joined by important cyclists such as Tafi, Zanini and Baffi, athletes who left their mark on the world of professional cycling wearing the Mapei jersey. Amongst the VIP pacemakers was the President of the Cycling Sector of the Unione Sportiva Bormiese Mario Zangrando, eye witness to the climb by the two most awaited men amongst the three thousand participants. Prodi was more than satisfied with his performance: "I never felt out of breath, just my legs ache a little".

Giorgio Squinzi also had a smile on his face; he had just finished the climb of the Stelvio in his best time ever. "This is the most beautiful Alpine road in Europe. Cycling is in our DNA. The final 3 kilometres were really tough going, but with a bit of help we made it". While Andrea Tafi, former Italian road racing champion and member of the Italian cycling team on numerous occasions, already knew about Giorgio Squinzi's talent, he had just

found out about Romano Prodi's ability: "He certainly looked on form. I must congratulate him for how well he looks at 73". Between one handshake and another, Prodi could not hide his deep love for sport and for his excellent form: "It's the first time I've climbed the Stelvio from the Valtellina side. I usually climb it from the other side, getting to the top a bit at a time. But I'm in pretty good shape: I've always got a pair of training shoes in my suitcase and I jog every day. I can't take a bike, on the other hand, to China or the United States when I'm travelling".

Our most heartfelt congratulations to Professor Prodi for his tenacity, and congratulations to all those sports lovers who, just like him, decided to be a part of the great Mapei family for a day. Amongst these, just for the record, a special mention goes to Matteo Montanari from the Vinavil Research & Development laboratory in Villadossola who, with an impressive time of 1 hour 18 minutes 19 seconds, was the winner amongst the amateur riders.

PRIZE-GIVING CEREMONY

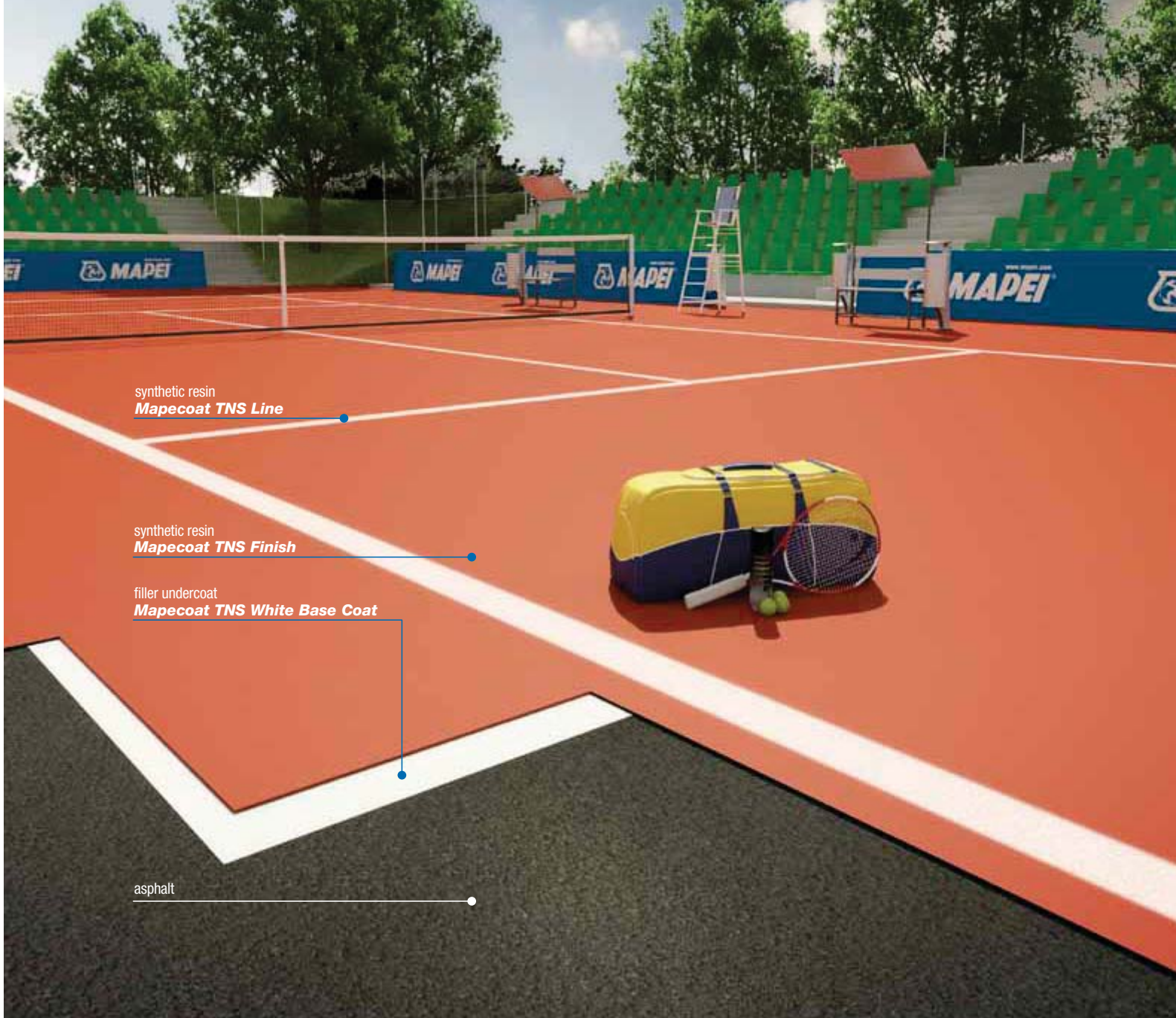
Piazza del Kuerc was the setting once again for the crowds of people who flocked to the prize-giving ceremony. It was a joyous, lively occasion which closed this edition of Mapei day. It included those who had climbed the Stelvio with every means possible and those who had climbed it since the very first edition of the race. In an ideal world, on the podium together with the Unione Sportiva Bormiese there was also Mapei, which once again has shown how to share the company's principles with the vast community of Bormio and with their friends, collaborators and clients. When there is team spirit and the desire to excel, no climb is that difficult.





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