

INTERNATIONAL

[Realtà MAPEI]

ISSUE 50



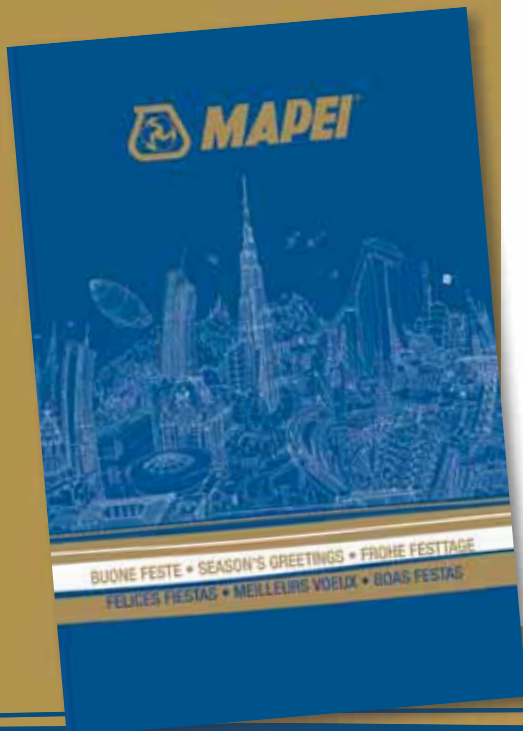
FASHIONABLY GREEN

FOR OVER 30 YEARS



Adriana Spazzoli

*Realtà Mapei
International
Editor-in-Chief.*



Dear Readers,

in a sector like the building industry, which, particularly in various European countries, has hit an all-time low in terms of the number of companies and employees, there are some businesses that are managing to weather the storm and indeed grow. These are business people - whether they be distributors, construction materials manufacturers or building companies - who have set about reorganising their operations as regards their facilities and human resources, well aware of the changes that are now expected of the system of showroom sales and, more generally speaking, the world of building. These are companies which, for some time now, have been at the very cutting-edge in terms of the manufacture and supply of materials for building and furnishing. Well-known names in the sector, which have been working with Mapei for years for business reasons and due to very close ties in terms of friendship. They deserve credit for having realised that investing can help re-launch business, particularly in the long term, when hopefully the economy will get back on its feet. Most of these companies' budgets are allocated for reorganising their business operations, opening up new branches and showrooms, reinforcing sales networks, fine-tuning distribution mechanisms, hiring new staff or training existing staff, and supporting research and innovation. "There are business people who really believe in what they are doing", so Giorgio Squinzi, Mapei's CEO, stated "They are able to make proper investments and bravely take up new challenges every day". What connects Mapei to dozens of other businesses around the world is long-term business thinking based on quality, specialisation, the development of human resources, a personalised customer service, deep roots in local industry, and teamwork. Mapei supports the very best distributors, offering advice about the design of new showrooms, providing displays for exhibiting products systems and offering better marketing consultancy than that available to the competition.

Nowadays a showroom is not just a sales location, but rather a gallery displaying a wide range of solutions for building and architecture. Thanks to over 75 years' experience, Mapei can meet these needs through an extremely wide and varied range of products, not only offering high-tech solutions for energy-saving purposes and guaranteeing the sustainability of buildings at extremely competitive prices, but also providing the technical assistance and, above all, training required for raising the standard of the building industry, which is now being forced to take on operators who are not always sufficiently well-trained or qualified.

After all, it is people who add value to businesses; many pairs of hands which, every day, join together to support the building industry with passion, professionalism and great courage. We would like to wish a very happy and successful 2015 to all these men and women, who have never stopped believing, and to all the readers of *Realtà Mapei International*.

Here is the message I would like to convey to everyone: if we think positively and work together as a team with transparency, commitment and respect, then we will successfully overcome all the difficulties that the global market has in store for us.

BUONE FESTE • SEASON'S GREETINGS • FROHE FESTTAGE

FELICES FIESTAS • MEILLEURS VŒUX • BOAS FESTAS

**SAVE
THE
DATES!**

Mapei will be present next January too at Domotex and Bau trade fairs
Come and visit us!

DOMOTEX

DOMOTEX
17th-20th January,
Hannover (Germany)
Hall 7, Booth A28



BAU
19th-24th January,
Munich (Germany)
Hall B6, Booth 502

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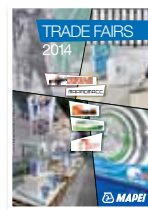
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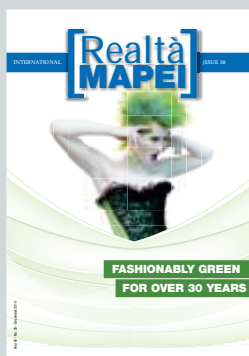


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For further information see
www.mapei.com and www.mapei.it



COVER STORY. For Mapei sustainability is a commitment, not just a passing trend. The company has been investing in eco-sustainable research for more than 30 years. Find out more in the articles starting from page 2. The cover image has been taken from a Mapei UK's campaign promoting environmental sustainability.

EDITOR IN CHIEF
Adriana Spazzoli

**EDITORIAL CONTRIBUTORS
AND ENGLISH TRANSLATION**
Federica Pozzi, Federica Tomasi,
Marianna Castelluccio, Martyn Anderson,
Nicholas John Bartram, Tiziano Tiziani

**PRODUCTION AND EDITORIAL
COORDINATOR**
Metella Iaconello

PHOTOGRAPHIC RESEARCH
Davide Acampora

GRAPHIC DESIGNER
Studio Magazine - Milan (Italy)

PRINTED BY
Rotolito Lombarda - Pioltello (Italy)

PUBLISHED BY
Mapei SpA
Via Cafiero, 22 - 20158 Milan (Italy)
Tel. +39/02/376731
Fax +39/02/37673214
website = www.mapei.com
E-mail = mapei@mapei.it

PRESIDENT & CEO
Giorgio Squinzi

OPERATIONAL MARKETING DIRECTOR
Adriana Spazzoli

REALTÀ MAPEI
Registered by the Tribunal of Milan
n. 363/20.5.1991
Realta Mapei International is published 5
times per year

CREDITS
Confindustria Ceramica, Alec Invernizzi,
Gazzetta dello Sport, Ibermapei, Italian
Ministry for the Environment and the
Protection of the Land and Sea, Lusomapei,
Mapei Benelux SA/NV, Mapei Brasil, Mapei

UK, Mapei GmbH (Germany), Sassuolo
Calcio, UCI



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

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**Giorgio
Squinzi**

President and CEO
of the Mapei Group.



HEADING TOWARDS EXPO 2015 WITH CONFIDENCE AND DETERMINATION

Among the readers of *Realtà Mapei International* there are business partners, customers, designers, opinion leaders and close friends of Mapei. Thanks to their support and determination, the Group has grown over the years and

is continuing to expand across the world.

Once just a means of communication and work tool aimed at providing information about all the company's activities and operations, *Realtà Mapei International* has

gradually developed into a very special publication promoting and publicising the values and principles on which our corporate spirit is founded.

This year's final issue of *Realtà Mapei International* provides an ideal opportunity to take stock of the year that has just gone by, allowing us not only to reflect on the results

we have achieved but, first and foremost, to look ahead with confidence and determination as we plan for the future.

» THE GROUP IS STILL GROWING
AND CAN BOAST 68 COMPANIES
IN 48 COUNTRIES AND 64
MANUFACTURING PLANTS

2014 was a tricky year for the economy of many countries, and the building industry is certainly suffering most in some nations.

Nevertheless, we need to remain confident. We need to believe in ourselves and realise that the building industry is of utmost importance for a nation's revival.

These are tricky times for Mapei, too, but fortunately the Group is still growing right across the world. Today Mapei can boast 68 companies in 48 countries and 64 manufacturing plants. In 2014 the Group managed to achieve a consolidated turnover's growth of +1.6% in Western Europe, of + 2.5% in Eastern Europe, over +13% in the Far East, +36% in the Middle East, +21% in Africa, and +6% in the Americas, with a global corporate growth of 4%, reaching 2.4 billion Euros of aggregate sales in 2014.

To support this growth, the Group never stops investing in new plants and facilities, extending and renovating the existing ones. For instance, two new subsidiaries, Mapei Doha and Mapei Brasil, were recently founded in Qatar and Brazil, respectively. The company GRT (General Resource Technology) was acquired in the USA and relevant investments were devoted to upgrade and extend facilities in Poland, Turkey, Malaysia, Argentina, India, Benelux and Australia.

As *Realtà Mapei International* readers are well aware, the Group's future depends on our desire to invest in research and innovation, in order to cover markets globally on a more efficient and effective basis.

Over the last few years, the companies that have managed to best withstand the impact of the recession are only those that have invested in innovation and human resources with cutting-edge skills and expertise.

Those businesses capable of competing by innovating their processes and products are managing to resist and even grow. Just like many other well-run companies that have managed to make a virtue of necessity during this long crisis period, Mapei, too, has shown its great team spirit and willingness to make sacrifices in order to steer straight ahead towards its targets in terms of growth.

Only if there is a revival in manufacturing will it be possible to create more jobs and hence more employment. The central importance of manufacturing and businesses that do not just "deal in finance" to generate a high level of sustainable growth means that this sector is the real driving force behind economic and technological development. Without manufacturing we would lose our ability to innovate and spread innovation, not to mention our capacity to export and, hence, pay our energy bill and everything that comes from abroad to help run the economy.

As a businessman I am optimistic by nature - and also by creed - and I still think that we can invert the trend that

has hit the economy over the last few years, Plenty of our expectations for a turnaround rest on an event like Expo 2015 in Milan, the first major global event to be held during this recession period.

We have great ambitions for global markets, and for many foreigners Italy set a model worth copying. Milan and its Expo will be a great opportunity to showcase all this.

The entire world will be coming over here. Businesses, visitors, institutions and schools. The world will come to Milan to take a study one of the key issues affecting both the present and future: how we can all feed ourselves in a healthy and sustainable way. There is, perhaps, no

» WE NEED TO BELIEVE IN OURSELVES AND REALISE THAT THE BUILDING INDUSTRY IS OF UTMOST IMPORTANCE FOR A COUNTRY'S REVIVAL

greater and more wonderful cultural challenge facing mankind and Italy in particular, the home of an unrivalled culinary tradition.

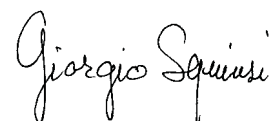
But people will not be coming to Milan for that reason only. They will be coming to Italy to find out what they can achieve in partnership with Italy and Italian companies, to actually see in person what they can invest in and take a very careful look at how Italians have managed to create that Italian style everybody envies us.

This will be an extraordinary showcase focusing on Italians' ability to create innovation. Truly a glimmer of hope.

Business is the true means of modernisation, projecting us into the future even as regards social relations.

For us at Mapei, human resources underscore any possibility of growth. Creativity, autonomy, the ability to join hands and combine our ingenuity, a will to innovate, and the kind of visionary thinking that allows change to be managed rather than imposed, are just some of the distinctive traits characterising the men and women inhabiting the Mapei World.

Thanks to their talent, character, passion and determination, we can look to the future with great confidence.





“Green” Policy Transparent and concrete results

Mapei’s technology and long-standing commitment to the environment involves the company’s facilities, products and processes

Sustainable development depends on the capacity to guarantee a joint effort between the economy, society and the environment, in which each element plays its part in reaching a common goal. If the emphasis is put on only one or two of these aspects, a condition of sustainability will not be achieved.

Well aware of the dynamics involved, Mapei has been dedicated to eco-sustainable research for more than 30 years, investing more than 60 million Euros every year to guarantee 360-degree commitment. The company has developed solvent-free products with low emission lev-

el of volatile organic compounds (VOC) which have the ability to improve the quality of the air in buildings where they are employed, for the well-being of both those who use and apply the products and those who actually use the buildings. Since October 2005 these products, tested and certified by qualified international institutes, have been certified and labelled as EMICODE EC1 (very low emission level of volatile organic compounds) and, since June 2010, EMICODE EC1 PLUS (very low emission level of VOC PLUS), both issued by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe,

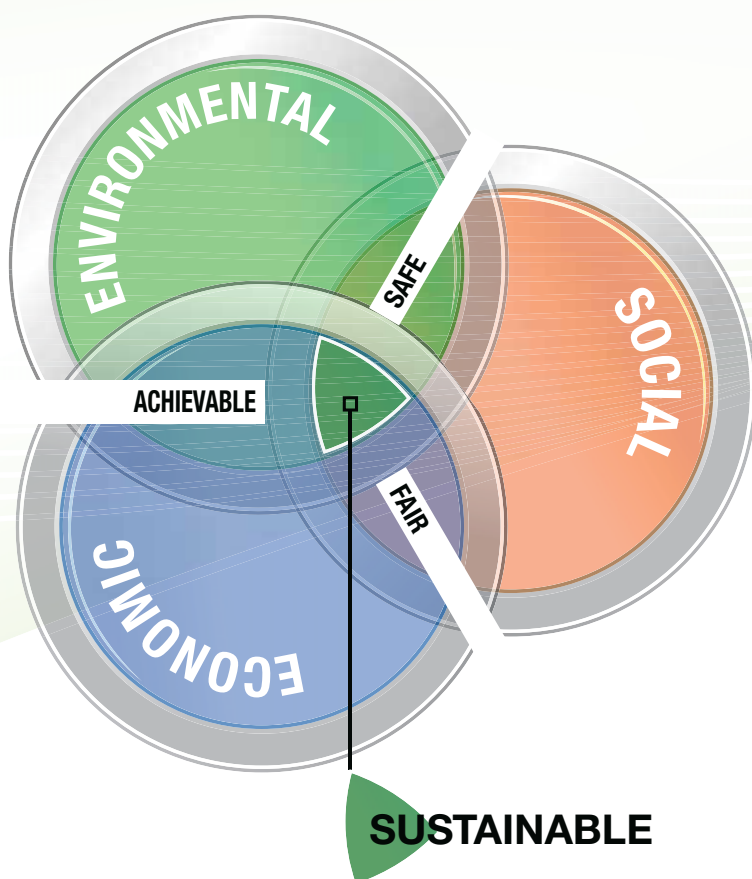
Klebstoffe und Bauprodukte e.V.), a German association which controls the emission levels of products for laying floors, adhesives and building materials and of which Mapei is a member.

Some Mapei products have also been certified DER BLAUE ENGEL, another German mark that guarantees the quality of the air for both workers and end users alike. EMICODE and DER BLAUE ENGEL are extremely severe classification systems that assess the possible emission levels of VOC from products used in the building industry on both a short-term (3 days) and long-term basis (28 days) after they are applied.

Mapei has also been a member since 1992 of the Responsible Care initiative, a voluntary programme for the chemical industry on a global scale, based on the implementation of principles and practices regarding the health and safety of employees, protection for the environment and a commitment to communicate the results achieved.

Mapei solutions allow innovative, certified projects to be carried out that contribute to obtaining precious award points for:

- LEED, “The Leadership in Energy and Environmental Design”, developed by the US Green Building Council, which covers North America and parts of Europe;
- GREEN STAR in compliance with the Green Building Council of Australia;
- GREEN MARK promoted by the Building and Construction Authority of Singapore which covers Singapore;
- BREEAM, “BRE Environmental Assessment Method”, which covers UK and Scandinavia.



LEFT. All industrial activities interact dynamically with the environment, society and the economy. A condition of sustainability can be represented by the diagram on the left, and may only be achieved if environmental, social and economic sustainability are accomplished at the same time.



FASHIONABLY GREEN FOR OVER 30 YEARS

THE 13 CONCRETE EXAMPLES OF MAPEI'S GREEN SIDE

1 A HISTORY OF COMMITMENT

In the 1980's Mapei introduced on the global market a line of adhesives and other building products in water dispersion and with very low emission level of volatile organic compounds. They were first developed in the company's Research & Development laboratories in Canada and then manufactured in all the Group's plants. In 2013 Mapei received a joint grant by the Italian Ministry of Environment to calculate the carbon footprint of some of its products.

2 BIOBLOCK TECHNOLOGY

This innovative technology, developed by Mapei R&D Laboratories, has been incorporated into several products, such as adhesives, grouts and wall coatings, to help protect them from mold and mildew.

3 LOW DUST TECHNOLOGY

Products, such as adhesives and cementitious grouts, containing this innovative Mapei technology benefit from a considerable reduction in the amount of dust released during their production, pouring, mixing and use compared with common Mapei cementitious products. This contributes significantly to improved air quality, a cleaner environment and a cleaner building site.

4 ULTRALITE TECHNOLOGY

Ultralite Technology allow lightweight adhesives to be produced, featuring improved workability, higher yield compared with their corresponding cementitious adhesives, and less transportation costs, while limiting the environmental impact. Beside, Ultralite adhesives feature considerable recycled content, which contribute to obtain points for the LEED certification.

5 PRODUCTS SAFEGUARDING THE ENVIRONMENT

Mapei devotes 70% of its Research & Development investments to the development of products which safeguard the environment. Today Mapei manufactures over 150 products that can contribute LEED credits. Several Mapei products can also contribute to obtain points for the GREEN STAR, GREEN MARK or BREEAM certifications.

6 ENVIRONMENTALLY FOCUSED R&D

Mapei directs the efforts of its 18 R&D Labs to formulating eco-sustainable solutions that maximize environmental and indoor air quality, and have low VOC emission level as well as a high percentage of recycled components.

7 GREEN EDUCATION STRATEGIES

Mapei's agenda of educational programs for professional installers and project designers includes specific workshops on the use of Mapei eco-sustainable products and training courses for project designers on eco-sustainable building.

8 GLOBAL ENVIRONMENTAL MANAGEMENT

Mapei is a fully-fledged member of the chemical industry's global Responsible Care program. The company's Environmental Management System has been certified according to ISO 14001 standard and is registered with EMAS, which commits the company to producing annually an Environmental Declaration report. The company's Occupational Health & Safety Management System has also been certified according to OHSAS 18001.

9 NEW GREEN CONSTRUCTIONS

The new Mapei manufacturing plants are designed and built to achieve LEED certification.

10 SHIPPING AND LOGISTICS STRATEGIES

By shipping or sending efficiently using its own trains and manufacturing products near markets, Mapei reduces fuel use and minimizes truck transportation pollution. For instance, a 12-tank train is able to transport the same amount of goods transported by 36 trucks.

11 "REDUCE, REUSE, RECYCLE" STRATEGIES

Mapei's 64 manufacturing plants are committed to continuously reduce their solid waste and wastewater production and their energy consumption, as well as to use in-house waste and recycled materials in the production processes. For instance, Ultralite S1's recycled content is more than 30%.

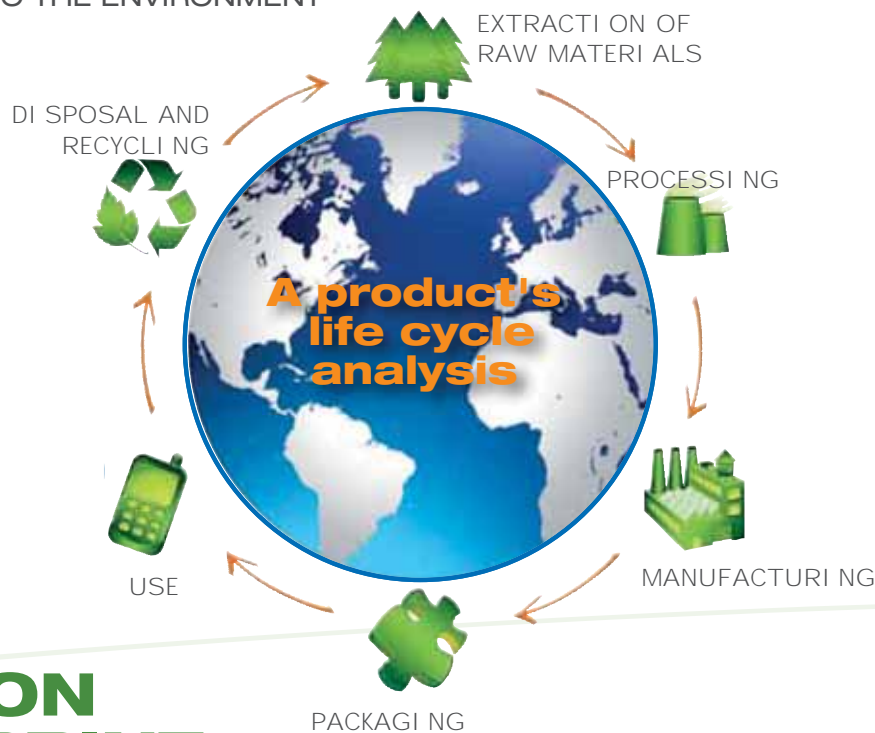
12 ENERGY-SAVING STRATEGIES

Ongoing efficiency goals at Mapei plants focus on optimizing the consumption of energy in manufacturing operations. Mapei also offers solutions for constructing energy-saving buildings.

13 GREEN LABEL PLUS CERTIFICATION

This voluntary industry-testing program for products for textile floor and wall coverings and adhesives for ceramics establishes high standards for Mapei products, with the aim of improving indoor air quality.

COMMITMENT TO THE ENVIRONMENT



CARBON FOOTPRINT

What is a Carbon Footprint?

A Carbon Footprint is a measure of the effect of human activity on the greenhouse effect. Expressed in tonnes of Carbon Dioxide equivalent (CO₂ eq), a Carbon Footprint identifies and quantifies the consumption of raw materials and energy in the phases within the life cycle of a product or process which are normally associated with the emission of greenhouse gases, that is, those gases responsible for climate change.

The Life Cycle Analysis approach

The Life Cycle Analysis (LCA) approach is used to calculate a Carbon Footprint. This method complies with UNI ISO/TS 14067 standard and evaluates the energetic and environmental loads of a product throughout its entire life cycle, "from cradle to grave", from the extraction of the raw materials used to make the product right up to disposal of any waste products, and includes all the phase along the way, such as production processes, distribution and final use.

A Carbon Footprint monitors the sustainability of products and services

For businessmen, companies and organisations, a Carbon Footprint represents an excellent tool to monitor the real sustainability of products and services proposed to the market, offering an objective, measurable value in CO₂ of their contribution to the greenhouse effect.

The advantages of a Carbon Footprint

A synthetic, simple and clear unit of measure to represent an incisive, objective figure: these are the main advantages of a Carbon Footprint. With the value represented by a single indicator it is possible to define the contribution of a product or service to the greenhouse effect. And what is more, unlike other environmental indicators, it is also easy for those with no specialised technical or scientific background to understand the meaning of a Carbon Footprint. Thanks to the objectivity of this

indicator, it also strengthens the capacity of a businessman, company or organisation to communicate their results and for those results to be more easily understood. And to all this we may add the capacity of a Carbon Footprint to promote constant improvement by designing alternative products or improving existing ones; monitoring production and manufacturing methods; more appropriate selection of raw materials and suppliers. All based on the evaluation of life cycles, utilising climate change as the motivation for constant improvement. A Carbon Footprint also allows us to monitor and track the progress made in reducing greenhouse gas emissions and to encourage a change in the behaviour of consumers.

Is a Carbon Footprint a useful tool for Green Marketing?

To qualify products and services with an indication of their position in terms of CO₂ eq emissions has now become a basic requirement, as well as being a qualification point and a way of expressing their competitiveness. There are now numerous examples of products on the market with an indication of their Carbon Footprint or which adopt the phrase "carbon-free" or "carbon-neutral". Indicating the Carbon Footprint value on a product and its relative voluntary emissions compensation is a green marketing tool that has been experimented with success.

Why is so much attention paid to sustainability indicators?

Over the years consumers have been expressing an increasing level of interest for products and services which have a lower impact on the environment and important initiatives have been promoted to reduce greenhouse gases, such as the Kyoto Protocol of 1997 and Europe 2020. With the Kyoto Protocol, countries participating in the project undertook a commitment to reduce certain greenhouse gases in the period 2008-2012 by at least 5% compared with the levels in 1990, while with the Europe 2020 strategy the European Union set an objective to reduce the emission of greenhouse gases in 2020 by 20% or 30% compared with the levels in 1990.

Mapei and the Carbon Footprint project

With a view to offer a constant, significant and tangible improvement in favour of sustainability, in 2013 Mapei took part in the “Open competition for the analysis of the carbon footprint in the life cycle of consumer products”. Promoted by the Italian Ministry for the Environment and the Protection of the Land and Sea, this contest is just part of a more general “Programme to assess the environmental footprint” through which the Ministry involved Mapei and 200 other companies from Italian industry.

The objective? To identify the most appropriate “carbon management” procedures and to support the implementation of low-emission technology. Through this initiative, Mapei has received a joint grant to calculate the Carbon Footprint of some of the cementitious systems for ceramics produced in its manufacturing facilities in Robbiano di Mediglia (Northern Italy), Latina (Central Italy) and at CerCol, a Mapei subsidiary in Sassuolo (Central Italy).

The project aims to analyse and calculate the emission of CO₂ along the entire production process of the products: from acquisition of raw materials right up to the disposal of waste, so a true “cradle to grave” analysis.

Keraquick S1 Zerø grey*, Kerabond and Keraflex Maxi S1 Zerø grey*

The analysed Mapei products are the adhesives KERAQUICK S1 ZERØ grey*, KERABOND grey and KERAFLEX MAXI S1 ZERØ grey*. All the involved products comply with the European standard EN 12004, as for the definitions and specifications for adhesives for ceramic tiles. KERAFLEX MAXI S1 ZERØ grey* is classified as C2TE S1 (high-performance deformable cementitious adhesive with no vertical slip, extended open time); KERABOND grey is classified as C1 (cementitious adhesive); KERAQUICK S1 ZERØ grey* is classified as C2FT S1 (high-performance, fast-setting, deformable cementitious adhesive with no vertical slip).

Mapei and Carbon Neutrality

The analyses have been lately completed and their results have been certified by an external body. Mapei has then analysed the actions required to reduce those phases within the process with the highest emission levels of greenhouse gases. Measures are being verified to assess their technical feasibility and economic sustainability to achieve more efficient carbon management.

At the same time possible measures to neutralise emissions (carbon neutrality) are being identifying. Mapei is analysing all possible compensation measures and assessing their technical and economic feasibility.

*These products are only distributed on the Italian market.



ITALIAN MINISTRY FOR THE ENVIRONMENT
AND THE PROTECTION OF THE LAND AND SEA

SINCE 2013 MAPEI HAS BEEN TAKING PART IN THE “OPEN COMPETITION FOR THE ANALYSIS OF THE CARBON FOOTPRINT IN THE LIFE CYCLE OF CONSUMER PRODUCTS”, WHICH IS PART OF AN ITALIAN NATIONAL “**PROGRAMME TO ASSESS THE ENVIRONMENTAL FOOTPRINT**”. THE CURRENTLY ON-GOING MAPEI PROJECT, WHICH IS CO-SPONSORED BY THE ITALIAN MINISTRY FOR THE ENVIRONMENT AND THE PROTECTION OF THE LAND AND SEA, AIMS TO ANALYSE THE CARBON FOOTPRINT OF ITS HYDRAULIC BINDERS-BASED ADHESIVES FOR LAYING CERAMIC TILES, WITH RESULTS TESTED ACCORDING TO UNI ISO/TS 14067 STANDARD.

Siemens Sustainability Centre in London

One of the world's greenest buildings, achieving Outstanding BREEAM accreditation and Platinum LEED accreditation





Cities are the growth drivers of our future. Half of the world's population already lives in cities, and the number of city dwellers is rapidly growing. But they also account for the biggest share of energy consumption, CO₂ emissions and environmental impact.

In order to protect cities for future generations, we need to balance their overall environmental impact and make better use of finite resources. The good news is that many of the cutting-edge technologies required for this vision of the future are already available. But every individual can make a contribution through the choices we make every day.

To highlight the role of technologies in urban development, in 2012 Siemens opened the Siemens Sustainability Center (also called "the Crystal") in London, a sustainable cities initiative dedicated to exploring how we can create a better urban future.

The heart of the complex is the world's largest exhibition dedicated to sustainable urban development. The crystal-shaped building also serves as a conference centre, urban dialogue platform and technology and innovation centre all in one, bringing together political decision-makers, infrastructure experts and the general public in order to develop concepts for the future of cities and their infrastructures.

After a construction phase of about a year and a half, the Crystal brought an architectural highlight in the Royal Docks district of London. Designed by Wilkinson Eyre Architects, the building spans more than 6,500 m² and is one of the world's greenest buildings, achieving Outstanding BREEAM accreditation and Platinum LEED accreditation, very stringent standards for sustainable design and construction. The Crystal is an all-electric building that uses solar power and a ground source heat pump to generate its own energy. The building incorporates rainwater harvesting, black water treatment, solar heating and automated building management systems. The design of the building's structure provides additional insulation and takes energy efficiency to a new level. The CO₂ emissions from the building are expected to be 23 kg per m², more than 65% lower than comparable office buildings.

At the heart of the Crystal is an exhibition which showcases global trends and challenges, alongside existing technological solutions to build environmentally sustainable, livable and prosperous cities. Across ten zones, the exhibition encourages visitors to change the way they think about their cities, now and for future generations. Through interactive exhibits, films, and animations one can explore a range of issues including city trends, urban planning, smart buildings,

LEFT. In 2012 Siemens opened the Siemens Sustainability Center (also called "the Crystal") in London. The heart of the complex is the world's largest exhibition dedicated to sustainable urban development. The crystal-shaped building also serves as a conference centre, urban dialogue platform and technology and innovation centre all in one.



IN THE SPOTLIGHT

ULTRACOLOR PLUS

It is an improved cementitious mortar for grouting with reduced water absorption and high resistance to abrasion, certified **EMICODE EC1 PLUS** by GEV. It is suitable for grouting of floors and walls in all types of ceramic. It allows you to obtain uniform colour, colours resistant to ultra-violet rays and atmospheric agents, and an easy-cleaning smooth, compact finished surface. It can contribute up to **4 points** to obtain the **LEED** certification.



safety and security, energy, water, healthy life, environment, and mobility. Case studies from cities around the world share innovative ideas. The 'Future Life' theatre invites visitors to imagine how cities might look in 2050.

Laying ceramics with Mapei products

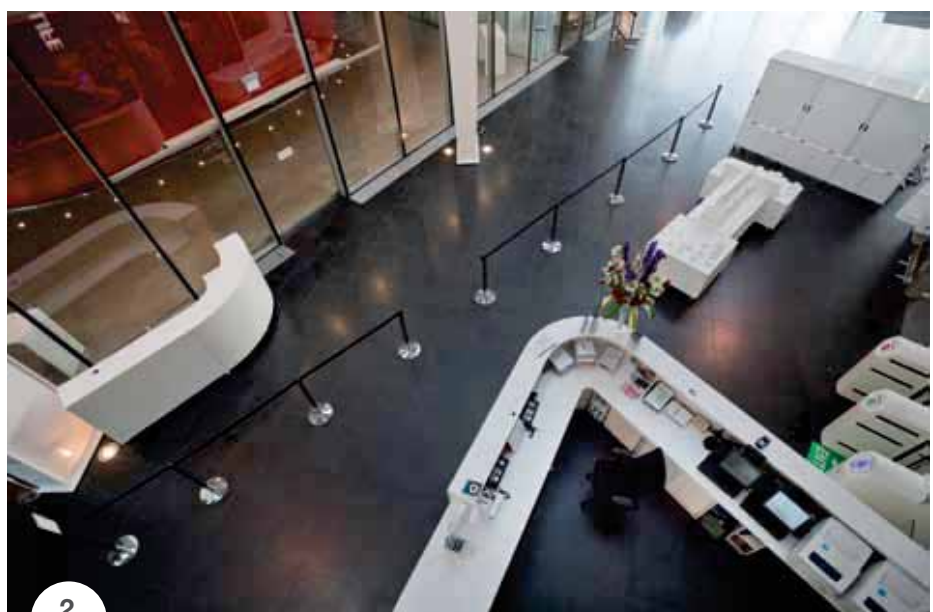
Building such a high-standard complex required the use of professional and eco-sustainable products and cutting-edge technologies that Mapei was ready to offer: ceramic tiles were laid with the company's solutions in several areas of the complex.

Before laying ceramics, the screeds were built by using TOPCEM special normal-setting, quick-drying controlled-shrinkage hydraulic binder for screeds.

KERAQUICK quick-setting, deformable cementitious adhesive was used to bond ceramic tiles on the floors in the reception, the restaurant, the toilets and showers, and other areas of the building. This is a high performance adhesive, with no vertical slip and extended open time. It features very low emission level of volatile organic compounds (certified as EMICODE EC1 R by GEV) and can contribute up to 4 points to obtain the LEED certification for sustainable buildings.

KERAFLEX high-performance cementitious adhesive was chosen to lay the ceramic tiles on the walls of the toilets and showers. This is again a product with very low emission level of VOC (certified as EC1 R), which can contribute up to 4 points to obtain the LEED certification.

All tile joints were grouted with ULTRACOLOR PLUS high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent DropEffect® and





3



4



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mould-resistant BioBlock® technology. This is again a high-sustainability product, with very low emission level of VOC (certified as EC1) and able to contribute up to 4 points to the LEED certification.

PHOTOS 1 and 2. In the reception area and the restaurant ceramic tiles were laid on the floors using KERAQUICK cementitious adhesive.

PHOTO 3. KERAQUICK was also used to lay ceramic tiles on the toilettes' floors.

PHOTO 4. KERAFLEX cementitious adhesive was used to bond ceramic tiles on the toilettes' walls.

PHOTO 5. In all the involved areas the tile joints were grouted with ULTRACOLOR PLUS.

Technical Data

Siemens Sustainability Centre, London (UK)

Project: Wilkinson Eyre Architects, London

Period of Construction: 2011-2012

Period of the Intervention: April - July 2012

Intervention by Mapei: supplying products for laying ceramic tiles on walls and floors in several areas

Client: Siemens

Contractor: ISG, London

Laying Company: Corinthian Ceramics Ltd

Works Direction: Pringle Brandon

Mapei Distributor: Boydens

Mapei Coordinator: Simon Pashley (Mapei UK)

Mapei Products

Building screeds: Topcem

Laying ceramic tiles: Keraflex, Keraquick, Ultracolor Plus

For further information see

www.mapei.com and www.mapei.co.uk



Sustainable management of returned concrete

RE-CON ZERO allows a complete recovery of returned concrete



Every year, ten billion cubic meters of concrete are globally produced. Every day, hundreds of thousands truck mixers load, transport and discharge concrete throughout the planet. Concrete, with a per capita consumption of 3.5 tons per year, is by far the most used construction material.

Its success arises from its universality (it is easily available everywhere), versatility (it can be molded to emulate natural stone or to build modern and contemporary buildings), healthiness (it allows to build safe, healthy and comfortable structures), durability (it can last for centuries, creating a safe environment for present and future generations) and cheapness (concrete buildings are the most efficient and economic compared with those built with other construction materials).

Despite these undeniable qualities and advantages, the serious problems re-

lated to concrete production cannot be ignored, such as the contribution to global warming of cement production, the depletion of natural resources due to the quarries' exploitation and the waste production that, like any other industrial activity, marks the concrete industry too. The main waste material in concrete industry is returned concrete: the unset concrete that, for different reasons, is not placed and comes back to the ready-mixed plant with the truck mixer. It could be merely the leftover at the bottom of the drum or larger amount, even the full load, when the concrete delivered from the batching plant doesn't meet the required specifications at the jobsite. In the United States, the amount of returned concrete is 5% of the whole production, 2% in Japan and Europe, while in developing countries it is less. Even under the conservative hypothesis that

returned concrete only represents 1% of the global production, about 100 million m³ of returned concrete are produced and must be managed globally every year, with a heavy burden for the ready mixed concrete plants.

Usual methods for treatment of returned concrete do not avoid the recourse to landfill, a procedure that is extremely impacting for the environment and, for this reason, doomed to be suppressed by the European Union.

The most common method consists in discharging returned concrete in some area of the plant and let it harden overnight. After hardening, these cuts are stockpiled and stored before being transported to landfill. A second method consists in producing precast elements, usually cubes, to be used as walls, balance weights, etc. Nevertheless, the market of these elements is scarce and only a lim-

ited amount of returned concrete can be transformed in blocks and the rest is sent to landfill.

The third system is based on reclaiming plants where concrete is washed with plenty of water to separate coarse fractions from the finer ones. Aggregates and sand can be recycled and the aqueous suspension containing the finer elements (cement, fillers) can be reused, after sedimentation, as mixing water to produce new concrete. Sedimentation sludge from this process are classified as dangerous waste and must be disposed properly. Even if wastewaters originated from this process are clarified by sedimentation, they still contain high concentration of dissolved solids, including hexavalent chromium and other metals, which can adversely affect the hydration of cement and be a source of environmental contamination.

The innovation of RE-CON ZERØ

Mapei has developed RE-CON ZERØ, an innovative additive capable of transforming returned concrete, in few minutes and without expensive and complicated reclaiming plants, into a granular material that can be fully reused as aggregate for new concrete, without any waste production, neither liquid nor solid. RE-CON ZERØ is a two-component additive in powder form, packaged in water-soluble plastic bags, which is added into the truck mixer containing returned concrete. The different ingredients of RE-CON ZERØ absorb water from the mix and transform 1 m³ of concrete into 2.3 tons of granular material, in which the original coarse aggregates of the concrete is the core and the mortar fraction is the exterior shell, as shown in Figure 1. At the end of the process, the material is discharged and let harden on the ground before being moved with a loader and stored to be reused.

Aggregates produced with RE-CON ZERØ can be reused to produce new concrete, as partial or whole replacement of natural aggregates. According to the EN 206 norm, up to 5% of natural aggregates can be replaced with the aggregates produced with RE-CON ZERØ for any type of concrete, while the use of higher dosages is recommended for non-structural concrete.

The sustainability of RE-CON ZERØ

The following points make RE-CON ZERØ the most sustainable system for recovering returned concrete:

- returned concrete is fully recovered, thus eliminating the use of landfill;
- no waste, neither liquid nor solid, are produced;
- reduction of natural aggregates consumption (from 1 m³ of returned concrete, 2.3 tons of aggregate are produced);
- reduction of road transportation (aggregates are produced at the ready-mix plant);
- easy-to-use and safe;
- reduction of disposal costs;
- reduction of supplied natural aggregates.



FIGURE 1. Composition of fresh aggregate produced with RE-CON ZERØ

The environmental impact of RE-CON ZERØ

The environmental impact of RE-CON ZERØ has been quantified by LCA (Life Cycle Assessment) methodology. This methodology allows to estimate, for any process/product, the impact on the main environmental parameters, like the Global Warming Potential (GWP100). LCA methodology has been applied to the whole cycle of production of concrete, to estimate the impact of each of the following stages:

- 1) production/quarrying of raw materials,
- 2) transportation of raw materials to the ready-mix concrete plant
- 3) batching the concrete
- 4) transportation of concrete to the building site
- 5) placement
- 6) returning the concrete to the ready-mix plant
- 7) processing the returned concrete with RE-CON ZERØ and recycling in the concrete plant.

To draw a comparison, the same methodology has been applied for the disposal of returned concrete to landfill. The whole process is represented in Figure 2. Computer simulations of the different scenarios were performed with GaBi software (PE International) owned by

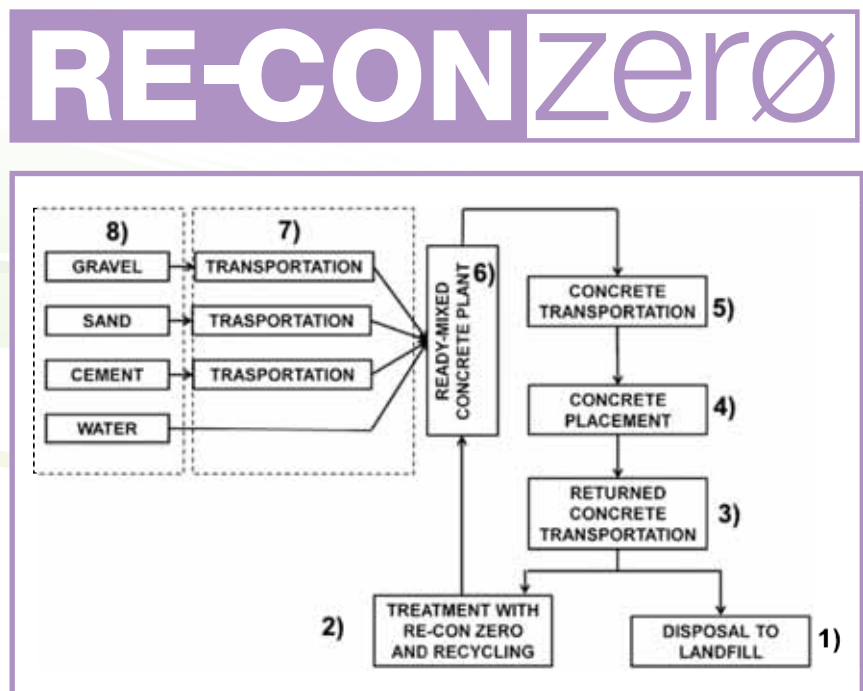


FIGURE 2. Flow diagram of raw materials/unit processes for the production of returned concrete, with different options of recovery with RE-CON ZERØ (7) and disposal to landfill (8).

» WITH RE-CON ZERØ 1 M³ OF RETURNED CONCRETE PRODUCES 2.3 TONS OF AGGREGATES, COMPLETELY REUSABLE FOR NEW CONCRETE.

Parameter	unit	Impact/m ³ of returned concrete	
		7) Recover with RE-CON ZERO	8) Disposal to landfill
Global Warming Potential (GWP ₁₀₀)	kg CO ₂ eq.	3.26	268
Eutrophication Potential (EP)	kg PO ₄ ³⁻ eq.	0.0094	0.19
Acidification Potential (AP)	kg of S eq.	0.0644	0.864
Ozone layer Depletion Potential (ODP)	kg CFC-11 eq.	2.35E-07	2.75E-08
Depletion of abiotic resources - elements (ADP elements)	kg Sb eq.	8.97E-06	1.79E-05
Depletion of abiotic resources - fossil fuel (ADP fossil fuel)	MJ	109	2360

TABLE 1. Environmental impacts of returned concrete with RE-CON ZERØ recovery (7) and disposal to landfill (8).

Mapei. This software has been developed to run simulations of Life Cycle Assessment (LCA), Life Cycle Engineering, technology analysis, energy efficiency and sustainability reports. The software has been built on the GaBi environmental database, completed with Swiss Ecoinvent database. The results of the different environmental impact factors, referred to the production of 1 m³ of returned concrete and expressed in the different units, are shown in the table above.

The results of Table 1 clearly indicate that recovery of returned concrete with RE-CON ZERØ has definitely a much lower impact compared to disposal to landfill for most parameter. The main reasons for the much lower impact are:

- No disposal to landfill

Returned concrete disposed to landfill is burdened with all the most negative impacts, such as depletion of natural resources, gas emissions and groundwater contamination. Particularly, concrete debris can lead to leaching of hexavalent chromium and other metals and contamination of groundwater. With RE-CON ZERØ, returned concrete is not disposed to landfill, but fully recovered to produce new concrete. Furthermore, RE-CON

ZERØ does not produce any waste, neither liquid nor solid.

- Reduced depletion of natural resources
With RE-CON ZERØ, the consumption of natural aggregates is reduced, because part of the aggregates are replaced by those produced with RE-CON ZERØ.
- Reduced road transportation.

Road transportation of both natural aggregates from the quarries to the RMC plants and returned concrete to the landfill consume fuel and produce gas emissions. RE-CON ZERØ reduces the road transportation impact because returned concrete is completely processed and reused at the ready-mix concrete plant.

Social benefits

RE-CON ZERØ is based on non-dangerous additives and, consequently, the involved risk is low. Furthermore, the additives are sealed in water soluble plastic bags which prevent the direct contact with operators. Furthermore, by eliminating the landfill disposal, RE-CON ZERØ contributes to the recovery of land for social and entertainment uses.

Economic benefits

RE-CON ZERØ eliminates the costs of

landfill disposal and allows significant savings on the aggregate supply. In fact, 1 m³ of returned concrete produces 2.3 tons of aggregates, completely reusable for new concrete.

Conclusions

RE-CON ZERØ allows the full recovery of returned concrete into aggregates, which can be completely reused to produce new concrete.

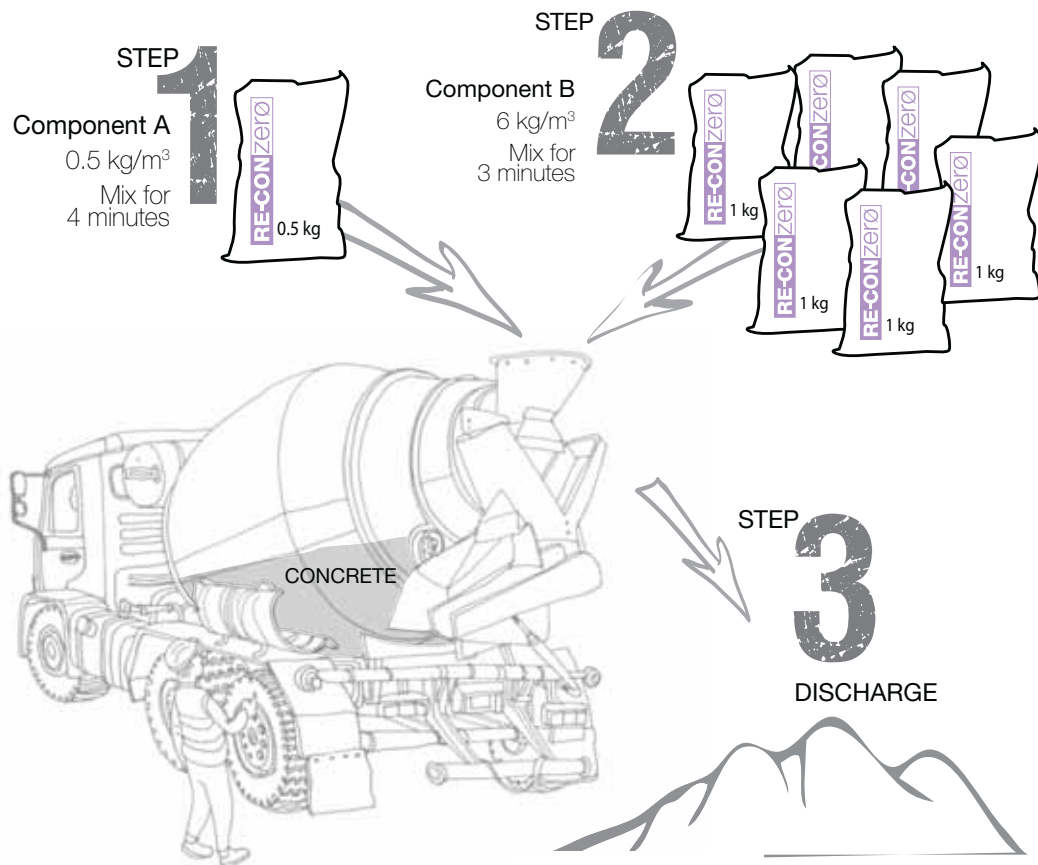
Compared with other methods of managing returned concrete, RE-CON ZERØ has the lowest environmental impact because the disposal to landfill is avoided and both the depletion of natural resources and road transportation are reduced. The additional benefits from the social and economic point of view make RE-CON ZERØ a highly sustainable product and confirm Mapei's strong commitment to develop products for the protection and improvement of the environment.

Giorgio Ferrari. Mapei R&D Laboratories

RE-CONzerø

Returned Concrete at Zero Impact

SUSTAINABLE RECOVERY OF RETURNED CONCRETE



RE-CON ZERØ

The innovative product for the sustainable recovery of returned concrete

- No waste produced
- Added directly into the truck mixer
- No treatment plants required
- Re-usable aggregate for concrete
- Minimize environmental impact
- Reduce overall operating costs



This product contributes points to LEED credits.

Product Info



/mapeispa

Mapei is with you:
let us take a closer look at www.mapei.com







1000!

AND COUNTING!

First 1000 days without accidents at the Mapei manufacturing plant in Latina

The Mapei manufacturing plant in Latina (Central Italy) has reached and passed its target of 1000 days without injuries at the workplace (last October they were 1200). It is the first of the Group's plants in Italy to reach this important target and so, to celebrate this important achievement, the company's CEO, Giorgio Squinzi, met with all the plant staff headed by Giovanni Volpe, the long-time plant Director, and Michelangelo Finocchiaro, his assistant, on 20th May to take part in a special dinner held in Latina during which he expressed his admiration for what had been achieved; he then invited everybody to continue along this path, so that the event could be repeated upon reaching 2000 days and then 3000!!!

This target proved just how important team play is in attaining any goal. The safe behaviour demonstrated by all the staff on a day-to-day basis contributed in a decisive way, while the local responsible of HSE (Health, Safety and Environment) together with all the managers and supervisors, successfully conveyed just the right values and training required, helped along by Giovanni Volpe e Michelangelo Finocchiaro.

This achievement is, above all, proof of the Mapei's Group's constant and determined commitment in terms of safety, health and the environment. Obtaining ISO 9001 for its Quality System, OHSAS 18001 for its Health and Safety Management System and ISO 14001 Certification for its Environmental Management System was the launch pad for reaching this goal, and it is what the Group's management team expects of all its plants and plant managers.

In relation to this, the Group's Health, Safety and Environment management team has been further reinforced by appointing Eng. Maurizio Pellizzon as Corporate HSE Manager, merging Operational Safety led by Maurizio Sangalli. The aim is to reach 1000 days and beyond at all the Group's plants and warehouses.

Here is what the plant Director Giovanni Volpe had to say

■ **1000 days without any accidents or injuries: what does this target mean for the Mapei Group and for the plant in Latina in particular?**

It is certainly an important stepping stone for the Mapei Group and the plant in Latina, an achievement that ought to make us proud and committed to continuing along this same path.

■ **How was this target achieved?**

Achievements like this are attained thanks to everybody's efforts from the plant and warehouse workers to the maintenance people, whom I would like to encourage to maintain the same level of attention in the future, thanks also to the efforts of the managers, supervisors and all those other people in charge, who have the task of monitoring the workers and informing them about the best types of behaviour to adopt.

■ **How important was it to attain Quality (ISO 9001), Safety (OHSAS 18001) and Environmental (ISO 14001) Certifications?**

Obtaining certain kinds of certification and, even more significantly, the work carried out daily to maintain and improve performance levels, provide a decisive contribution to achieving goals and hitting targets.

■ **What are the next goals in terms of Safety and Health?**

Our main goal is still "zero accidents and injuries" and we are committed to extend the 1200 days we have already achieved in October. This means maintaining the necessary vigilance as regards people's health and getting workers even more closely involved in maintaining a high level of risk-perception as regards safety.



ABOVE. Giorgio Squinzi with Giovanni Volpe, the Director of the Mapei plant in Latina. **BELOW.** Pictures taken at the dinner during which Giorgio Squinzi and plant staff celebrated hitting the target of 1000 days without accidents or injuries.



A plant in constant growth



The Mapei manufacturing facility in Latina is a very important production and logistics hub because of its central location and production capacity. The site includes 8 production lines, 7 dedicated to powdered products and one dedicated to liquid products, and a department with two modular electronic dosing plants for colouring products from the company's Wall Coatings Line (Colormap). The Latina facility is committed to promoting the use of energy produced by renewable sources, and a photovoltaic plant, installed on the roof of the facility and already in service, was inaugurated during the Fabbriche Aperte event in 2011 (see *Realtà Mapei International* No. 36). Thanks to the electrical energy produced by the photovoltaic plant in Latina, approximately 550 tons less CO₂ per year are emitted into the

atmosphere – the equivalent of approximately 6,000 car journeys from Rome to Milan – for a total of approximately 10,800 tons of CO₂ over 20 years.

The Latina facility is also committed to health and safety and respect for the environment. In 2008, the site was awarded the Certificate of Excellence awarded by Certiquality, which certifies compliance of the ISO 9001 norms for Quality Management. The plant also obtained ISO 14001 Certification for Environmental Management and OHSAS 18001 Certification for Occupational Health and Safety Management.

The Latina plant is a jewel in the crown of the Group's facilities thanks to its excellent use of resources, careful attention to safety and health, and a level of absenteeism much lower than the average one in this sector.

135,000 m²

total surface area of the manufacturing facility

16,500 m²

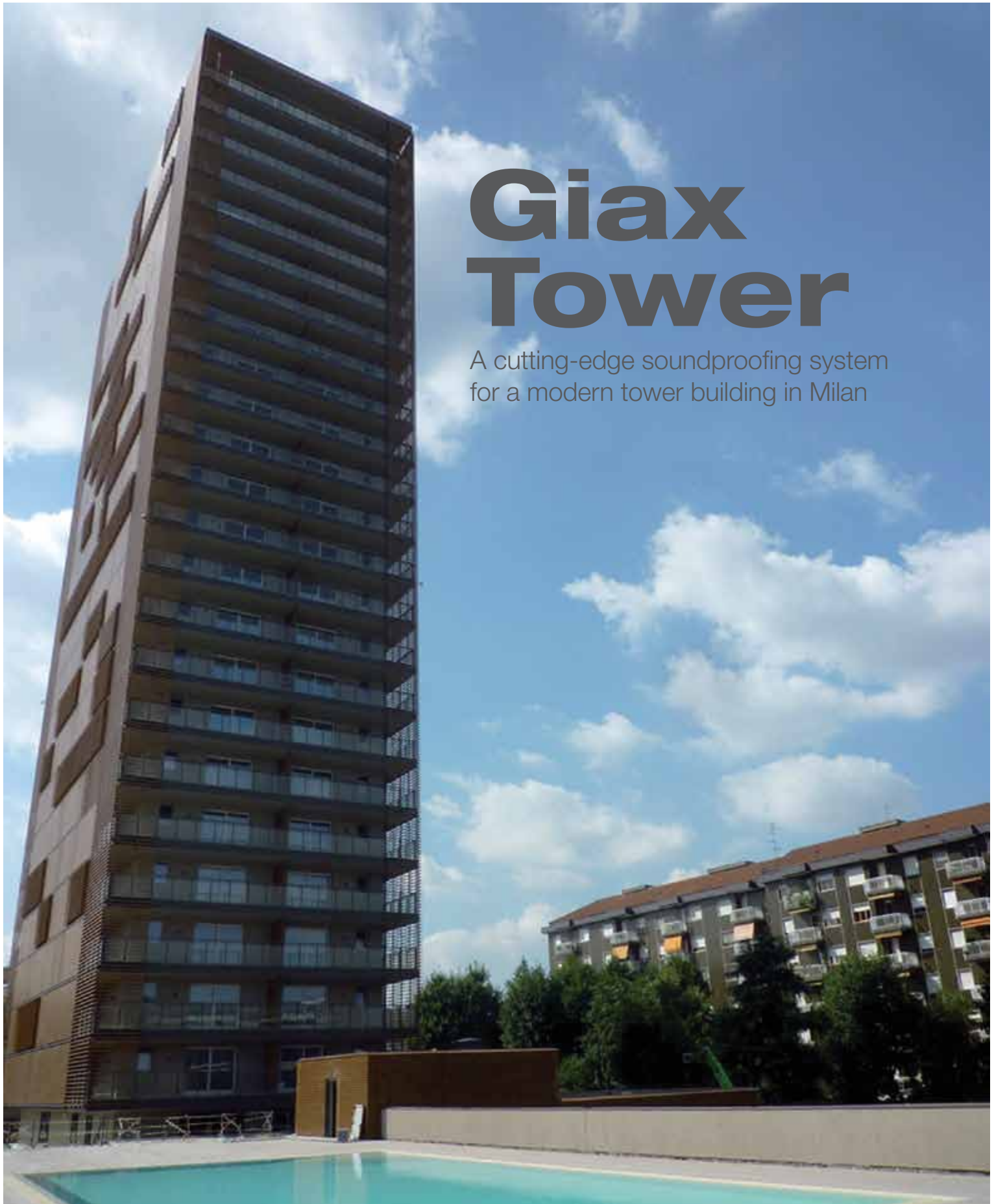
total covered area of the facility

131

employees

Giax Tower

A cutting-edge soundproofing system for a modern tower building in Milan





An image of the Giax Tower. The building has electrically-operated sun-shades with horizontal blades.

Just like any other large city Milan is in constant transformation and its districts are cyclically “rediscovered” and restored with new buildings and infrastructures. Just such an example is the Giax Tower, a recently constructed tower building in Via Imbonati in a busy district where the post-industrial areas have been slowly replaced by new buildings. Comprising 106 apartments and 211 garages, the building has plant and service systems that exploit geothermal energy to heat and cool the apartments, produce service water and heat the communal swimming pool. Electrical energy is generated by photovoltaic panels situated on the roof. Eco-sustainable strategies have been adopted to reduce energy consumption by more than 50% compared with a normal building. The external structure of the tower plays on

the use of natural, high quality materials such as crystal, Corten steel (a special type of steel alloy particularly resistant to corrosion, with a specially coloured coated finish) and sun-shades made up of horizontal blades. The electrically-operated sun-shades along the north and south-facing sides are an architectural feature that helps shield the rooms in the building from direct sunlight and the heat in the summer and protect them from cold air in the winter.

A soundproofing solution

The Giax Tower has a central body measuring 34x18 m with 25 floors above ground and 2 floors below ground level, for a total height of around 90 m. The central nucleus of the building, made from reinforced concrete, has stairs, lifts and service areas and is the



PHOTO 1. The MAPESILENT ROLL sheets were laid over the concrete surface with the fibre side facing down.
PHOTO 2. The sheets were overlapped by 5 cm to prevent the formation of acoustic bridges.
PHOTO 3. After making sure the various sheets of MAPESILENT ROLL were perfectly positioned, MAPESILENT BAND R 50/160 was applied around the perimeter of walls and all the overlaps were sealed with MAPESILENT TAPE.
PHOTO 4. MAPESILENT BAND R 50/160 adhesive membrane was placed along the walls.



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**IN THE SPOTLIGHT
MAPESILENT SYSTEM**

The system is made up of MAPESILENT ROLL sheets, MAPESILENT BAND R adhesive membrane, and MAPESILENT TAPE sealing tape. It is a simple and efficient way to create a floating screed perfectly isolated from the structure and on which it is possible to install any type of flooring (ceramics, stone materials, parquet, vinyl, linoleum, rubber, etc.).

PHOTO 5. A screed made from TOPCEM was built above the soundproofed substrate.

PHOTO 6. Once the screed was cured, porcelain tiles were bonded with KERAFLEX MAXI S1.

PHOTO 7. Tile joints were grouted with KERACOLOR FF.

higher standards of living comfort it was decided to also apply a specific soundproofing system to combat the noise of footsteps.

The designers and the client turned to Ma-pei Technical Services and, after several site surveys, they proposed soundproofed floating screeds (covering a total area of around 10,000 m²) using the MAPESILENT soundproofing system. The electrical and hydraulic systems were installed on the load-bearing floor slabs and were then embedded within a lightweight screed. MAPESILENT ROLL sheets were laid over the screed. They are made up of a bitumen and special polymer-based elasto-plastomeric membrane sandwiched together with a resilient layer of polyester fibre and a surface coated with a layer of blue non-woven polypropylene fabric. The sheets were laid along the base of the walls and rolled out with the fibre side facing down. Other sheets were then rolled out to overlap the previous sheets by at least 5 cm.

After making sure the sheets of MAPESILENT ROLL were correctly positioned, all the overlaps were sealed with MAPESILENT TAPE closed-cell foam polyethylene adhesive seal-

structure that guarantees the overall stability, in terms of both resistance to horizontal stresses (earthquakes and winds) and to limit oscillations at the upper floors caused by the wind.

The floor slabs in the tower were built with a 24 cm thick layer of reinforced concrete joined to a reinforced concrete nucleus. Even though these floor slabs already provide pretty good soundproofing, to guarantee even



8

ing tape. MAPESILENT BAND R 50/160 adhesive membrane was then applied around the perimeter of walls and around all the elements passing through the screed and was pressed firmly down to guarantee a proper adhesion on the substrate.

Portions of MAPESILENT TAPE were then cut into the corners and on the fillet joints between the pieces of MAPESILENT BAND R 50/160 to make sure all the joints were perfectly protected. The adhesive tape was also applied on the overlaps between MAPESILENT ROLL

PHOTO 8. The wooden floor was bonded with ULTRABOND P902 2K.

and MAPESILENT BAND R 50/160. Once work had been completed, it was important that MAPESILENT TAPE was visible on all the overlaps and joints between MAPESILENT ROLL and MAPESILENT BAND R 50/160.

Installing the floorings

3/10 mm sheets of polyethylene were then applied on the soundproofing system. Adjacent sheets were overlapped by 20 cm and the sheets were also folded up along the bottoms of the walls around the perimeter of the rooms, before sealing all the overlaps with adhesive tape. To improve thermal insulation of the floor slabs, extruded polystyrene foam panels were applied over MAPESILENT system. A 4 cm thick floating screed was then built, made from TOPCEM normal-setting, quick-drying hydraulic binder. The screed was reinforced with an electro-welded steel mesh and divided into pitch areas every 5 m. Once the screed was fully cured, the floor coverings were then installed. For the 30x60 cm porcelain tiles, the recommended adhesive was KERAFLEX MAXI S1 high-performance, deformable cementitious adhesive with no vertical slip, extended open time and Low Dust technology, classified as C2TE S1 according to EN 12004 standard. The tile joints were then grouted with KERACOLOR FF. After preparing the substrate, wooden flooring was installed where specified using the two-component, epoxy-polyurethane adhesive ULTRABOND P902 2K.

The leftover portions of MAPESILENT BAND R 50/160 were then trimmed. When work had been completed, an environmental acoustics engineer from an external inspection agency tested the floor slabs that had been soundproofed. The results demonstrated the system's excellent soundproofing capacity with an impact sound pressure level ($L'_{n,w}$) of 42 dB according to ISO 717-2.

Technical Data

Giax Tower, Milan (Italy)

Period of Construction: 2011-2014

Period of Intervention: 2012-2013

Intervention by Mapei: supplying products for building soundproofing substrates, laying porcelain tiles and wooden floors

Project: De Architectura Srl, Stefania Beltrame & Sandra Gelmetti Architetti Ass.

Client: Milano 1 Srl

Works Direction: Nunzio Alessandro

Castiglione, Emiliano Conti, Alberto Vintani

Building Site Director: Oscar Turri

Contractor: CMB Coop. Muratori Braccianti

Laying Companies: Emmezeta Snc, Ceramiche Frattini Srl

Mapei Co-ordinators: Massimiliano Nicastro and Antonino Munafò, Mapei SpA (Italy)

Mapei Products

Preparing and soundproofing the substrates:

Mapesilent Band, Mapesilent Roll, Mapesilent Tape, Topcem

Laying porcelain tiles and grouting the joints: Keraflex Maxi S1, Keracolor FF

Laying wooden floors: Ultrabond P902 2K.

For further information see the websites

www.mapei.com and www.mapei.it.

Let's hear what Giovanni Gelmetti, the real estate developer behind the construction of the Giax Tower, has to say



As a real estate developer you have become quite a topic of conversation, particularly for the innovation you have brought to the Italian residential construction world. Have you been inspired by any particular project or have you chosen to create a future reference point for the private building sector?

I have found inspiration in a number of international cities, as well as in my own particular vision.

In your opinion, is Italy a country that attracts foreign investors? If yes, which do you think are the most interesting sectors to invest in?

Absolutely not, Italy is not a country that attracts foreign investors.

Let's talk about your most recent "creature": the Giax Tower. It has been described by the press as "a project with impact, energising, with the capacity to attract even the younger age groups". Can you explain what is behind this statement?

We have designed small units so that they are also more economically accessible to young couples with the desire to live in a home with the characteristics of the Giax Tower.

What are the strong points of the Giax Tower that make it unique on the new skyline of Milan?

Its price, its extremely high quality, the benefits offered by communal areas such as the gymnasium, the spa centre, the library room and the "Infinite View" swimming pool, all immersed in 6,000 m² of parkland.

Giax Tower is a combination of design and eco-sustainability. It is a new form of real estate development that has taken hold in Milan and other Italian cities. In your opinion is this kind of choice rewarded by the buyer? And what does it mean for a real estate developer to construct using eco-compatible criteria?

House buyers are certainly becoming more and more aware and are tending to go for eco-compatible projects. Education in every sector is the fuel that allows us to grow. A businessman must be committed and obliged to learn more about all the changes that are going on around him and promote them.

What kind of economic return is there in constructing buildings that have adopted cutting edge, eco-compatible technology, and to propose them in such a critical moment as this for the real estate sector?

This kind of technology is very expensive and the economical advantages are for the buyers.

You chose to construct in an area that is still considered to be part of the outskirts with clear reminders of its industrial past. Why?

I really enjoy bringing out the best in semi-central areas where "ugliness" has often taken over.

There have been rumours of a new project for a British version of the Giax Tower in the ultra-modern Nine Elms district of London. Can you tell us anything about it?

We are still in the initial design phase. London has always been a very dynamic city that offers opportunities and stability.

As a builder and real estate developer, what do you think of the new urban development work that has already been carried out or is still ongoing in Milan such as Porta Nuova and City Life?

I am really happy about the new projects in Milan; I sincerely hope the city is able to attract the type of people that want to live in a modern European capital.

What do you expect from a company that supplies technical solutions?

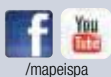
Constant commitment to research into new technical solutions!!



Mapesilent Comfort

Cross-linking expanded polyethylene soundproofing membrane for floating screeds against the noise from footsteps.

- Rapid, easy application
- Low-thickness
- High reduction of noise from footstep
- Contributing to improve thermal insulation



/mapeispa

Mapei is with you: take a closer look at www.mapei.com



ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING



Mapestone: the answer to architectural stone floorings

Lovely to look at, stone floors are often used to decorate city centres. Mapei proposes an innovative system for more durable stone floors

Hands up those of you who, especially in the rainy months, have tripped over a pot-hole in an asphalt road or a raised or loose stone slab. Road surfaces wear out or are damaged for a number of reasons, such as environmental factors and loads from traffic. The functionality and maintenance carried out on the surface of roads are fundamental to guarantee a smoother, safer ride for drivers, motorcyclists and cyclists.

Architectural stone floors selected for use on roads, in town squares and for pedestrian areas in historical town centres regularly need maintenance to ensure safety for pedestrians and transportation vehicles as well as an attractive look. However, the need to regularly rebuild sections of floorings cause city councils several management problems. Porphyry cube setts, blocks, and stones slabs are traditionally laid in place on beds of sand or sand and cement and, as time passes by, continuously move out of place. Why? This problem is mainly due to two factors: mechanical stresses induced by the passage of cars and heavy-goods vehicles, which cause subsidence of substrates if they are uneven or too weak, and the freeze-thaw cycles which freeze the water which has penetrated into the surface and breaks up the paved surface. Other causes include the use of de-icing salts which break up the surface of the joints by reacting with concrete.

To solve the problems involved by architectural stone floorings in urban contexts, Mapei developed the MAPESTONE system including MAPESTONE TFB 60, MAPESTONE PFS PCC 2 and MAPESTONE PFS 2 pre-blended mortars. Stone road surfaces built with this system are resistant to freeze-thaw cycles, de-icing salts and rain. The mortar used does not break up and remains stable and intact for years.

These products meet the requirements for exposure class XF4 enclosed in UNI EN 206-1 standard, which specifically indicates

class XF4 concrete for this type of application. Dangerous hollows do not form in the covering of the road, which would indicate that the structure is giving way, and no interventions are required later on to restore the surface to the correct level.

- MAPESTONE TFB 60 is a pre-blended mortar made from special binders, selected aggregates in a granulometric curve and specific additives. It is especially suitable for making screeds which are resistant to freezing weather and de-icing salts (exposure classes XF3 and XF4) and feature high mechanical strength (C50/60).
- MAPESTONE PFS 2 and MAPESTONE PFS PCC 2 are pre-blended, high-strength mortars for grouting architectonic stone floorings with XF4 exposure class, high resistance to freeze-thaw cycles, compression and de-icing salts.

Let us see some examples of MAPESTONE SYSTEM's applications.



Zagreb city centre
Zagreb - Croatia



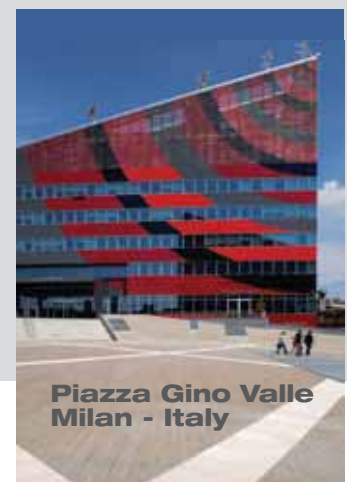
Piazza Duomo - Milan - Italy



Barcelona Promenade - Spain



Strada Maggiore
Bologna - Italy



Piazza Gino Valle
Milan - Italy



Piazza Duomo in Milan

Requalification work on the most visited square by the inhabitants and visitors to Milan started with the appearance of flower beds, with hornbeams and clerodendrums sprouting and blossoming amidst lush green grass, and a large rectangular tub containing rotated crops of herbal plants and cereals. After the small city gardens and orchards – that will remain in place for the next three years – restyling work was carried out; cleaning and replacing the areas of floors in poor condition and completely renovating the taxi area.

Requalification work on the floor slabs in Piazza Duomo was carried out during last summer, in preparation for Expo 2015, and was completed in autumn. The intervention, which has cost one million Euros, included a renovation of almost half the square (for a total surface of 5,000 m² out of 11,000 m²). The local city council expressly requested the company carrying out the work to use materials that would withstand rain and de-icing salts, the main cause of the deterioration since the last work carried out eight years ago, when at the end of winter the square was in a very poor state with stone slabs that were broken and sunken into the ground.

Mapei intervention

The work was carried out on four sites: two on the cathedral forecourt (on the Galleria Vittorio Emanuele side of Piazza del Duomo and the area from the forecourt to Corso Vittorio Emanuele), one opposite Via Marconi and one on the lower end that connects Via Mazzini and Via Mengoni, comprising the lane reserved for taxis and the lane used by normal traffic. Mapei Technical Services were on hand to assist in the work carried out on the square. Instead of the conventional technique of installing and grouting the slabs with sand and cement, Mapei Technical Services proposed the use of the MAPESTONE system to the contractor and works director, a system with the ability to resist freeze-thaw cycles and de-icing salts. After examining the slabs, it was decided to remove the broken ones and replace them with pink granite slabs from Baveno (Northern Italy), while the remaining slabs were reused after giving them a thorough cleaning. The installation screed was made from MAPESTONE TFB 60 pre-blended mortar. The slabs of granite (measuring 50x150 cm) were installed in 40 m² pitch areas and the expansion joints were sealed with MAPEFLEX PU45. Work was completed by grouting the joints with MAPESTONE PFS 2 pre-blended mortar, which has high mechanical strength (C45/55) and high resistance to abrasion.



TOP OF PAGE. The installation screed was made from MAPESTONE TFB 60 and a coat of bonding slurry made from PLANICRETE, water and cement was applied on the back of the slabs.

CENTRE PAGE. Tapping down the slabs into their final position.

ABOVE. The joints were grouted with MAPESTONE PFS 2.

Technical Data

Stone floorings in Piazza del Duomo, Milan (Italy)

Year of Construction: 1950

Year of the Intervention: 2014

Intervention by Mapei: supplying products for laying stone slabs, grouting joints, sealing expansion joints

Client: Milano City Council

Works Direction: Balconi – Milan City Council Technical Department

Building Site Direction: Michele Rago, Fabio Donzelli

Laying Company: DAF Costruzioni, Milan

Mapei Distributor: DAF Costruzioni

Mapei Co-ordinator: Dario Casale, Mapei SpA (Italy)

Mapei Products

Laying stone slabs and grouting joints: Mapestone TFB 60, Mapestone PFS 2, Planicrete

Sealing expansion joints: Mapeflex PU45

For further information see

www.mapei.it and www.mapei.com



Piazza Gino Valle in Milan

Situated in the north-western part of the city, the Portello district may be considered one of the most important urban development areas in Milan. Once home to the main production hub for Alfa Romeo car manufacturer, since 2001 work has been ongoing to construct a new district covering an area of 260,000 m².

The man in charge of the urban development and reconversion plan for this former industrial area and the development of business, commercial and residential buildings and footpaths to connect the buildings was the Italian architect Gino Valle. The architects Cino Zucchi and Guido Canali also worked on the development plan for the industrial area and designed, respectively, several residential buildings completed in 2007 and an office complex incorporating the original façade of the Alfa Romeo canteen, and six towers, each 12 storeys high. The new square, inaugurated last June and named in honour of Gino Valle, has three glass-fronted parallelepiped buildings around it designed by the Valle design studio, which overlook the old Milan Exhibition Centre and Viale Scarampo. Behind the square there is also the new headquarters of A.C. Milan football club, designed by Fabio Novembre and including a red and black glass wall. This large space, with its dream-like atmosphere covering an area of 20,000 m² (6,000 m² more than Piazza del Duomo), will be the largest square in Milan. It is a pedestrian only, raised square with a slight slope of 5% and terminates in Viale Serra, where you can also find the new cycle and pedestrian overpass which connects it to the new Parco Portello district. At the entrance to the square there is also an imposing bas-relief in cement by the Italian artist Emilio Isgrò entitled "The Great Cancellation for Giovanni Testori".

Mapei intervention

Slabs of grey stone were used to pave the area, inlaid with a pattern of white marble slabs to form a series of decorative rhombi. After bonding the slabs on the concrete floor slab reinforced with electro-welded mesh, the joints were grouted with MAPESTONE PFS 2 pre-blended mortar for architectural stone floors. The expansion joints were sealed using MAPEFLEX PU 45.



PHOTOS 1 and 2. The stone slabs were laid on a concrete floor slab reinforced with electro-welded mesh. The joints were grouted with MAPESTONE PFS 2 pre-blended mortar.

PHOTO 3. At the entrance to the Piazza Gino Valle square there is a bas-relief in cement by the Italian artist Emilio Isgrò.

PHOTO 4. The expansion joints were sealed with MAPEFLEX PU 45.

Technical Data

Piazza Gino Valle, Milan

Period of Construction: 2013-2014

Year of the Intervention: 2014

Intervention by Mapei: supplying products to grout floor joints and seal expansion joints

Project: Studio Valle Architetti Associati

Client: Milan City Council

Works Direction: Falcetti

Laying Company: CGG (Costruzioni Generali Gilardi)

Mapei Co-ordinator: Antonio Salomone, Mapei SpA (Italy)

Mapei Products

Grouting floor joints: Mapestone PFS 2

Sealing expansion joints: Mapeflex PU45

For further information see

www.mapei.it and www.mapei.com



Reconstruction of the centre of Zagreb

Reconstruction work was recently carried out in the centre of Zagreb, capital city of Croatia, in the area between the central Ban Jelačić square and the Kaptol district. The construction of several new residential buildings and the Ban Center business complex in this part of the city has led to the creation of a new square and an expansion of the existing pedestrian area.

Mapei intervention

The centre of Zagreb is characterised by its stone flooring, and the local council decided to restore the streets near Zagreb main square and install architectonic floors on that area. The stone was installed on a substrate made from concrete reinforced with electro-welded mesh. The joints were grouted with MAPESTONE PFS PCC2 pre-blended, polymer-modified mortar with a low modulus of elasticity, high compressive strength and good resistance to de-icing salts and freeze-thaw cycles. The mortar helps guarantee the durability of architectonic stone floorings in exposure classes XF3 and XF4 according to UNI EN 206-1:2006.

ABOVE. A view of the finished work.
LEFT. The stone was laid on the installation layer and the joints were grouted with MAPESTONE PFS PCC 2 mortar.

Technical Data

Stone floorings in the city centre, Zagreb (Croatia)

Year of the Intervention: 2013

Intervention by Mapei: supplying products for sealing floor joints in the main square and the adjacent streets

Project: Branko Siladin BSc in Arch.; I.P.B. Car d.o.o., Alojzije Car, BSc in Engineering

Client: Zagreb City Council

Laying Company: Stipe Lucic, Stone Center and Cutting Stone-masonry

Mapei Co-ordinators: Marco Pagliani, Mapei SpA (Italy), Blazenka Rukavina, Nenad Karalija, and Severin Camdzic and Jozo Grgic, Mapei Croatia Ltd

Mapei Product

Grouting stone joints: Mapestone PFS PCC 2

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



ABOVE. After removing the slabs in poor condition, the surface was treated with MAPESTONE 3 PRIMER and the installation was made using MAPESTONE 2. Both products are distributed on the Spanish market by Ibermapei.

RIGHT. A view of the promenade.



Technical Data

Promenade, Barcelona (Spain)

Year of Intervention: 2013

Intervention by Mapei: supplying products for laying and grouting stone slabs along the promenade

Client: Barcelona City Council

Laying Company: Rubatec

Mapei Co-ordinators: Joan Lleal and Jaume Valls, Ibermapei SA (Spain)

Mapei Products

Treating the substrates:

Mapestone 3 Primer*

Laying stone floorings:

Mapestone 2 Primer*

Stuccatura delle lastre:

Keracolor PPN*

* These products are distributed on the Spanish market by Ibermapei

For further information see

www.mapei.com and

www.mapei.es

Barcelona promenade

The long promenade running along the sea-front was completely renovated for the 1992 Olympic Games held in the Catalonian capital. The promenade has turned into a favourite daily meeting place for the people of Barcelona and the thousands of tourists that visit the city every year. The area of the promenade situated in front of the Olympic port is devoted to leisure services and restaurants. The famous Arts Hotel and the Casino of Barcelona are located here. This area was lately involved in renovation works that made use of Mapei products.

Mapei intervention

The flooring for the promenade was made from slabs of stone in different sizes. Over the years, however, because of the passage of time and the constant pedestrian and cycle traffic, the slabs needed to be reinstated. Mapei Technical Services recommended the MAPESTONE system. After removing the slabs in poor condition, the old installation layer was removed and, after cleaning the surface, a layer of MAPESTONE 3 PRIMER was applied. While this layer was still wet, the floor covering was applied over it using MAPESTONE 2 fibre-reinforced cementitious mortar for installing internal and external stone floorings. The joints were then grouted with KERACOLOR PPN. All the products used for this intervention are distributed on the Spanish market by Ibermapei.



Choose Mapestone. Time will prove you right.

Traditional stone flooring
- with signs of deterioration

Stone flooring installed with
Mapestone® System - durable and long-lasting

Mapestone System

The innovative installation system for porphyry and interlocking stone flooring, to make installing quick and long-lasting.

Mapestone System for architectonic stone floors which lasts a lifetime

- less maintenance
- less noise
- lower risk of falling
- Flooring rapidly put into service
- Resistant to freeze-thaw cycles and de-icing salts
- High resistance to wear and tear from public transport and commercial vehicles



LONG-LASTING



LESS MAINTENANCE



HIGHLY RESISTANT



LESS NOISE

Product info



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Mapei and the world of building:
let's take a deeper look together at www.mapei.com





Munich Central railway station

Large natural stone slabs were safely laid on the mezzanine floor using Mapei products

ABOVE. Munich Central Station's main hall was lately renovated to obtain a brighter, safer space.

BELOW. An external view of Munich Central station.

RIGHT. 350,000 travellers visit Munich Central station everyday.

350,000 travellers pay a visit to Munich Central railway station everyday making it the second most visited railway station in Germany along with Frankfurt Central station behind the Hamburg main station which holds the leading position. Munich Central railway station is also one of the most important hubs of Munich's local transport system: it is one of the most visited subway stations in the Bavarian capital with five subway lines and more than 200,000 passengers each day. However, the effect of the railway station be-

ing used extensively over a period lasting more than 30 years has not gone unnoticed. It was therefore decided to completely renovate the building in 2011, without interrupting the transport operations.

A modern and bright new look

The station's main hall measures over 6,000 m² with entrances and exits to the subway and tram lines. Before the renovation intervention, it was dominated by the shops' central location as well as by numerous fixtures





and installations that were entangled with one another and confusing. The hall appeared to be lacking a clear design concept and looked worn and dark.

The Munich office of the architectural firm Auer Weber was responsible for planning the refurbishment work. The renovation of the main hall and the mezzanine floor has given the station back a contemporary and bright appearance. In the main hall confusing fixtures and installations were removed or redesigned. The subway exits now have a high glass enclosure that makes it easier to locate what visitors are looking for, offering a high level of transparency and security. Dark corners are a thing of the past, thanks also to an extensive use of LED lights, a proper design for walls, and the use of glass for all the shops' façades. The subway's exits are now covered with silver enamel panels which provide the whole area with an elegant and airy touch.

Mapei's intervention

The mezzanine floor leading from the central station's main hall to the subway was rebuilt over a period of three years with excellent results. The renovated area can now boast a brand new look: bright, spacious, and with a clear design. The modern, large natural stone floor plays a key role in achieving this effect. The floor slabs are made of a fine-grained

gray granite stone from Portugal.

Such high-quality floor needed to be laid with professional products. Tried-and-tested solutions from the Mapei line for natural stone were therefore used to guarantee that the floor was laid rapidly and safely.

It was crucial to prepare the substrate in a proper way to ensure the ideal conditions for a perfect installation.

The first step involved priming around 4,800 m² of concrete substrates with PRIMER G synthetic resin primer in water dispersion, with a very low emission level of volatile organic compounds (VOC). The surfaces were then waterproofed with MAPELASTIC to protect the concrete against deicing salt solutions. MAPELASTIC is a two-component, flexible cementitious mortar for waterproofing balconies, terraces, bathrooms and swimming pools. MAPEBAND alkali-resistant, rubber tape was used on the corners between walls and floors.

To ensure an even substrate, the surface was then levelled with ULTRAPLAN MAXI self-levelling, ultra quick-hardening smoothing compound for thicknesses from 3 to 30 mm. This product is ideal for smoothing substrates before the installation of ceramic or stone materials. It is especially suitable for floorings where a high resistance to heavy loads and traffic is required, as it was the case in the Munich station's mezzanine.

IN THE SPOTLIGHT MAPELASTIC

It is a two-component, flexible cementitious mortar for protecting and waterproofing concrete surfaces, renders or cementitious surfaces. MAPELASTIC is used for waterproofing concrete basins containing water, bathrooms, showers, balconies, terraces and swimming pools before laying ceramic tile coverings, as well as for underground concrete structures.

It can contribute up to **3 points** to obtain the **LEED** certification.



PROJECTS LAYING NATURAL STONE

RIGHT. Floors were renovated in the mezzanine using granite slabs.

BELOW. After preparing the substrates with PRIMER G, MAPELASTIC and ULTRAPLAN MAXI, stone slabs were laid with MAPESTONE 1, a product that is manufactured and distributed on the German market by Mapei GmbH.



The challenge of laying large slabs

Bonding large-size stone slabs requires high-quality laying operations. Installation times are longer in comparison with those of small-size slabs due to the limited number of joints. This must be taken into account when selecting the proper adhesive. On the mezzanine of Munich Central station large natural stone slabs were laid rapidly and safely using MAPESTONE 1 adhesive, which is manufactured and distributed on the German market by Mapei GmbH. This is a grey, polymer-modified, rapid-setting and rapid-drying adhesive made of binding agents, selected aggregates with a proper grain size and special additives. When mixed with water, MAPESTONE 1 becomes extremely smooth and easy to apply, suitable for thicknesses from 5 to 20 mm.

Floors bonded with this adhesive can be walked on and the joints can be grouted after two or three hours under standard climatic conditions. MAPESTONE 1 is especially suit-

able for bonding natural stone slabs with significant thickness tolerances and/or large sizes.

The floor joints were then grouted with ULTRACOLOR PLUS, a high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent DropEffect® and mould-resistant BioBlock® technology for grouting joints from 2 to 20 mm wide.

This product guarantees perfect colour uniformity and colour resistance to ultra-violet rays and atmospheric agents; short waiting time before cleaning and easy finishing; a smooth, compact finished surface, with low water absorbency for easy cleaning; optimum resistance to abrasion, compression and flexural strength, even after freeze/thaw cycles; good resistance to acids. This ensures that the surface has optimum durability as it is necessary in public areas with a high number of visitors such as the mezzanine floor in Munich Central station.

Technical Data

Mezzanine floor at Munich Central Station, Munich

(Germany)

Period of Construction: 1847-1849

Period of Intervention: March 2012 - April 2014

Intervention by Mapei:

preparing the floor substrates, laying natural stone, grouting joints

Client: SWM München GmbH, Munich

Design: Auer+Weber+Assoziierte Dipl.-Ing. Architekt Dominik Fahr, Munich

Laying Company: Bachl GmbH & Co. KG, Röhmbach (Germany)

Mapei Distributor: Bachl GmbH & Co. KG

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

Mapei Products

Preparing and waterproofing the substrates: Primer G, Mapelastick, Ultraplan Maxi

Laying stone materials:

Mapestone 1 (N.B. This product is manufactured and distributed on the German market by Mapei GmbH)

Grouting joints: Ultracolor Plus

For further information see

www.mapei.com
and **www.mapei.de**



Eco Prim Grip

Multi-purpose, ready-to-use synthetic acrylic resin and inerts silica based bonding promoter and primer, with extremely low emission level of volatile organic compounds (VOC).

- Ready for use, quick and easy to apply by roller or flat brush
- Multi-purpose product: excellent bonding promoter for render applied on concrete and masonry substrates and for smoothing and levelling compounds and adhesives for ceramics applied on old internal ceramic and stone floors
- Completely harmless for floor layers: certified EMICODE EC1 by GEV, practically zero emission of volatile organic compounds



Our environmental commitment
Mapei products help project designers
and contractors building innovative projects,
which are LEED (Leadership in Energy and Environmental
Design) certified by the U.S. Green Building Council

Product info



/mapeispa

Mapei is with you: take a closer
look at www.mapei.com





CERSAIE

Mapei's autumn trade fairs in Italy

New products to cover every building site requirement

Cersaie, Marmomacc, Saie and, as part of the Saie exhibition, Saie Sport&Technologies and ExpoTunnel. These are the main Italian trade fairs held between the end of September and the end of October with Mapei, once again, playing a leading role. The company's involvement in trade fairs has been comprehensive with an emphasis on how Mapei really is the ideal partner in every sector of the building industry.

Realtà Mapei International is also coherent in the way it follows this route and this edition of the magazine has a special insert for its readers dedicated to the autumn Italian exhibitions. A common theme is the use of interactive multi-media systems, video presentations, display panels that could be touched, slabs made using various product systems, and live demonstration areas where visitors could actually view and check for yourself the real advantages that can be achieved by using Mapei products. All this, along with their participation in conventions, workshops, seminars and side events organised to run at the same time as the actual trade fairs. During each and every trade fair the theme of eco-sustainability has been a constant focal point which, for Mapei, is a real commitment, and not just a passing trend.

Cersaie

(22nd-26th September)

Mapei stand featured five "islands" dedicated to grouts from the GROUT SELECTION with a special focus on KERAPOXY CQ; ULTRALITE adhesives with a special focus on ULTRALITE FLEX; ULTRATOP LOFT decorative cementitious wall and floor coverings; the MAPELASTIC waterproofing range with a special focus on MAPELASTIC TURBO; and sustainability in the building industry.



MARMOMACC

Marmomacc

(24th-27th September)

Mapei's participation at Marmomacc 2014 confirmed once again the company's commitment to developing innovative solutions meeting the requirements of designers and users from the construction and contract sectors.

There were numerous new products on show at Marmomacc: the ZERØ range of eco-sustainable adhesives, rapid adhesives with FastTrack Ready technology, Grout Selection grouting products, and "turbo-charged" waterproofing products, without forgetting tried and trusted systems for installing porphyry and interlocking stone surfaces.



Saie

(22nd-25th October)

At Saie Mapei highlighted the new PLANITOP SR system for the structural reinforcement of concrete and masonry; PLANITOP SMOOTH & REPAIR R4 mortar and the admixture MAPETARD ES for rapid repair work; RE-CON ZERO additive for the sustainable recovery of returned concrete; and the new MAPEWALL line for consolidating, strengthening and renovating existing buildings.

On show at Saie 2014 there also was the new waterproofing product PLASTIMUL 2K REACTIVE which goes to enlarge the PLASTIMUL family of bituminous products. The innovative cementitious floor and wall covering ULTRATOP LOFT was also in the spotlight. As for sealants and chemical anchors, Mapei introduced to technicians and designers a handy new tool: MAPEFIX SOFTWARE DESIGN, a specific technical software package to help calculate the correct dimensions of an anchor using MAPEFIX resins.

Saie Sport&Technologies

(22nd-25th October)

At the exhibition for sport and leisure time, Mapei exhibited its most advanced technology to make substrates for artificial grass playing surfaces, systems for resin playing courts, and adhesives used for athletics tracks all around the world. There was also space for the best practices in renovation work for sports stadiums, with the products used for the work on the Mapei Stadium in Reggio Emilia (Italy).

Highlighted at Saie Sport&Technologies was MAPESOIL system to create substrates for artificial grass playing surfaces and for recycling old grass surfaces, and the ULTRABOND TURF line of high performance polyurethane adhesives for artificial grass playing surfaces. The company displayed MAPECOAT TNS SYSTEM with synthetic resin-based products in water dispersion for tennis courts, multi-purpose playing surfaces and urban features, and ADESILEX G19 high performance adhesive used on athletics tracks all around the world, including the track inside the London Olympic Stadium, which hosted the 2012 Olympic Games.

ExpoTunnel

(23rd-25th October)

Mapei was present at the second edition of Expo Tunnel and highlighted its UTT (Underground Technology Team), the Group's division that specialises in innovative systems for underground construction work. For the visitors this was an ideal occasion to meet Mapei technicians and take a close up look at accelerants for shot-crete, products for excavation job (TBM), injection and consolidation systems, products to repair, protect and finish concrete and waterproofing products. To show the company's commitment to underground works and the UTT's presence in major works all over the world, at ExpoTunnel the company presented to the public some of its most recent and prestigious projects in this field.



Mapelastic Turbo

January

10
FEBRUARY
8.00 AM
5°C

March

April

May

June

July

August

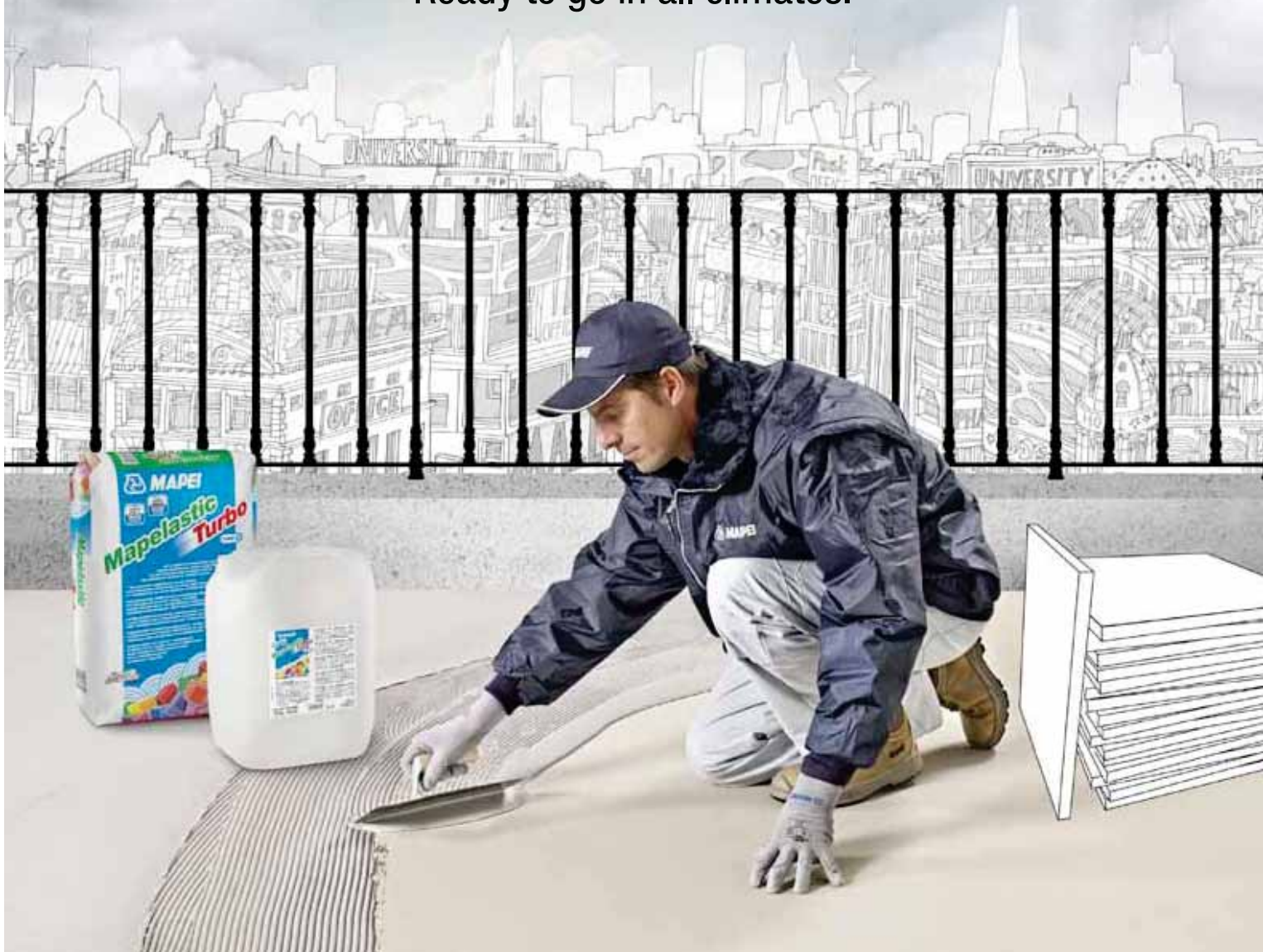
September

October

November

December

Ready to go in all climates.



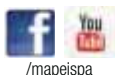
Mapelastic Turbo makes rapid work of waterproofing terraces and balconies and frees you from the restraints of seasonal weather.

[36kg KIT=15m²]

- Two-component, rapid-drying, elastic cementitious waterproofer
- Good workability
- Maintains its workability for more than 45 minutes
- Reduced waiting times for tile installation
- Suitable also for overlaying existing floors
- Suitable for low temperatures down to +5°C
- High daily productivity
- Suitable for damp substrates as long as they are well cured
- Certified according to EN 14891 and EN 1504-2 norms



Product info



/mapeispa



ULTRALITE FLEX

The adhesive for all your daily tiling work

For quite a while the world of ceramics has been busy creating larger and thinner tiles. Mapei Research & Development laboratories developed cutting-edge products that are able to keep pace with the times, such as the new ULTRALITE FLEX, from the ULTRALITE family.

A lightweight yet tough adhesive, for all daily tiling work, that can be used to bond all types of ceramic tiles: from mosaic to thin porcelain tiles, to dimensionally stable stone material, on any type of traditional substrate.

ULTRALITE FLEX is classified C2TE according to EN 12004 standards, has very low emission level of volatile organic compounds (VOC) – certified EMICODE EC1 R PLUS by GEV – and helps earn award points for LEED credits.

Compared with other adhesives in the same class it has 55% more yield. It is packed in bags with handy grips, weighing just 15 kg (thanks to its ULTRALITE technology), allowing around the same m² of tiles to be bonded as a 25 kg bag of traditional adhesive. Thanks to its Low Dust technology, the formation of dust during mixing is considerably reduced.

Find out more!



→ Where to use

- bonding all types and sizes of ceramic tiles and mosaics
- bonding stable natural stone not susceptible to staining
- spot bonding insulating materials

MAPELASTIC TURBO

The waterproofing product ready to go in all climates

For the rapid waterproofing of balconies, terraces, flat roofs and swimming pools Mapei proposes MAPELASTIC TURBO. This new product joins MAPELASTIC cementitious waterproofers family. It is a two-component, rapid-drying, elastic cementitious membrane which can be used on both cementitious screeds and old floor and wall coverings.

- Suitable for damp substrates as long as they are well cured
- Suitable at low temperatures (minimum temperature +5°C)
- Easy to apply thanks to its high workability
- Rainfast after just few hours, including at low temperatures and high levels of humidity
- Maintains its workability for more than 45 minutes
- Suitable for tiling after around 4 hours in normal weather conditions and within 24 hours at a temperature down to +5°C
- High daily productivity
- 1 36kg kit=15 m²
- Can be used in all climates, all year long
- Has CE marking according to EN 14891 and EN 1504-2 standards
- Is resistant to UV rays
- Can be used with all the MAPELASTIC accessory items

Find out more!



36kg KIT=15m²

➔ **Where to use**

- terraces and balconies
- flat roofs
- swimming-pools

ULTRATOP LOFT

A cementitious paste to create continuous floor and wall coverings

Creating the right atmosphere is the result of aesthetic and compositional choices that highlight essentiality and personality: two characteristics that can live together even with cementitious surfaces.

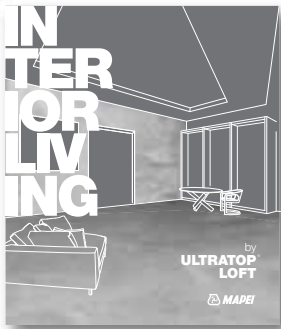
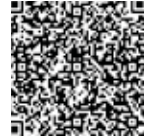
Mapei developed a solution featuring both high performances and maximum reliability: ULTRATOP LOFT, a new system for creating innovative continuous, without interruption floorings, with a pronounced materic effect.

ULTRATOP LOFT is ideal for creating decorative walls and floors, even those subjected to intense pedestrian traffic in areas such as shops, restaurants, reception areas, private homes, cafes, hotels and showrooms.

The ULTRATOP LOFT system encloses ULTRATOP LOFT F one-component trowellable coarse-textured cementitious paste and ULTRATOP LOFT W one-component trowellable fine-textured cementitious paste.

Both products are applied in layers 2 mm thick to create decorative floors with a trowelled or mottled effect and are available in white and natural color shades.

Find out more!



→ Where to use

- residential environments and interior design elements
- showrooms and shops
- hotels and restaurants
- wellness and spa centers
- museums and art galleries
- stairs

MAPEWALL INJECT & CONSOLIDATE, MAPEWALL RENDER & STRENGTHEN

For consolidating, strengthening and renovating buildings

The new MAPEWALL line is intended for consolidating, strengthening and renovating existing buildings.

A range of transparent, structural products made from natural hydraulic lime and reactive inorganic compounds with very low emission level of volatile organic compounds (VOC).

It includes MAPEWALL RENDER & STRENGTHEN high-strength transparent rendering and masonry mortar for structural render, "reinforced" renders and capping and installing masonry in compliance with the requirements of seismic standards, and MAPEWALL INJECT & CONSOLIDATE reactive inorganic binder used to make super-fluid, volumetrically-stable injection slurry for consolidating stone, brick, tuff and mixed masonry, dry-core walls, foundations, pillars and vaulted roofs with cracks or internal gaps and cavities.

Find out more!



Where to use ←

- internal and/or external stone, brick, tuff and mixed masonry, including on buildings of historical or artistic interest
- weak masonry
- new load-bearing and buffer walls or existing ones



→ **Where to use**

- foundations, pillars, vaulted roofs and archways
- "rubble masonries"
- stone, brick, tuff and mixed masonry in general

PLASTIMUL 2K REACTIVE

No more water leaks in underground structures

The new waterproofing product PLASTIMUL 2K REACTIVE goes to enlarge the PLASTIMUL family of bituminous products.

It is an innovative two-component, solvent-free, eco-friendly bituminous emulsion applied by spray to waterproof underground structures. It dries and sets quickly guaranteed by FastTrack Ready technology.

It is immediately waterproof and resistant to rain, is highly flexible, has high elongation rate, high crack-bridging capacity, even at low temperatures, is quick to apply and has a high daily application yield.

PLASTIMUL 2K REACTIVE is the most durable solution against damage by water infiltration in underground structures. The product is mainly used to prevent ingress of water, including at high pressures. It is marked according European standard EN 15814 which sets the requirements for polymer-modified bituminous thick coatings for waterproofing.

Find out more!



→ Where to use

- outside of foundations and retaining walls
- horizontal and vertical surfaces that are not exposed
- any kind of concrete and cellular concrete surfaces, limestone, pumice, lightweight brick and breeze-block masonry, renders and screeds

PLANITOP HPC FLOOR

Strengthening solutions for seismic-upgraded buildings

More and more attention is being paid to the problems encountered during conservation work and when carrying out seismic upgrading.

As an alternative to traditional strengthening materials and techniques, Mapei has developed a series of systems and technology to increase the performance characteristics of structures and make them stronger and more ductile when stressed.

Among them one finds PLANITOP HPC FLOOR for the structural strengthening of concrete and masonry. Thanks to its high ductility, it is ideal for the seismic upgrading of elements subjected to high stresses.

When PLANITOP HPC FLOOR is mixed with water, it forms a fluid mortar impermeable to water with very high flexural and compressive strength, high ductility, high resistance to cyclical load, excellent adhesion to old concrete (if dampened with water before application) and to reinforcement rods, high resistance to wear due to abrasion or impact.

Find out more!



→ Where to use

- floor beams in reinforced concrete, brick-cement wood or mixed brick-steel beam
- concrete surfaces (industrial floors, roads, airports)
- pulvinoes and bearing elements of piles for motorway viaducts

PLANITOP SMOOTH & REPAIR R4, MAPETARD ES

For rapid concrete repair

PLANITOP SMOOTH & REPAIR R4 is a fibre-reinforced, rapid-setting thixotropic cementitious mortar for smoothing and carrying out structural repairs to concrete. It features FastTrack Ready technology and is classified as R4. The product is recommended for repairing internal and external horizontal and vertical concrete surfaces and is suitable for structures exposed to the open air and in permanent contact with water. It complies with EN 1504-2 and EN 1504-3 standards and has a very low emission level of volatile organic compounds or VOC (EMICODE EC1 R Plus-certified). It remains workable for around 15 minutes and, if site conditions or high temperatures dictate the need for mortar with longer workability, it can be admixed with MAPETARD ES.

MAPETARD ES is a special liquid set-retarding admixture in water solution, which can be used with both PLANITOP SMOOTH AND REPAIR R4 and PLANITOP SMOOTH AND REPAIR if site conditions or high temperatures dictate the need for mortars with longer workability. MAPETARD ES allows the workability and setting times to be extended by 15-20 minutes.

Find out more!



→ Where to use

- Rapid repair work on deteriorated concrete beams, pillars, buffer walls, cornices, edges of balconies
- repair of structural elements that require the use of mortar with high mechanical performance characteristics
- quickly smoothing over surface defects in cast concrete, before painting the surface
- repairs and structural strengthening of concrete by adding a mortar
- repairs to concrete damaged by rusty reinforcing bars due to carbonation



PLANITOP SR, MAPENET EM 30/EM 40, MAPENET EM CONNECTOR

Find out more!



Innovative “reinforced” structural renders

PLANITOP SR is a fibre-reinforced mortar used to make “reinforced” structural render from composite materials.

This product has an extremely low rate of hygrometric shrinkage which drastically reduces the risk of crack formation in the mortar. It also has properties that make it resistant to a wide range of aggressive chemical and physical phenomena.

PLANITOP SR is used in combination with MAPENET EM 30 and MAPENET EM 40 alkali-resistant, primed A.R. glass fibre meshes (FRP). The meshes are fastened in place with MAPENET EM CONNECTOR to give structures a higher level of ductility, increase their load-bearing capacity and distribute stresses more evenly.

The mesh are characterised by high flexibility which makes them very easy to shape and bend around the edges and corners of structures, as long as they have been rounded off beforehand.



Applying Mapenet EM Connector



Mapenet EM30



Mapenet EM40



Where to use

- masonry and/or brickwork substrates
- facing walls in seismic zones
- construction joints “reinforced” with composite rods
- vaulted elements and floor joists

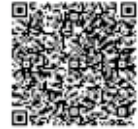
MAPESTONE SYSTEM

Architectural stone floorings: a system for long-lasting installation

To solve the problems involved by architectonic stone floorings in urban contexts, Mapei developed the MAPESTONE system including MAPESTONE TFB 60, MAPESTONE PFS PCC 2 and MAPESTONE PFS 2 pre-blended mortars. Stone road surfaces built with this system are resistant to freeze-thaw cycles, de-icing salts and rain. The mortar used does not break up and remains stable and intact for years. Dangerous hollows do not form in the covering of the road and no interventions are required later on to restore the surface to the correct level.

MAPESTONE TFB 60 is a pre-blended mortar made from special binders, selected aggregates in a granulometric curve and specific additives. It is especially suitable for making screeds which are resistant to freezing weather and de-icing salts (exposure classes XF3 and XF4) and are very strong (C50/60). MAPESTONE PFS PCC 2 and MAPESTONE PFS 2 are pre-blended, high-strength mortar for grouting architectonic stone floorings with XF4 exposure class, high resistance to freeze-thaw cycles, compression and de-icing salts.

Find out more!



→ Where to use

- making screeds which are resistant to freezing weather and de-icing salts
- grouting joints in architectonic floorings made of natural stone



Mapei in Brazil

A young and successful subsidiary

Brazil is a young nation featuring strong economic development, constant demographic increase and the resources and ambition to become a superpower. This is the reason why Mapei founded Mapei Brasil Materiais de Construção, which was officially introduced to the Brazilian construction industry public during the 2014 edition of Revestir trade fair in March.

From 2011 to 2013, Nathaniel Woodhead, Mapei Brasil's General Manager, established relationships with key manu-



AN UNFORGETTABLE WORLD CUP IN A MULTI-FACETED COUNTRY



The 20th edition of the FIFA World Cup held in Brazil from 12th June to 13th July will be remembered for a long time for lots of different reasons. Unfortunately for the Brazilian people, it will be hard to forget the 7-1 defeat against Germany, which was the biggest footballing disaster in the nation's entire sporting history and was watched by 3 billion people on tele-vision. Although European football could celebrate Germany's victory in the final, this important event brought lots of teams' hopes crashing down to earth. Among them Italy, which, after failing to qualify from their group, witnessed a technical and managerial revolution in the team structure just a few hours later. There were winners and losers: and these are the tough but fair rules of sport.

It is equally self-evident that the economy of the country organising any major sports event will receive a boost. New buildings and facilities are constructed, there is a boom in tourism and also positive repercussions on the nation's overall image.

One thing for certain is that wherever sport is happening - particularly international-scale events - Mapei is always involved. Either directly as a sponsor of the events or, as has been the case ever since the Montréal Olympics in 1976, with its ranges of products used for constructing the sports facilities and infrastructures involved in the event.

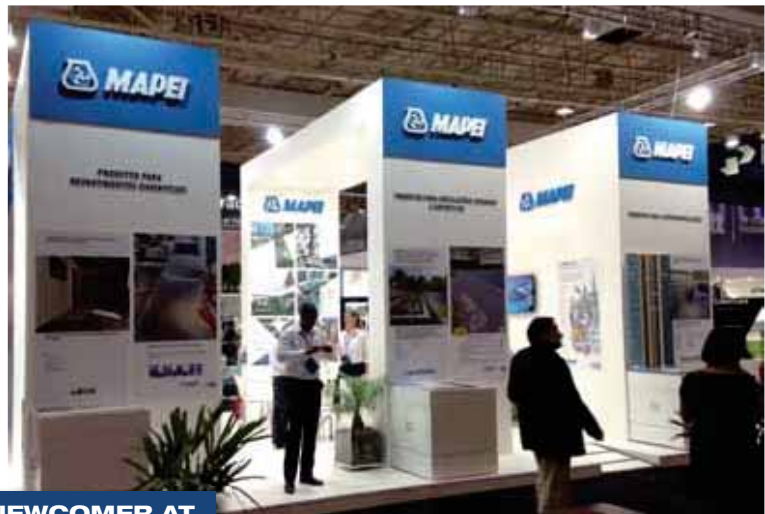
The 2014 World Cup in Brazil was no exception and - as can be seen over the following



facturers and distributors in the local market. In December 2013 a commercial office was opened in downtown São Paulo and a distribution center in Embu Das Artes, not far from São Paulo, to serve customers throughout Brazil. Mapei Brasil currently has 9 employees which should increase to 14 in 2015.

In its first year of activity Mapei Brasil has established itself as a major player in the resilient flooring sector and as a supplier of waterproofing solutions and products for wooden floors. The company is currently the only manufacturer in Brazil to offer a full line of high-quality and high-tech solutions for wood and resilient flooring in one brand.

Mapei Brasil was involved in the building works of several hospitals such as the Sirio Libanês Hospital in São Paulo and contributed to the construction and renovation of facilities related to the 2014 FIFA World Cup, which are briefly described in the followings pages.



A NEWCOMER AT THE TRADE FAIR



LEFT. Mapei Brasil Materiais de Construção, the Brazilian subsidiary of the Group, has its main offices in São Paulo.

ABOVE. Mapei Brasil was officially introduced to the local construction industry public during the 2014 edition of Revestir trade fair.

pages - once again Mapei contributed with its products and highly qualified technicians to the construction and renovation of various different sports and accommodation/leisure facilities. The Brazilian Government allocated 10 billion Euros for hosting the World Cup, plus 60 billion Euros of direct investments in the tourist and communications industries by the Brazilian National Bank for Economic and Social development. The nation's accommodation facilities were increased by 20%, thanks to 70 brand-new hotels built in 12 different cities.

Thanks to the World Cup Finals there was a 36% increase in the nation's airport facilities, while sports facilities were redeveloped for the first time since the 1970's using the latest generation technology. Despite all this, the Brazilian National Institute of Statistics recently published some rather disappointing figures about the economy: the country's GNP has dropped for two successive quarters in 2014.

A nation of great contradictions that still have to be resolved - unemployment among the unqualified workforce and a lack of specialist workers, great disparity in income, high levels of violence - nevertheless Brazil has the resources and ambition to become a global superpower.

A young nation in which Mapei would like to do even more business to help with its economic development and global growth.





Castelão Stadium

Over 16.000 m² rubber floorings were laid in the renovated “Gigante da Boa Vista” stadium in Fortaleza

The Estádio Governador Plácido Castelo stadium in Fortaleza was chosen as one of the 12 host stadiums for the FIFA 2014 World Cup and the 2013 Confederations Cup. The facility, also known as “Castelão” or “Gigante da Boa Vista”, was officially inaugurated in 1973 and can host 67,037 people. In order to prepare for the World Cup events, the stadium underwent a relevant renovation intervention.

The works lasted from 31 March, 2011 till December 2012, when the facility was again opened to the public.

The reconstruction project involved the addition of a larger roof, the construction of an underground car park with 4,200 parking spaces, and a new lower tier. On over 16,000 m² of floorings in several areas (changing rooms and service areas)

Mapei products were used to repair and levelling the substrates, as well as for bonding new rubber floorings by Nora. ECO PRIM T solvent-free acrylic primer with a very low emission level of volatile organic compounds (VOC) was used to treat the substrates, which were then levelled with ULTRAPLAN ECO self-levelling, ultra quick-hardening smoothing compound, with a very low emission level of VOC.

The Nora rubber covering was bonded with ULTRABOND ECO V4 SP FIBER multi-purpose, acrylic adhesive in water dispersion with extended open time, improved by adding fibres, particularly suitable for laying rubber and PVC floorings. MAPECONTACT reinforced adhesive strip was used for laying profiles, baseboards, covings and resilient and textile

coatings on steps and on all the areas where bonding had to be immediate. Thanks to Mapei’s fast installation system, the flooring contractor was able to complete this large project ahead of schedule and, consequently, this was one of the first stadiums to be ready for the Confederations Cup in 2013.

IN THESE PAGES. Mapei products (ECO PRIM T, ULTRAPLAN ECO, MAPECONTACT and ULTRABOND ECO V4 SP) were used to prepare the substrates and lay rubber floorings in the stadium.



IN THE SPOTLIGHT ULTRAPLAN ECO

It is a grey powder consisting of special cements with fast setting and hydration together with graded silica sand, resins and special admixtures. Mixed with water, ULTRAPLAN ECO becomes a highly fluid and easily workable mortar, perfectly self-levelling with high adhesion to the substrate that dries ultra-quickly. It is used for levelling and removing differences in thickness from 1 to 10 mm on new or existing substrates in interiors, preparing them to receive any kind of flooring where an excellent resistance to loads and traffic is needed. ULTRAPLAN ECO is particularly suitable for areas subject to wheeled chairs.

It can contribute up to **4 points** to obtain the **LEED** certification.





Technical Data

Castelão Stadium, Fortaleza (Brazil)

Year of Construction: 1973

Period of the Intervention:

March 2011-December 2012

Intervention by Mapei: supplying products for treating the substrates and laying rubber floorings

Project Design: Héctor Vigliecca

Contractor: Consórcio Arena Multiuso Castelão (Galvão Engenharia S.A.; Serveng Civilsan S.A.; BWA Tecnologia LTDA.)

Laid Materials: rubber floors by Nora

Laying Company: Baueco

Mapei Co-ordinator: Nathaniel Woodhead, Mapei Brasil

Mapei Products

Preparing the substrates:

Eco Prim T, Ultraplan Eco

Laying rubber floorings: Ultrabond

Eco V4 SP Fiber, Mapecontact

For further information

see www.mapei.com

and www.mapei.br



Pelé Museum

Fast and reliable installation systems for vinyl floorings in the museum dedicated to the greatest footballer ever

The Pelé museum is located in Santos, the city where Edson Arantes do Nascimento (known as "Pelé") grew up. Considered by many to be the greatest footballer ever, Pelé rose to stardom at Santos FC, where he played between 1956 and 1974. During that period he also led Brazil to three World Cup titles. Santos is also a very important harbor city, less than 100 km far from São Paulo. The museum is hosted in an old colonial mansion located inside the city's old town, just two blocks from the Santos harbor. The 4,000 m² complex cost about 22 million US dollars and houses more than 2,500 items related to his career, including trophies, jerseys and images of him with world leaders and celebrities.

Hundreds of local dignitaries were on hand in Santos to toast the 73-year-old Pelé at the official opening of the museum. Pelé rode into the ceremony on a tram and was greeted by wild applause. The museum is the cornerstone of the new tourist district in the region of Santos and thus the municipality wanted to have it inaugurated for the 2014 World Cup.

Mapei supplied products for preparing the substrates and laying special tailor-made vinyl floorings by Forbo. Over 1,200 m² floor screeds were first treated with ECO PRIM GRIP ready-to-use bonding promoter and primer with a very low emission level of volatile organic compounds (VOC).

PLANISEAL VS FAST, a fast-curing, alkali-resistant, two-component, epoxy coating was used to effectively stop moisture-related problems. This product is distributed on the Brazilian market by Mapei Brasil.

ULTRAPLAN ECO self-levelling, ultra quick-hardening smoothing compound was then applied to level the surfaces



BELOW. The Pelé museum in Santos houses more than 2,500 items related to Pelé, including trophies, jerseys and images of him with world leaders and celebrities. It is hosted in an old colonial mansion located inside the city's old town, which was lately renovated in time to receive thousands of visitors during the 2014 World Cup.

before laying the vinyl flooring which was bonded with MAPECRYL ECO acrylic adhesive in water dispersion for vinyl and textile floors with very low emission level of VOC.

Thanks to the efficiency of the Mapei system the museum could be inaugurated the second week of June and received thousands of visitors during the 2014 World Cup.

IN THE SPOTLIGHT MAPECRYL ECO

It is an easy-to-spread, acrylic polymer-based adhesive in water dispersion, in the form of a beige-coloured paste. MAPECRYL ECO is used for bonding on all types of internal, absorbent substrates used in the building industry, and which are stable in the presence of humidity. It has a quick, tough initial bond. Upon drying (after approximately 24 hours), it forms a tough, flexible film. Therefore, it may be used in environments subject to heavy traffic as it is resistant to the passage of wheelchairs. It can contribute up to **4 points** to obtain the **LEED** certification.





© Charlene Rover



© Charlene Rover



© Charlene Rover

ABOVE, ON THE LEFT. The floor substrates were treated with PLANISEAL VS FAST epoxy coating (distributed on the Brazilian market by Mapei Brasil) to stop moisture-related problems.

LEFT AND ABOVE. ULTRAPLAN ECO self-levelling, ultra quick-hardening smoothing compound was used to level the substrates before laying vinyl floorings. The screeds had been treated with ECO PRIM GRIP ready-to-use bonding promoter and primer with a very low emission level of volatile organic compounds.

Technical Data

Pelé Museum, Santos (Brazil)

Period of the Intervention: 2013-2014

Intervention by Mapei: supplying products to prepare the substrates and lay vinyl floorings

Client: Ama Brasil

Designer: Ney Caldato

Contractor: MSC Engenharia

Laying Companies: Base Pave, RD Pisos

Works Direction: Cesar Levy

Laid Materials: vinyl floorings by Forbo

Laying Companies: RD Pisos, Base Pave

Mapei Co-ordinator: Nathaniel

Woodhead, Mapei Brasil

Photos: Rodrigo Kassabe, Charlene Rover

Mapei Products

Preparing the substrates: Eco Prim T,

Planiseal VS Fast, Ultraplan Eco

Laying vinyl floorings: Mapecryl Eco

For further information see

www.mapei.com and www.mapei.br



© Rodrigo Kassab

TEAMWORK



Itaipava Arena Pernambuco

Rubber floorings were rebuilt in record times thanks to Mapei products

The Itaipava Arena Pernambuco is a new stadium built in Recife, in the Northeastern Brazil. The facility was delivered and inaugurated for the 2013 Confederations Cup. It is mostly used for football matches and hosted several matches during the 2014 FIFA World Cup. The stadium has a capacity of 46,160 people. Construction of the new stadium was carried out by Odebrecht Infraestrutura on a design project by Studio Fernandes Architects & Associates.

The floors in the stadium's locker rooms were originally finished using a polyurethane resin flooring system, which, a month before the opening of the stadium was rejected by the FIFA inspectors, because there were moisture bubbles in the finished flooring.

Mapei offered the solution to this tricky situation: the existing polyurethane flooring was removed before treating the screeds with ECO PRIM T solvent-free acrylic primer with a very low emission level of volatile organic compounds (VOC).

PLANISEAL VS FAST, a fast-curing, alkali-resistant, two-component, epoxy coating, was then applied to solve the problem of high moisture content in the screed. This

LEFT. The substrates were treated with PLANISEAL VS FAST two-component, epoxy coating, to solve the problem of high moisture content in the screed.

BELOW. Rubber floor coverings were bonded with ULTRABOND ECO V4 SP FIBER multi-purpose, acrylic adhesive in water dispersion.



product is distributed on the Brazilian market by Mapei Brasil.

Once the surfaces were cured, ULTRAPLAN ECO was applied to provide a flat and smooth surface before bonding the rubber flooring with ULTRABOND ECO V4 SP FIBER multi-purpose, acrylic adhesive in water dispersion with extended open time.

Technical Data

Itaipava Arena Pernambuco, Recife (Brazil)

Year of Construction: 2013

Year of the Intervention: 2014

Intervention by Mapei: supplying products for treating the substrates and laying rubber floorings

Contractor: Odebrecht

Designer: Daniel Fernandes, Studio Fernandes Architects & Associates

Laying Company: Baueco

Laid Materials: rubber floorings by Nora

Mapei Co-ordinator: Nathaniel Woodhead, Mapei Brasil

Mapei Products

Preparing the substrates: Eco Prim T, Planiseal VS, Ultraplan Eco

Laying rubber floorings: Ultrabond Eco V4 SP Fiber

For further information see

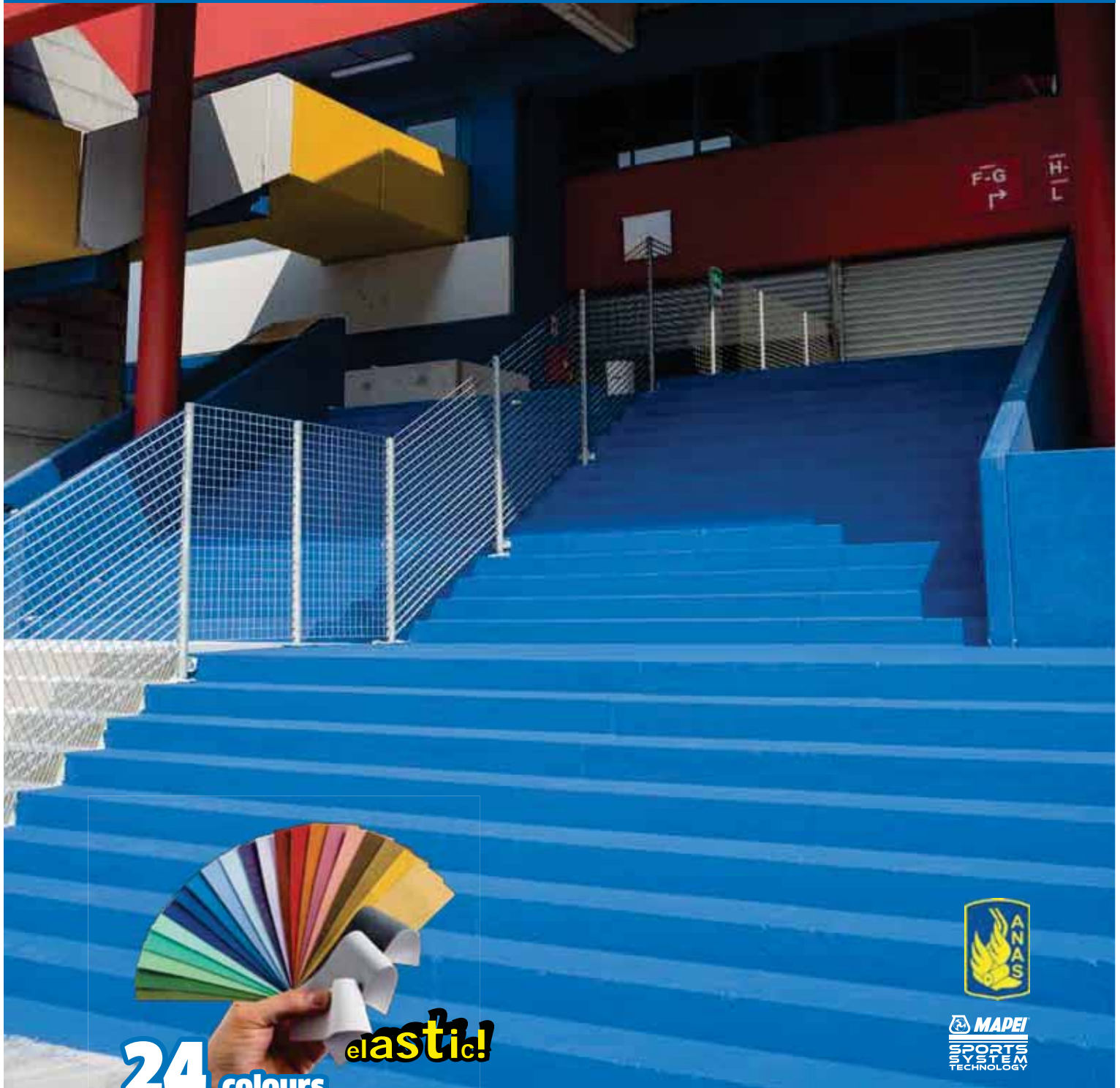
www.mapei.com and www.mapei.br

IN THE SPOTLIGHT

ULTRABOND ECO V4 SP FIBER

It is a solvent-free, simple-butterming, synthetic polymer adhesive paste in water dispersion, improved by adding fibres, formulated in a ready-to-use light beige paste. The addition of fibres makes the adhesive suitable for resilient coatings where improved dimensional stability is required. It is ideal for the internal bonding of all types of vinyl, semi-flexible vinyl, rubber, polyolefines, needlepunch and carpet flooring. It can contribute up to **4 points** to obtain the **LEED** certification.





24 colours
and further sample-based colours
upon request

elastic!



Mapecoat TNS Urban

Multi-layered **acrylic resin-based system** in water dispersion for **repairing** and **protecting terraces**

- **High adhesion** surface
- **Long-lasting** due to its **excellent resistance** to wear and abrasion
- **Solvent-free** and environmentally-friendly

- Excellent aesthetic appearance
- **Wide range of colours**
- Ideal for **coating cycle tracks**, footpaths and urban features
- **ANAS - certified**



Product Info



/mapeispa

Mapei is with you:
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Taking the underground line to Lisbon's airport

The Red Line of Lisbon's metropolitan railway network connects the airport to the centre of the Portuguese capital

The Red Line of Lisbon's metropolitan railway network has been completed with three stops: Moscavide, Encarnação and Airport. Getting to the airport is now that much simpler and quicker, and the thousands of tourists who flock to the Lusitanian capital every year find it easier to reach the city centre, which until 2012 had only been served by local buses. In fact, an estimated 400,000 more passengers were expected to use the Red Line, the oldest of the four lines that make up the city's metropolitan rail network. The building intervention was designed by the architect Leopoldo de Almeida Rosa for a project commissioned by Ana Aeroportos de Portugal to the company Britalar Engenharia, which has studied and developed an expansion and modernisation plan for the entire Lisbon metropolitan rail network. The study included easier access to the new stations and interventions on the surrounding areas. The Airport station is in the same building





BELOW. PLANITOP SMOOTH & REPAIR was used to level off the surface of the cupola dominating the outside of the entrance to the station and KERALASTIC T was used to bond the mosaic thereupon.

LEFT. The porcelain tiles in the entrance hall were bonded with ADESILEX P9 and the joints were grouted with KERACOLOR FF.

as the arrivals area and has a large, elliptical glass window overlooking one of the terminals. The colour scheme chosen for the area helps make the traveller's journey more comfortable and offers a better visual definition of its volumes. The artificial lighting was also carefully designed to underline the volumes of the various architectonic structures.

The materials used to cover the walls and floors were chosen according to the sector where they were to be installed: for aesthetic reasons, "pedra de Lioz" limestone (available in the Lisbon's surrounding areas) was used for the walls and floors in the areas with a higher level of pedestrian traffic, while for the stairs the choice was to use Azul Valverde, a typical type of Portuguese stone.

In order to highlight and define the entrance area in the station for paying passengers, columns covered with glass mosaic were installed: a clear reminder of the first stations from the 1960's which had walls covered with the same material, very much in fashion at the time.

Mapei Intervention

The client required the work in the station to be carried out preferably at night in order to limit any disruption to travellers in transit. The client also required the use of products that

were safe, efficient and, above all, rapid.

Mapei Technical Services recommended to the client the use of products that would enable work to be carried out rapidly and efficiently, bearing in mind also the tight schedule to actually carry out the work.

TOPCEM was used for the screeds in the entrance area, a special normal-setting, quick-drying (4 days), controlled-shrinkage hydraulic binder for screeds.

Slabs of white stone were then bonded in place with KERALASTIC T, a polyurethane adhesive suitable for bonding ceramic tiles, natural and artificial stone and mosaic on floors and walls, and on any type of substrate used in the building industry.

The joints were grouted with ULTRACOLOR PLUS high-performance, anti-efflorescence, rapid-setting and drying polymer-modified mortar for joints from 2 to 20 mm wide. This product also has BioBlock® technology to deter the formation of mould in damp environments and DropEffect® technology to make it water-repellent. The expansion joints were sealed with MAPESIL AC.

For the Graniti Fiandre porcelain wall tiles in the entrance hall to the station, Mapei recommended ADESILEX P9 cementitious adhesive with no vertical slip and extended open time to bond the tiles and KERACOLOR FF

IN THE SPOTLIGHT ADESILEX P9

It is a high performance cementitious adhesive with no vertical slip and extended open time for ceramic tiles and stone materials. It is suitable for interior and exterior bonding of ceramic tiles and stone materials (that are stable to humidity) and mosaics on floors, walls and ceilings, as well as for spot bonding of insulating materials such as expanded polystyrene, rock and glass wool, Eraclit®, sound-deadening panels, etc. It can contribute up to **4 points** to obtain the **LEED** certification.





high-performance, polymer-modified cementitious mortar for grouting joints.

The same products were also used to install Lioz limestone slabs on the walls and floors of the areas inside the station and Azul Valverde stone on the stairs.

PLANITOP SMOOTH & REPAIR fibre-reinforced, controlled-shrinkage cementitious mortar was used to level off the surface of the cupola dominating the outside of the entrance to the station. Then, using the adhesive KERALASTIC T, red Bisazza glass mosaic was bonded outside the dome, while inside the station the black and white glass mosaic



ABOVE. The porcelain tiles for the platforms were bonded with KERALASTIC T and joints were grouted with ULTRACOLOR PLUS.

LEFT. Working on the cupola and bonding mosaics with KERALASTIC T. **BOTTOM.** A view inside the station.



tiles were bonded with ADESILEX P9. And to round off there is an interesting fact. Anybody who has visited Lisbon and has travelled around using the metropolitan railway has certainly noticed the decorations on ceramic or stone that are typical of the various stations, a kind of round-up of the Azulejos technique for which Portugal is famous. The new terminus at Lisbon Airport also welcomes visitors with a series of images depicting famous Portuguese characters. The black and white outlines have been made from pieces of black and white stone. The fifty figures located in various points of the station form a tribute to the most significant figures of modern Portuguese history, such as the poet and writer Fernando Pessoa, the singer Amália Rodrigues and many others.



This article was taken from *Realtà Mapei Portugal* issue No. 20, the in-house magazine edited by Lusomapei, whom we kindly thank.

Technical Data

Underground railway station at Lisbon airport, Lisbon, Portugal

Period of Construction: 2011-2012

Period of Mapei Intervention: 2011-2012

Intervention by Mapei: supplying products for repairing and preparing the substrates and laying ceramic tiles, mosaics and stone materials

Designer: Gastao Ferreira

Client: ANA Aeroportos de Portugal

Works Direction: Nuno Lourdes

Laying Company: Britalar

Mapei Distributors: Polnorisol Lda, Macotil Lda

Mapei Co-ordinator: Duarte Graça, Lusomapei

Mapei Products

Preparing and repairing the substrates: Topcem, Planitop Smooth & Repair

Laying ceramic tiles, mosaics and stone and grouting joints:

Adesilex P9, Keralastic T, Keracolor FF, Ultracolor Plus; Sealing expansion joints: Mapesil AC

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





Keralastic / Keralastic T

Keralastic, two-component, high performance, **polyurethane adhesive** for ceramic tiles and stone material, also available in thixotropic version (**Keralastic T**).



- Easy workability
- **Perfect adhesion on all surfaces** used in building
- If applied in a continuous layer, **it ensures perfect waterproofing** before installing tiles with the same product
- **High deformability**

- Hardens by chemical reaction without shrinkage until it becomes **highly resistant**
- **Keralastic T** features highly thixotropy: **it can be applied vertically without slump** and without letting even **large tiles** slip. **Keralastic T**'s performances and slipping strength are in compliance with EN 12004.



APPLICATION

Product Info



/mapeispa

Mapei is with you:
take a closer look at www.mapei.it





Tryp Lisboa Aeroporto Hotel

The façades of an ultra-modern hotel near Lisbon airport insulated with Mapetherm system

As well as a new metropolitan railway link, Lisbon airport boasts a newly constructed hotel. The Tryp Lisboa Aeroporto Hotel, which cost almost 15 million Euros, is a project by the Portuguese construction company Britalar Engenharia for the Hoti Hotéis Portugal chain. The hotel is right next to Lisbon International Airport's Terminal 1 building along the Segunda Circular A1 motorway link and was officially inaugurated this year on the 12th of March by the Minister for Tourism Adolfo Mesquita Nunes.

"Come with me to see the planes" is the title of the song by the Portuguese rock band O Azeitonas, used as background music to the "I'm in TRYP in Lisbon" inauguration party, during which the hotel was presented as the ideal location for special events, company conventions and congresses, with 1500 m² of meeting rooms and 167 modern, comfortable rooms available for those arriving or departing from Lisbon.

The Portuguese designer Nini Andrade was responsible for the interior design for the ho-

tel, which brings back memories of both the Portuguese capital and the world of aviation. Each floor has been named after one of the districts in Lisbon, while in the lobby a scale model of a Blériot XI plane, used for the first ever crossing of the English Channel, is suspended from the ceiling. The carpeting is designed to look like a runway, while the bar is in the form of the wing of a plane and photographs depicting the most symbolic areas of Lisbon decorate the walls.

There is also a restaurant available for guests of the hotel offering both local and international cuisine, as well as a café with extended opening hours, room service, laundry service, a wellness centre, a congress centre, 21 meeting rooms and a large car-park.

Mapei intervention

Together with the company Kenotécil, Mapei was a leading player in the work carried out to insulate the external façades of the Tryp Lisboa Aeroporto Hotel.

The solution chosen was MAPETHERM

IN THE SPOTLIGHT

MAPETHERM AR1

It is a one component cementitious mortar for bonding and levelling thermal insulating panels and insulation systems. It is ideal for bonding all types of thermal insulation panels directly on render, brickwork or concrete walls or ceilings, as well as for smoothing thermal insulation panels with embedded fibreglass reinforcing mesh on internal and external walls. Mixed with water, MAPETHERM AR1 becomes a mortar with low viscosity, therefore easy to trowel; it is highly thixotropic; it perfectly bonds to all materials normally used in building, hardening without noticeable shrinkage. It can contribute up to **3 points** to obtain the LEED certification for eco-sustainable buildings.



SYSTEM, a system composed of various products and accessory items, the heart of which is the adhesive, in this case MAPETHERM AR2, manufactured and distributed in Portugal by the Group's Portuguese subsidiary Lusomapei. The adhesive guarantees perfect adhesion of the insulating panels to the substrate, particularly when subjected to high stresses due to thermal radiation, that could provoke detachment of the panels from the substrate.

Thanks to its high modulus of elasticity MAPETHERM AR2, as with its corresponding product available on the international market MAPETHERM AR1, has the ability to withstand deformations caused by the difference in temperature between the two sides of the

insulating panels. Also, its high performance characteristics ensure it bonds extremely well to each type of insulating panel (foam/extruded polystyrene, foam polystyrene, mineral fibres, cork, etc.) to guarantee safe, durable installation.

Once the insulating system had been completed, part of the insulated surface was painted with COLORITE PERFORMANCE protective, UV-resistant acrylic paint, suitable for both internal and external use. Other areas were covered with glass panels.

This article was taken from *Realità Mapei Portugal* No. 23, the in-house magazine published by Lusomapei, whom we kindly thank.



LEFT. An external view of the new Tryp Lisboa Aeroporto Hotel in Lisbon.
ABOVE. Application of the MAPETHERM insulating system on the hotel's external façades.



Technical Data

Tryp Lisboa Aeroporto Hotel,
Lisbon (Portugal)

Period of Construction and Intervention: February 2012 - December 2013

Intervention by Mapei:

supplying products for thermal insulation of external façades

Client: Hoti Hotéis Portugal

Contractor: Britalar

Designer: Espaço Vivo

Company in charge of thermal insulation: Kenotécil

Works Direction: Marta Carvahlo

Mapei Distributor: Kenotécil

Mapei Co-ordinator: Duarte Graça, Lusomapei (Portugal)

Mapei Products

Thermal insulation on façades:

Mapetherm AR2*

Wall coating: Colorite Performance

*The product is distributed on the Portuguese market by Lusomapei.

For further information see the websites www.mapei.com and www.mapei.pt

The economy and the construction industry in Spain and Portugal



Greater confidence in the two nations' economy, but the building market is still struggling

The countries forming the Iberian peninsula have been badly hit by a serious economic downturn over the last few years that has resulted in a long recession, which Spain and Portugal now seem to be emerging from, as of this year. Table no.1 shows some of the macroeconomic indicators relative to the two countries.

The gross national product (GDP) in Spain dropped by an estimated 1.2% in 2013. The public deficit is still over 6% of the GDP, while public debt, which was equivalent to 40% of the GDP in 2008, is now close to 100%. The most dramatic effects of the economic crisis are reflected in the unemployment rate, which exceeded 26% in 2013; this is the worst figure in Europe with the exception of Greece. Starting from the latter part of last year, however, the country began showing some timid signs of recovery, and there should be a 1.3% increase in the GDP by the end of 2014, which is higher than the figure estimated for the Euro Area (+0.8%). During the present year the unemployment rate should fall noticeably to around 24.6%, while the inflation rate should remain substantially the same. According to the International Monetary Fund, the economic revival will continue in 2015, when the GDP should grow by 1.7%. The improved overall economic picture should lead to a further reduction in the unemployment rate, while inflation is expected to be low and forecast at 0.6%.

Signs of revival being shown by the Spanish economy derive from the programme of reforms adopted in recent years, which have been helped along by the political stability the nation has enjoyed under the Conservative leader Mariano Rajoy. The Spanish labour market has been reformed to make it more flex-

ible; the lower cost of labour compared to other countries in the Euro Area has also led to a rise in foreign investments in the country. Some important privatisation projects have also been successfully completed and even the pension system has been reformed to make it more sustainable long-term. The financial sector has been strengthened (partly thanks to a loan of 41 billion Euros to Spanish banks from the EU and ECB). Generally speaking, there is much greater confidence in the nation's economy and there is even a positive trend in consumer spending.

Over the three-year period from 2011-2013 Portugal was hit by one of the worst recessions across the whole of Europe with an average annual drop in the GDP of approximately 2%. The decrease in GDP in 2012 (-3.2%) was, in particular, the worst recorded over the last 34 years. The GDP also dropped by 1.4% in 2013, while the unemployment rate reached an all-time high rate of over 16%.

Starting last year there was a turnaround in the Portuguese economy and over the first quarter its GDP showed a positive trend. It is believed that the economic growth rate may reach 1% in 2014, while, as in the case of Spain, the consumer prices index should remain basically the same. This year there is also expected to be a notable drop in the unemployment rate, which should settle at around 14%. According to forecasts, the revival in the Portuguese economy should continue in 2015, when the GDP may increase by 1.5%, leading to a further improvement in the jobs situation. Next year inflation (as in many other European countries) should not be too high and is forecast to be around 1%. The reason for Portugal's economic revival are the economic reforms requested by the European Union, which the Conservative Government has managed to implement despite all the protests that have taken place in the country. The austerity measures implemented by the Government have, in actual fact, led to the public deficit being halved from 9.8% to 4.9%

	GDP			INFLATION			UNEMPLOYMENT		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
SPAIN	-1.2	1.3	1.7	1.5	0.0	0.6	26.1	24.6	23.5
PORTUGAL	-1.4	1.0	1.5	0.4	0.0	1.1	16.2	14.2	13.5

TABLE 1. The table shows the trend in economic indicators for Spain and Portugal over the three-year period 2013-2015. Percentage variations to the previous year. Source: International Monetary Fund, October 2014

of the GDP in three years. There has also been an important reform to employment, which has led to greater flexibility. Overall (even though the situation is still critical and the effects of the recession have been devastating to the industrial fabric) the country would seem to be on the way to gradually emerging from the worst recession in its democratic history.

The construction market

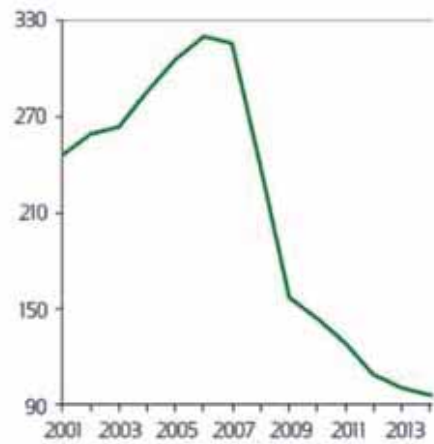
The recession hit the construction industry in both Spain and Portugal even harder than the economy as a whole. In both countries the decline in the building market over the last few years has been among the worst worldwide.

The crisis in the Spanish construction industry has been going on since 2008, and it is expected that investments in construction work in 2013 will be over 75% less than the record levels recorded in 2007. The bursting of the property bubble in Spain came after years during which building output increased at abnormal rates. Production levels rose without any real link with the actual demand for homes and were supported solely by speculation. The crisis in the banking system, the drop-in family income, and rising unemployment, have contributed over the years to making the collapse in the building market even worse, both in the residential and non-residential sectors. The infrastructure sector has seen a cut in public investments due to stringent budget constraints. The building materials market has, of course, been severely affected by the crisis in the building industry; suffice it to say that over the last six years there has been an approximately 80% drop in the amount of cement used, while sales of ceramic tiles over the period 2006-2013 dropped from 320 million m² to approximately 100 million m², a decrease of almost 70%.

Last year, too, the Spanish construction industry fared disastrously: based on the figures provided by the European Commission, investments in construction work dropped by almost 10%. The negative state of the market has affected the residential and non-residential sectors and also civil engineering. Forecasts for 2014 are highly negative and it is believed that investments in construction work may fall by approximately 4%, effected once again by the terrible trend in the housing sector. The market still needs to absorb the enormous stock of real estate that was built during the period of the property boom, and this is discouraging any new building work. Based on latest forecasts, the fall of the Spanish construction industry will end in 2015, when the market is expected to grow by almost 2%.

The crisis in the construction industry in Portugal has been going on for over a decade. This is the longest recession in Europe during which production levels have constantly dropped. Here again a number of figures highlight the extent of the market recession: compared to the first three years of the last decade, sales of ceramic tiles have dropped by 70% and there has been a similar decline in the domestic market for cement.

Last year the Portuguese construction industry shrank by over 14%, according to figures from the European Commission. The new residential building sector was the most severely affected by the recession. The demand for new houses was, in fact, negatively affected by the drop in family income and the



Graph 1. Trend in ceramic tiles sales in Spain from 2001 to 2014
Millions of sq.m. Source: Confindustria Ceramica, June 2014

credit crunch. The residential sector also saw a notable decline in investments. The negative macroeconomic situation is clearly reflected in the overall trend in investments in buildings for manufacturing, logistical and commercial purposes. Public spending on infrastructures has dropped significantly due to budget constraints. As in the case of Spain, the Portuguese construction market is expected to fare worse than the rest of economy in 2014. There is expected to be a notable reduction in investments this year, estimated at a drop of around 4%. Every sector of the construction industry is expected to decline, except for housing renovation work, which ought to help reduce the overall decline in the market. Only a strengthening of the economic revival in 2015 might put an end to the building market's recession. There is not expected to be a revival in the construction industry, just an "end to its decline".

Mapei against the grain: growth in spite of the recession

Historically speaking, Mapei has always had a strong presence on the Iberian peninsula, and it has continued to invest in the region despite the fact that for years it has been suffering from the negative state of the building market.

The trend in sales of Mapei companies in Spain and Portugal in 2013 has been more positive compared to the aforementioned trend in the construction market. Last year Lusomapei, the Portuguese subsidiary, actually recorded an increase of over 4% in sales, a truly excellent result bearing in mind the highly negative state of the building sector. Despite the recession in the construction industry, both the Spanish and Portuguese subsidiaries recorded increases in sales in 2014.

Mapei plans to make even greater inroads onto the Iberian markets by marketing all its various lines of products and, with this in mind, it has strengthened its operating structure by employing new technical staff, so as to understand and meet the needs of local markets more effectively. The Mapei Group is, therefore, deeply entrenched in the building market in the Iberian peninsula and ready to reap the rewards of its revival, when the positive signs that have already emerged in the overall economic picture spill over into the construction industry.

Francesco Doria. Mapei Market Research Manager



MARIO JORDÃO

General Manager of Lusomapei

BELOW. Last May Lusomapei organised a travelling training event: the Mapei Bus stopped at 5 strategic sales points to provide information about the company's products and systems with practical demonstrations.



LUSOMAPEI

On tour around Portugal with customers

Lusomapei, the Group's Portuguese subsidiary, was set up in 2001 to promote the entire range of Mapei products in continental Portugal, the Azores and Madera, as well as Portuguese-speaking African nations. In order to cater more effectively for local clients' needs, it purchased a manufacturing plant in Anadia (Northern Portugal) in 2002, which acts as both a production facility and distribution centre. In 2008 the company opened its headquarters in Castanheira do Ribatejo in Central Portugal, which accommodate both a distribution centre and the company's main offices.

In 2009 the introduction of a new manufacturing line dedicated to admixtures for concrete meant that Lusomapei could start offering the Portuguese concrete industry a wider range of products on a much quicker basis. In 2010 the Portuguese subsidiary received ISO 9001 certification for its quality system. Today Lusomapei, thanks to its 36 members of staff headed by the General Manager Mario Jordão, can boast a nationwide presence right across Portugal of all the Group's lines of products, and it now also exports to Capo Verde, Angola, Morocco, Panama, Egypt and Tunisia for overall total sales of approximately 9 million Euros. Lusomapei managed to make its presence felt

in various sectors of the Portuguese building industry, as is shown by the considerable number of prestigious projects carried out using the company's products in every area of the nation, such as the Holy Trinity Church of Fatima, Hotel Tivoli Seteais in Sintra, Bay Beach and Spa Resort in Serra de Madeita, the hospital of Vila Franca de Xira, Braga and Amarante, the Ponta Delgada, Porto and Lisbon airports and many others.

In order to work more closely with local customers, gain their loyalty and make them more familiar with the latest products and systems, Lusomapei organised a special marketing operation: the Bus Tour. From 5th to 9th May the Mapei Motorhome, the Group's travelling school, journeyed right across the country from south to north in five stages, stopping off at the sales outlets of five customers. A total of 630 customers (distributors, building company representatives, installers and designers) took part in the event and were able to literally touch the benefits of Mapei systems, thanks to a special installation on the bus, practical demonstrations of the various products, and the possibility of asking questions to Mapei staff. The Bus Tour mainly focused on the thermal insulation systems (MAPETHERM and MAPETHERM TILE SYSTEM), solutions for installing ceramics and stone materials (KERAFLEX line and ULTRACOLOR PLUS) and waterproofing products (MAPELASTIC line), systems for cementitious and resin floors (MAPE-FLOOR SYSTEM and ULTRATOP SYSTEM) and solutions for renovating old buildings. Considering the close vicinity of the Spanish city of Ponferrada, lots of Lusomapei customers were able to follow the various events at the 2014 UCI Road World Cycling Championships from the Mapei Hospital-facilities.



LEFT. The Lusomapei headquarters in Castanheira do Ribatejo in central Portugal.

BELOW. Since 2002 Lusomapei has had a manufacturing plant in Anadia in Northern Portugal, which also acts as a distribution centre.





ABOVE. The Ibermapei's manufacturing plants in Cabanillas del Campo (top) and Amposta (centre page).

RIGHT. Ibermapei's headquarters in Santa Perpètua de Mogoda, near Barcelona.

IBERMAPEI

A seamless growth for the Spanish subsidiary

Mapei's history in Spain began in 1992 when it opened its first business facility in Alcorcón (Madrid). Ever since then the company has continued to make inroads into this country at a notable rate: in 1993 Ibermapei began marketing its range of products for installing ceramics; in 1996 it set up a technical-business office in Mallorca aimed at serving the Balearic Islands; a second office was then set up in Onda, close to Castellon, in 1997, the area where most of the Spanish ceramics manufacturing industry is located; in the same year the Spanish subsidiary acquired Hidro Recubrimientos, a manufacturer of coloured plasters for outdoors with which it merged in 1998.

In 1999 a manufacturing facility was opened in Amposta in Northern Spain which then began exporting Mapei products to countries in Mediterranean Africa and Cuba. Among the following and most important stages in Mapei's growth in Spain was the opening of a manufacturing plant in Cabanillas del Campo in the province of Guadalajara, in a central area of the country, back in November 2005. The reason for opening this new manufacturing unit was the need to increase on-site production of Mapei products after the plant in Amposta turned out to be unable to meet the demands of the Spanish domestic market. Just like the unit in Amposta, this manufacturing facility can also boast a strategic location: it is actually located in a place not far from the nation's capital, where all the main communication links across the Iberian peninsula converge together.

A new facility in Santa Perpètua de Mogoda, not far from Barcelona, came into operation in July 2012. Covering an area of 3750 m², these spacious premises include a warehouse, offices, showroom, where training courses and seminars are held, and a testing unit for hosting product demonstrations. Training assets have also been implemented in 2014 in the premises of Cabanillas del Campo. The last two years have been full of positive innovations and important achievements for Ibermapei: as well as contributing to the revival in the Spanish economy, the Mapei subsidiary has also obtained the OHSAS 18001 certification for its health and safety at work management system; there were a total of zero accidents at its two manufacturing units in 2013; it has also taken part in important conferences and forums in the building industry, such as the 6th International Congress of Constructors hosted by the ACHE (Spanish Technical-Scientific Association on structural concrete), the 2014 REHABEND Latin American Congress on construction and renovation technology, and the AURhEA Forum on renovation and restoration. But the event that really got Ibermapei and its clients excited in 2014 was the 81st edition of the 2014 UCI Road World Cycling Championships held in Ponferrada last September. Mapei's role as a sponsor emphasised once again the company's close ties with sports values and allowed numerous customers to experience the exciting cycling action, as described in a special article in this issue of the magazine.



**FRANCESC
BUSQUETS**

General Manager
of Ibermapei



Nike stores in Madrid and Barcelona

New floors for three Spanish stores
of the famous American brand

For the joy of all sports lovers, Nike has just opened a new store in Barcelona's Gran Vía 2 Shopping Centre in L'Hospitalet de Llobregat. A further two stores in Madrid, on the other hand, have been completely renovated, one in the Xanadú Shopping Centre in the district of Arroyomolinos and the other located in the Gran Vía.

Mapei supplied products for the flooring in all three stores to help create seamless, high performance surfaces in full compliance with the design specifications and the requirements of shopping areas subject to high pedestrian traffic.



NIKE AND MAPEI

Ever since 2008 Mapei has been involved in the new image-making project for Nike stores around the world. Nike store in San Benedetto del Tronto (Central Italy) opened in 2008-2009 followed by further stores in Barcelona and Madrid in 2013. In 2014 Nike stores opened in Milano (Porta Nuova area), Istanbul and Ankara (Turkey). Other stores are currently being built and will open shortly. Mapei supplied ULTRATOP SYSTEM, its self-levelling cementitious flooring system, for building the floors.



RIGHT AND LEFT. A view of the Nike store located in Gran Vía in Madrid after applying ULTRATOP.
BELOW. The Nike store in the Xanadú Shopping Centre in Madrid where ULTRATOP floorings were laid.

Grup Idea, the company in charge of the project, supervised the work to make sure it complied with the design specifications. The company that carried out the actual application of the ULTRATOP SYSTEM was Prima Pavimenti Speciali, an Italian company specialised in cementitious and resin flooring. The substrates were prepared and levelled off using mechanical means to ensure the ULTRATOP coating was well anchored. The surface was then treated with PRIMER SN and broadcast with special QUARTZ 1.2 sand to guarantee the mechanical grip of the flooring system.

The following day the entire surface was coated with a continuous flow of anthracite-coloured ULTRATOP. The expansion joints were sealed with MAPEFLEX PU 30 sealant. Special diamond-tipped polishing machines were then used to dry-polish the surface. Two coats of MAPECRETE STAIN PROTECTION anti-stain treatment for concrete, natural stone and cementitious surfaces were then applied.

A similar intervention was carried out in Madrid. The first step was to mill the existing substrates which were then vacuumed thoroughly to remove all dust. The distribution joints were rebuilt to create the correct dimensioning and the repair with resin. After the preparation of the substrates and joints, the ULTRATOP floor was laid.

This article has been taken from *Realidad Mapei* No. 13, the in-house magazine published by Ibermapei, whom we would like to thank.



IN THE SPOTLIGHT

PRIMER SN

It is a two-component, fillerized epoxy resin-based primer applied with a metal trowel or smooth rake. PRIMER SN has been specifically formulated to carry out preliminary priming treatments on surfaces before applying epoxy and polyurethane resin systems from the MAPEFLOOR range and self-levelling cementitious mortars from

the ULTRATOP/ULTRATOP LIVING range to protect and coat civil and industrial floors, terrazzo floors and cementitious substrates in general. PRIMER SN is characterised by its ability to penetrate into substrates and may even be applied on moderately damp surfaces. It can contribute up to **3 points** to obtain the **LEED** certification for eco-sustainable buildings.

Technical Data

Nike stores, Barcelona and Madrid (Spain)

Year of Intervention: 2013

Intervention by Mapei: supplying products and on-site technical assistance for laying resin floorings

Design and Works Direction: Esther Catalan, Grup Idea

Laying Company: Prima Pavimenti Speciali

Mapei Co-ordinators: Pedro Pardo and Sergi Sánchez, Ibermapei (Spain)

Mapei Products

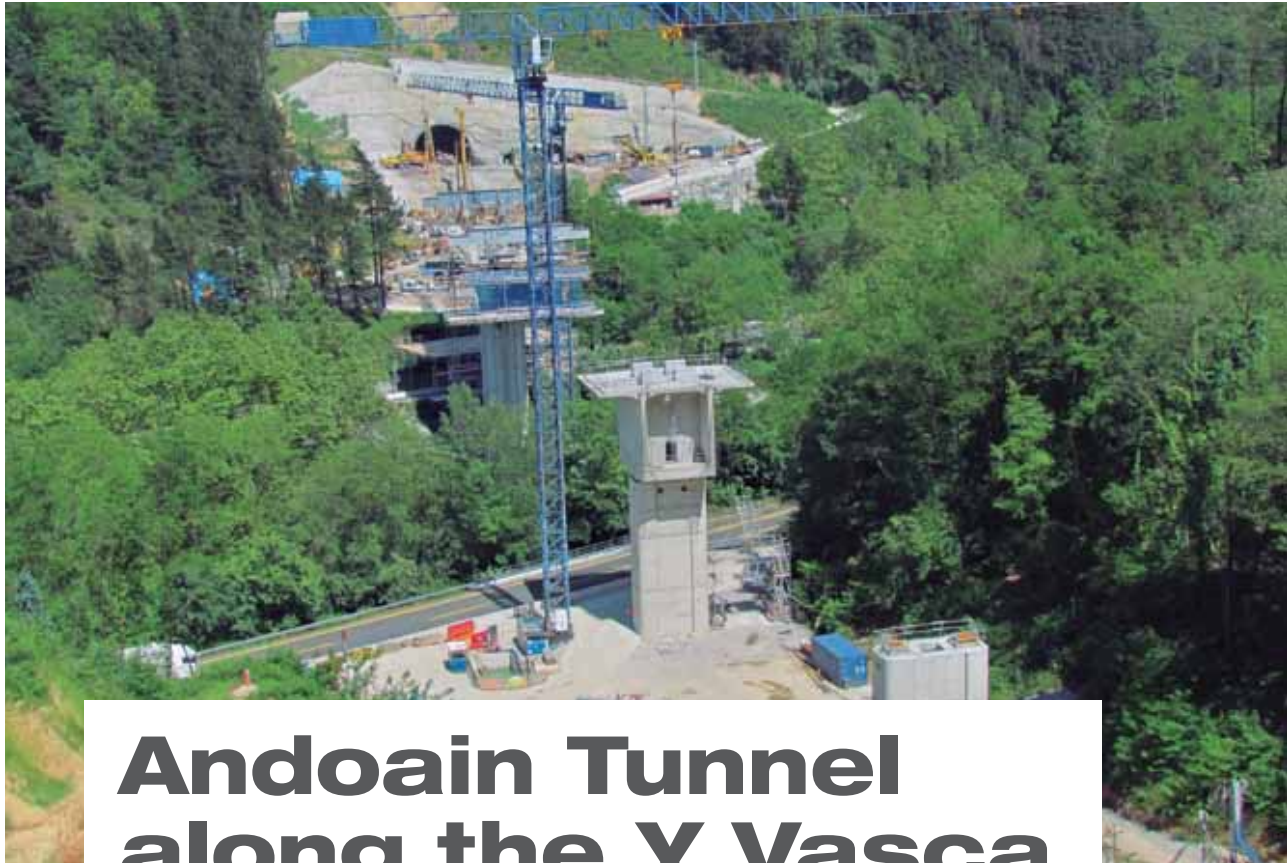
Preparation of substrates: Primer SN, Quartz 1.2

Laying resin floorings: Ultratop, Mapecrete Stain Protection

Sealing floor joints: Mapeflex PU30

For further information see

www.mapei.com and www.mapei.es



Andoain Tunnel along the Y Vasca

Mapei admixtures in the Andoain tunnel along the high-speed Bilbao-Vitoria-San Sebastián railway network

The new “Y Vasca” railway network will transport both people and goods and connect the three Basque capital cities of Bilbao, Vitoria-Gasteiz and Donostia-San Sebastián. The project is part of the Spanish Government’s Strategic Plan for Infrastructure and Transport. It will have a Y-like shape (this is the reason why it is called “Y Vasca”) and reach the French border. The trains will be able to reach a maximum speed of 220 km/h for people’s transportation and 120 km/h for goods’ transportation through the compatible existing railway lines.

The connection between Vitoria and Bilbao was completed in 2013, while the section between San Sebastián-Donostia will be completed in 2015.

The UTE PFPV Andoain Urnieta is the project’s main contractor which includes the companies of Ferrovial Agroman and Construcciones Amenabar and was appointed to complete the Andoain-Urnieta section of the Y-Vasca railway line.

The section encloses two main elements: the 1,980 m long Andoain tunnel, with its 1,000 m long parallel safety tunnel and the 339 m long Ría de Oría viaduct.

The excavation works of the Andoain tunnel were started in May 2012 by Subtek Ingeniería and Cma Construcción and were completed in only 13 months.

The excavation works were carried out with the drill and blast technique.

Mapei took part in the construction works and supplied technical assistance on the job-site as well as admixtures for the production

ABOVE. View of the Ría de Oría viaduct and the Andoain-Urnieta tunnel.

BELOW. The entrances of the Andoain-Urnieta tunnel and its safety gallery.





IN THE SPOTLIGHT

MAPEQUICK AF1000

It is a liquid accelerator based on alkali-free inorganic salts developed for shotcrete with very rapid setting time, that can be used both in dry-mix as well as wet-mix shotcrete spray systems. Thanks to its high accelerating action and the absence of alkali, it is particularly suitable for preparing quality shotcrete with high mechanical strength at very short (0-60 min), short (60 min-24 h) and long stages (>24 h) of curing. Because of the absence of alkali, MAPEQUICK AF1000 does not trigger alkali-aggregate reaction; furthermore, concrete accelerated with this product is not subject to leaching, that can occur when using normal alkali accelerators. For this reason, it reduces the risk of obstructing water drainage.

MAPEQUICK AF1000 is particularly suitable for shotcrete in the presence of water seepage during the tunnelling phase. It can also be used on rocky surfaces with temperatures near 0°C.

DYNAMON SX 24

It is a liquid high-performance superplasticizing admixture based on non-sulphonated acrylic polymers for high quality concrete with high retention of workability. Because of its high workability (consistency classes S4 or S5 according to EN 206-1) and reduced amount of mixing water, concrete prepared with DYNAMON SX 24 is easy to place in the fresh state and has high mechanical strength when hardened. DYNAMON SX 24 is mainly used for waterproof and durable concrete with exposure class in compliance with EN 206-1; ready-mixed concrete with high mechanical performance and high retention of workability; pumpable concrete.

It can contribute up to **2 points** to obtain the **LEED** certification.

of shotcrete. In order to optimize the formulation of shotcrete, Mapei setting accelerators were used in the mix. In this way, a mechanical resistance of 30 N/mm² was ensured, as specified by the project design.

Due to the characteristics of the raw materials available on the job-site, such as the cement type CEM II-AL 42.5 R, a liquid alkali-free accelerator with a very rapid setting time, MAPEQUICK AF1000, was used to ensure the shotcrete's correct strength parallel development and mechanical resistances. Moreover, parallel DYNAMON SX 24, a liquid high-performance superplasticizing admixture, was used for the optimization of the shotcrete to contribute in providing the required performance.

Mapei worked together with the cement producer Cial Urratz to manage the project's works and get a great result. Moreover, thanks to the trust given by UTE PFPV Andoain Urnieta's direction and the collaboration with the quality manager, Mapei managed to satisfy technical quality and safety requirements for stabilization around excavation face.

Mapei continuously develops products and solutions such as MAPEQUICK AF1000 and DYNAMON SX 24, always giving the essential conditions of safety work the first place.

This article has been taken from *Realidad Mapei* no. 12, the in-house magazine published by Ibermapei, whom we would like to thank.



Technical Data

Andoain Tunnel, Andoain-Urnieta Section, High Speed Railway (Y Vasca), Urnieta (Spain)

Client: ETS

Design: ETS

Intervention by Mapei: supplying admixtures for shotcrete

Period of Construction: 2012-2013

Period of the Intervention: 2012-2013

Contractor: UTE PFPV Andoain Urnieta

Building Company: FERROVIAL-AMENÁBAR

Mapei Co-ordinator: Marc Benito, Mapei UTT International

Mapei Products

Formulating shotcrete with admixtures: Mapequick AF1000, Dynamon SX 24

For further information see the websites www.mapei.es and www.mapei.com

TOP OF THE PAGE. View of the Andoain tunnel during the excavation works.

ABOVE. Detail view of the spraying application of shotcrete, formulated with Mapei admixtures, with the nozzle.



World Cycling Championships again with **MAPEI** as usual!

Ponferrada 2014:
Mapei Main Event
Partner at the UCI
Road World Cycling
Championships



Mapei is always involved when it comes to top-class sport. A cross-the-board presence ranging from building work right across the planet using Mapei products to construct sports facilities to the promotion and backing of international-level events watched by international audiences and catching the eye of millions of fans. Without, of course, forgetting its everyday contribution to scientific research into sport through the international-level Mapei Sport Research Centre in Olgiate Olona (Northern Italy).

Alongside all the achievements associated with Sassuolo football team (see the article focusing on the team in this issue of the magazine) sponsored by Mapei, cycling is still the sport that really sets the company's heart pounding.

This is especially true when world titles are at stake and fans all around the world get really excited and involved.

That is why, once again in 2014, Mapei,

which has always supported international cycling, decided to sponsor the UCI Road World Cycling Championships held in Ponferrada (Spain) from 20th to 28th of September as a UCI Main Event Partner. Mapei has already sponsored previous editions of the UCI Road World Cycling Championships (Tuscany 2013, Limburg 2012, Copenhagen 2011, Melbourne 2010, Mendrisio 2009, Varese 2008), confirming its very close ties with a sport that has always been part of its DNA and in which Mapei recognises certain very important values, the same values shared

RIGHT. The Mapei Hospitality Area in Ponferrada, shared with all UCI Partners.



by the company: hard work, constant team work, a focusing on human resources and the determination to successfully take on any new challenge.

This important sports event is the key race in the entire cycling season, which always attracts an international audience with world-famous cyclists taking part, many of whom learnt their trade at the Mapei Sport Centre.

This year's World Championships were held in the city of Ponferrada, a Spanish borough in the province of León and the capital city of the El Bierzo region. Ponferrada is one of the main stages in the Camino de Santiago de Compostela pilgrimage route and renowned for its striking and imposing castle - constructed by the Templars at the beginning of the 12th century - that looms high above its old city centre. The building has an irregular square-shaped layout and mainly stands out for its entrance, which can be reached across a drawbridge over the moat, and then two giant towers with embattlements joined by an arch.

“Mapei blue” among the world championship rainbow colours

“Mapei Blue” is now a familiar colour to all those fans who follow - either live or on television - this yearly cycling event. This is due to the fact that the company has decided to invest ever more in backing a sports/media event of international status like the UCI Road World Championships, at the time taking this great opportunity to publicise its brand on a global scale and get its own staff, customers, partners and opinion leaders directly involved. Over the week's racing over 1000 guests were able to experience, just a few yards from

the finishing line, the great joy of being involved in an event that never fails to excite us in unpredictable ways.

In addition to Mapei Hospitality Area for welcoming friends and customers, near the “Mapei Motorhome” corporate bus close to the finish line, a special area was

devoted to the Mapei Sport Centre, whose staff were more than willing to explain all about its various different activities to numerous visitors. Given a warm welcome by the entire staff of the Spanish and Portuguese subsidiaries, Ibermapei S.A. and Lusomapei S.A., as well as by Mapei and Mapei Sport guests got the chance to enjoy the company of lots of cycling champions, including the Spanish riders Miguel Indurain (who won five consecutive Tour of France in the early 1990s) and Óscar Freire (who rode for the Mapei cycling team in the 2000, 2001 and 2002 seasons). Still very much in the hearts of all fans of that memorable Ma-

pei Professional Cycling Team, it is worth mentioning that Freire was a three-time road world cycling champion in the elite category (in 1999 in Verona, in Lisbon in 2001 and again in Verona in 2004) equaling the record number of world championships wins by three true legends in

the history of cycling: Alfredo Binda, Rik Van Steenbergen and Eddy Merckx.

It was an extremely busy week during which Mapei guests not only managed to watch the races really close up to the cyclists, but were also

involved in various enjoyable side events. A really relaxing, party atmosphere - livened up even further by a caricaturist, who drew lots of portraits of the guests - proving to everybody that what makes Mapei so special is the way it encourages teamwork and a real team spirit in everything it does.

On Sunday morning a large group of Mapei guests got the chance to visit the Templar Castle in the company of a guide.



ABOVE. This year's UCI Road World Cycling Championships were held in Ponferrada, a Spanish borough in the province of León and the capital city of the El Bierzo region.

» “MAPEI BLUE” IS NOW A FAMILIAR COLOUR TO ALL THOSE FANS WHO FOLLOW THIS YEARLY CYCLING EVENT.

RIGHT. Among Mapei's guests in Ponferrada there were also the champion cyclists Miguel Indurain and Óscar Freire.





They were able to immerse themselves in the Middle Ages, also enjoying a tour - organised exclusively for them - around the Templar Library and Ponferrada Historical Studies and Research Centre, containing over 1,400 books including facsimiles of works by Leonardo da Vinci.

Global visibility

Just like last year, the 2014 edition of the UCI Road World Championships enjoyed global media coverage, with plenty of visibility on the various television channels of numerous European and non-European countries. An opportunity that Mapei capitalised upon through lots of TV adverts broadcast on Universal Sport channel in the USA, NOS channel in the Netherlands and VRT channel in Belgium. The company also organised a billboard sponsorship campaign on TVE channel



in Spain that was broadcast from 21st to 28th September and other promotional spaces broadcast from 14th to 27th September.

It also worked in partnership with the Italian channel Bike Channel (Sky Channel 214), which followed the World Championships from 23rd to 27th September. Over the five days of the event, the television crew recorded a daily episode entitled "World Championships Special" broadcast at 8.45 p.m. and then repeated for an entire month. Alongside interviews with the athletes and other experts, plus TV pictures and technical commentaries from Ponferrada, every episode included a focus on Mapei dedicated to its corporate history, philosophy, products and links with cycling. Bike Channel's schedule also included a Casa Azzurri-Mapei Special - featuring the Italian team manager, Davide Cassani, and the entire Italian national cycling team - who described what went on behind the scenes in the Italian team, including interviews, stories and previously unseen film footage. Naturally there was also no lack of information, news and videos about the World Championships on www.bikechannel.it, Facebook, Twitter and also YouTube.

ABOVE. Ponferrada is one of the main stages in the Camino de Santiago de Compostela pilgrimage route and renowned for its striking and imposing castle. Mapei guests were able to visit the castle with a local tourist guide.

The race course

Sunday's race, the main event bringing the World Championships to a close with the Elite Men's road race, was held over a 255 km course that consisted of 14 laps of an 18.2 km circuit up in the hills of Castilla y Leòn in northern Spain. The height gain each lap was 206 m and the maximum slope on the hardest part of the course touched a gradient of 11%.

When the race was officially presented it was described as one of the hardest over recent years. The difference compared to the past was mainly the fact that there was no long flat section at the beginning. Each lap included two climbs, the first a gently sloping 5 km hill and the second a steeper 1 km climb. Covered 14 times (the number of laps to be completed) it made a total of 254.8 km and, significantly, 4,284 m of climbing.

The first climb was divided into two sections: 3 km at 4.7% followed by a slight



BELOW. Campbell Flakemore, the Australian rider who won the Under 23 time trial.

RIGHT. The winners of the Elite Men's race and the Elite Women's winner Pauline Ferrand-Prevot.



slope; the climb was made easier by the fact that the road was smooth and wide. A short descent led to the second hill, where the race was expected to be decided: 1,100 m along a narrow road with sections of the slope touching 11% in gradient. There was then a sharp two-kilometre descent (fast but not too difficult) and then two kilometres on the flat through to the finish. Although the climbs were tricky in parts they certainly were not excessively hard.

The Mapei logo was clearly on show on every lap of all the races held over the various days, with banners and arches over the finishing area and backdrops for the prize-giving ceremonies and press conferences. It could also clearly be seen on the official cars and all the communications material.

Poland's team work pays off

Poland had to wait until the 81st edition of the event to win its first Road World Cycling Championships title. Michal Kwiatkowski, who rides for Omega Pharma-Quick Step, had the honour of being the first Polish world champion. This 24-year-old cyclist was smart enough to attack before the descent, immediately latching onto a small group of four breakaway riders that included the Italian Alessandro De Marchi.

Kwiatkowski was a worthy winner, taking

advantage of his team's hard work right from the start of the race to eventually close the gap on the four riders, who first broke away at around 10.25 a.m. and stayed in the lead for approximately 4 hours.

Kwiatkowski made his move about 7 km from the finish. That was when the Polish rider caught up with the four who were ahead of him: the Italian rider De Marchi was also in the company of the French rider Gautier, Andersen and Kiriyienka. Kwiatkowski could hardly believe his eyes just a few yards from the finishing line, as the Australian rider Simon Gerrans and the Spanish rider Alejandro Valverde fought hard to try and catch him over the last few metres.

The other favourites had to settle for the runners-up positions: 9th Degenkolb, 10th

Bouhanni and 11th Cancellara, while the redoubtable young rider Matthews finished 14th, right behind Sonny Colbrelli. Kwiatkowski had already won the Junior World Time Trial Championships in 2008 and had a number of excellent finishes on the roads of the Ardennes: 5th in the Amstel race and 3rd in the Freccia and Liegi race.

Global results

These were not particularly successful World Championships for Italian cycling, which has not won any professional titles since the 2008 World Championships in Varese.

Overall the results for the Italian team were slightly better than last year, when Rossella Ratto was the only medal winner for Italy. This time in Ponferrada Italy won

PONFERRADA 2014 MEDAL TABLE

Nation	Gold	Silver	Bronze	Total
GERMANY	3	2	0	5
AUSTRALIA	2	4**	2	8
UNITED STATES	2**	1	1	4
DENMARK	1	1	0	2
NORWAY	1	0	1	2
POLAND	1	0	1	2
FRANCE	1	0	0	1
GREAT BRITAIN	1	0	0	1
ITALY	0	1	1*	2
IRELAND	0	1	0	1
RUSSIA	0	1	0	1
UKRAINE	0	1	0	1
NETHERLANDS	0	0	2	2
BELGIUM	0	0	1*	1
SPAIN	0	0	1	1
SWEDEN	0	0	1	1
SWITZERLAND	0	0	1	1

* medal awarded for the team time trial



a silver medal with Sofia Bertizzolo and a bronze with the Astan-BePink team in the Women's team time trial. Unfortunately, there were no medals for all the rather unlucky fourth-place finishes, sometimes by little more than a few millimetres.

Italy also failed to win a medal in the Women's Elite road race, but only by the very smallest of margins. Giorgia Bronzini once again demonstrated all her talent, showing the improvement she has made that has allowed her to be competitive even on tough courses over the last two seasons.

Meanwhile Astan-BePink won a surprising and fabulous bronze medal in the Women's team time trial, the first ever by an Italian team in a race that may not be very popular with the experts, but still awards medals just like the individual races: half of this Italian-Kazak team

were Italian riders, i.e. Silvia Valsecchi, Susanna Zorzi and Simona Frapporti.

At the end of the Championships, Germany topped the medal table with three gold medals. Right behind them came Australia, which actually won most medals of all with its 2 golds, 4 silvers and 2 bronzes.

2015 World Championships in the USA

The race routes have already been presented for the next UCI Road World Championships to be held in Richmond, Virginia (USA) from 20th to 27th September 2015. The road races for all the different categories will be on an extremely tough inner-city circuit. Each lap will be a 16.5 km loop with three short, sharp climbs, one of which on cobblestones, over the last 3 km. One of the hills will even have a maximum gradient of 20%.

One of Mapei's 10 manufacturing plants in the United States actually operates in Fredericksburg, near Richmond. So Mapei will inevitably be alongside the UCI as Main Event Partner at these forthcoming World Championships. This will merely strengthen its successful bonds with a country like the United States, which has seen the company grow constantly over several decades.

Once again top-class cycling will be "the winning adhesive", helping to bring together and promote those sporting values that have no boundaries and on which Mapei has always built its corporate spirit.



MAPEI AUSTRALIA WITH CADEL

Cadel Evans attended the Mapei Hospitality Area in Ponferrada to say hello to all his numerous fans. The 2009 World Champion and winner of the 2011 Tour de France has decided to end his professional career, which he will bring to a close on 31st January and 1st February 2015 at the first edition of a race that will bear his name, the Cadel Evans Great Ocean Road Race. Mapei Australia, the Australian subsidiary of the Group, will sponsor this important event, testifying to the whole of Mapei's great fondness and esteem for this authentic sporting champion, who was trained by Aldo Sassi (the former General Co-ordinator of Mapei Sport) and Mapei Sport and has always shared and promoted the company's values.





Tony Cairoli at the State of Goiás GP in Trinidad (Brazil).

Mapei to sponsor RED BULL KTM FACTORY RACING

The Mapei logo will be on the motorbike of the 8 times motocross world champion Antonio Cairoli

Winning a world championships is always a unique feeling and it is extremely exciting to be part of a project for a team which, for years now, has set the gold standard in its own event.

That is why it has once again been a great pleasure for Mapei to sponsor an exceptional rider and a team capable of dominating the world scene of motocross for years.

After finishing fifth in the State of Goiás Grand Prix in Brazil on 7th September, Tony Cairoli became world motocross champion for the eighth time in his career. The Mapei logo can clearly be seen on the side of his official KTM and on those of his teammates at Red Bull KTM Factory Racing.

This extremely successful sponsorship deal - that has been in place since the 2012/2013 season - first began in Belgium and involves the Group's local subsidiary Mapei Benelux SA.

Everything originated from a well-established business relationship with François Celis, one of its old customers and the owner of an important Belgian chain of building materials retailers called André Celis.

François Celis's passion for motocross, plus the fact that Ken De Dycker is his son-in-law - one of the riders in the Red Bull KTM Factory Racing team - was what really triggered off this extremely successful venture.

Let's not forget that Ken De Dycker is now a veteran motocross rider. In 2012 he was hired by the De Carli team (which belongs to the KTM group, with headquarters in Mattighofen, Austria) to replace the unfortunate Max Nagl. Riding the powerful KTM 450 SX-F, De Dycker was soon in the spotlight and KTM not only extended his contract to the end of the season but also hired him for the following year.

And it is no coincidence that this extreme-

ly successful sporting venture between Mapei and motocross came about in Belgium. In this country, where the national sport is Mapei's own favourite sport - cycling - and where some of the most important cycling classics are held (Tour of Flanders, the Flèche Wallonne, and Paris-Roubaix that was dominated by Mapei's own Professional Cycling Team for years), motocross is extremely popular and widely practised as well.

Tony Cairoli

Antonio Cairoli is a real star on the motorbike scene. Born in Patti (Italy) on 23rd Sep-



Tony Cairoli

8 times world champion!

September 1985, he spends his time both in Rome, where the De Carli team is based, and Belgium, where he trains for a number of months each year. So far Cairoli has won 8 world titles: 5 World Championships riding for KTM (2010, 2011, 2012, 2013, 2014) and 3 World Championships on a Yamaha (2005, 2007, 2009).

He made his debut in the World Championship riding a Honda for the Martin team, then in 2004 he joined the De Carli team, where he won five of his world titles before moving on to KTM with the rest of the team in 2010. Before winning the World Championship he won lots of mini-cross and Italian 125 races (1996, 1997, 1998, 2001, 2002). He finished third competing in his first World Championship in 2004.

You can see for yourself just what a champion sportsman he is by watching a recent documentary film – Tony Cairoli The Movie – that came out on 27th October. Very few athletes around the world have been given this kind of honour: the film tells us about this rider's career and life. It took six months to shoot the race footage, but also interviews with members of his family, friends and teammates.



MAPEI AND KTM: THE PARTNERSHIP CONTINUES

Red Bull KTM Factory Racing signed a new contract with the Mapei Group for the 2015 season on 10th December in Rome (Italy). The riders Antonio Cairoli, Ken De Dycker and Tommy Searle visited the headquarters of Mapei SpA in Rome together with the Team Manager Claudio De Carli, where they met with the Mapei Group's Operational Marketing and Communication Director, Adriana Spazzoli, the representatives of Mapei Benelux, Marco Roma (Corporate Area Manager) and Christophe Simonis (Marketing Manager) and, of course, François Celis from the André Celis company. Claudio De Carli also took the opportunity to outline next season's racing schedule.

Motocross has been François Celis's great passion for years: "It is an extremely popular sport in Belgium - so he pointed out - but for the last ten years or so I have been avidly following the young rider Ken De Dycker from Leuven, my home town. I have met plenty of wonderful people and realised that motocross is one of the hardest sports of all, because it is extremely demanding both physically and mentally. To achieve good results you must be in great physical condition and extremely focused. In

competitive racing, as in life, work and business, to achieve results you must be extremely motivated and focused".

The rider Antonio Cairoli was also extremely pleased with the new contract: "A sponsor is never just a name or brand, and it is always a great pleasure to discover that behind a certain name there are companies and, above all, real people. And it is an even greater pleasure to discover that there is great passion and interest for sport within this context. For us riders it is extremely important that our team represents such great brands as Mapei; it is extremely satisfying and motivating. But for me personally it is even more special when the sponsor is Italian, because I have never hidden my pride at being Italian and being able to represent, all over the world with my head held high, the very best my country has to offer, such as Mapei".

LEFT. In the back row, from left on: Antonio Cairoli, Claudio De Carli, Tommy Searle, and Ken De Dycker. In the front row, from left on: François Celis, Marco Roma and Adriana Spazzoli.





ABOVE. Cairoli's team at the GP in Trinidad (Brazil).

Red Bull KTM Factory Racing

Red Bull KTM Factory Racing, captained by Pit Beirer and run by Stefan Everts for this leading Austrian manufacturer, is organised in the form of an MX2 team run by Everts himself and an MX1 team run by Claudio De Carli, whose riders are Antonio Cairoli and Ken De Dycker.

The Claudio De Carli team joined the KTM setup as an official team for the 2010 MX1 World Championship. The Claudio De Carli racing team was set up in 1994 when De Carli decided to give up his own professional career as one of the leading independent motocross riders in the 1980's World Championships and the first Italian to win a round of the 500 CC World Championships. There are lots of leading riders in the fabulous KTM team that has won so many world titles. The new world champion Cairoli and Ken De Dycker will be joined at the team by the English rider Tommy Searle. Searle, a twenty-five year old from Pembury (UK), who has been the runner-up in the MX2 World Championship three times (2007, 2008, 2012) and finished on the MX2 World Championship podium a further four times (2007, 2008, 2011, 2012), has already been a member of the KTM MX2 official team from 2006 to 2008 and raced for KTM USA in 2009 and 2010. Twelfth overall in the 2014 MXGP Championships after only taking part in 10 Grand Prixes due to an injury during the first leg of the Gran Prix in Thailand, Tommy Searle, who recently won the MX2

MOTOCROSS WORD CHAMPIONSHIP RACING SCHEDULE

Each round of the Motocross World Championship takes the form of two races held over a weekend and each of the two races counts towards the championship. The various Grand Prixes are won by the rider who wins the highest number of points, taking into account their finishing position in race 1 and race 2; if two riders end up with the same number of points after both races, the winner is the rider who finished higher in race two. The rider with the highest number of points after all the various rounds wins the championship.

The Grand Prixes are held in different places each weekend on the same worldwide tour: usually official qualifying is held on Saturday followed by the races on Sunday. The schedule for the 2014 season consisted of 19 races organised by the FIM (Fédération Internationale de Motocyclisme), the International Motocross Federation.

ALL THE GPS TAKING PLACE IN 2015

The first MXGP Grand Prix in 2015 will be held in Qatar on 28th February and the race will take place Saturday night under floodlights. The Trentino GP will be held in Arco di Trento (Italy) on 19th April and the ninth race scheduled for 14th June will also be held in Italy, in Maggiora. The European GP will be held in Valkenswaard (Netherlands). Here is the official schedule.

DATE	GRAND PRIX	PLACE
28 th February (Saturday)	QATAR	Lusail
8 th March	THAILAND	Nakhonchaisri
29 th March	ARGENTINA	Neuquén
19 th April	TRENTINO (ITALY)	Arco di Trento
26 th April	EUROPE	Valkenswaard (Netherlands)
10 th May	SPAIN	Talavera de la Reina
24 th May	GREAT BRITAIN	Matterley Basin
31 st May	FRANCE	Villars-sous-Écot
14 th June	ITALY	Maggiora
21 st June	GERMANY	Teutschenthal
5 th July	SWEDEN	Uddevalla
12 th July	LATVIA	Kegums
26 th July	CZECH REPUBLIC	Loket
2 nd August	BELGIUM	Lommel
16 th August	BRAZIL	Trinidad
30 th August	NETHERLANDS	Assen
13 th September	MEXICO	León
20 th September	USA	Glen Helen

class at the Motocross of Nations held in Kegums, is particularly excited about his return to KTM. This promising team was warmly welcomed and applauded by numerous visitors of EICMA, the international exhibition devoted to motorcycling, held in Milan from 6th to 9th November, 2014. Antonio Cairoli and Claudio De Carli met journalists and fans during the show's opening day at the marvellous KTM booth. It was a real and deserved mix with the people for a team and a champion that are expected to win again next year. The Mapei logo will once again blaze across these super-fast KTM bikes during the 2015 season, because, in this sport too, Mapei is destined, as always, to be on top of the world, thanks also to active input from Mapei Benelux and the headquarters Mapei Spa.



SASSUOLO FOOTBALL TEAM and a proud city shaking up lethargic Italian football

Journey into the smallest town in Italian first division football that has “gifted” two starlets to Italy’s two national teams

Here, where ceramic tile manufacturing has boosted the economy and attracted workers from outside the community, creating jobs for thousands of people and hundreds of companies, football has finally found its place in the sun. All thanks to Sassuolo team, which, after being promoted into the Italian first division (Serie A) making this the smallest town to have a team in the top flight of Italian football, is now trying to put on a good show in the biggest showcase of Italian football. The trails being blazed by Simone Zaza and Domenico Berardi, the former starring in Italy’s victory against the Netherlands and the second hitting the headlines in the Italian Under

The squad has doubled in value

48 million Euros the overall value of the Sassuolo squad at the beginning of last season

85 million Euros the value of the entire Sassuolo team at the beginning of its second season in the Italian Serie A

21 team’s comeback against Serbia, are a sign that something is changing in the world’s most important ceramics manufacturing district. The fans are well aware of this and local politicians are hoping that Sassuolo will help relaunch the entire area’s economy.

Veterans

The so-called “Antenati” (Ancestors), the team’s oldest group of supporters, meet at the local bowls arena. They are all over 60, plus the evergreen Giorgio Barbieri, former city

councillor for sport and former player and manager of Sassuolo in the 1970’s-90’s. “There is nothing random about these two players being called up for the Italian national team - so he says - it is the end of a process that Sassuolo has planned

with farsightedness and professionalism and not just thanks to Squinzi’s money. Of course Berardi and Zaza are two very talented footballers destined to play for the really big teams, but Sassuolo will not stop with them. The club has already shown it knows how to recruit players”.

The chairman of the Antenati Club, which has 180 members all with season tickets in the stands, is Franco Braglia. “We follow all the training sessions, and Di Francesco has really worked hard to bring on these youngsters. He is a trainer who first discovered Berardi and then managed to





bring him back into form last year when he seemed to have lost his way. Domenico still needs to develop, whereas Zaza is much more experienced". The secretary, Mario Montorsi, nods in agreement: "For us being Sassuolo fans is not just a fad, we have been here for 40 years back when there were only a few of us, now we are too many to count. The national football team is the reward for the club's policy of investing in young Italian players. Squinzi has turned football inside out and we trust him".



Celebrations

The newly appointed mayor, Claudio Pistoni, then arrives. "Sassuolo is a special place and football is just the latest aspect of its positive evolution. Watching Sassuolo become the focus of Italian football fills us with pride. Here, too, football has become an important driving force behind the economy. Sassuolo can boast having brought people like me back to the stadium to watch matches after staying away for over 20 years because of all the violence on the terraces. I was a Juventus fan, but now I support Sassuolo and I hope that Berardi and Zaza stay with the club instead of accepting offers from Juventus".

Symbol

On the way to the city centre you will find the Sasòl Club, whose members are all under the age of 50, many of whom have been supporting the team out on the terraces for years. Nando Letteriello is the leader of the 270 members. "Sassuolo owes everything to Squinzi. It was us, the fans, who persuaded him not to give up after we were robbed of promotion from the second division three years ago. Now his efforts have been rewarded". Co-founder Marco Sghedoni is an outside observer: "This team has revived the name of Sassuolo. In the past, when I went abroad I used to say that Sassuolo was close to Maranello where Ferrari is based; now people know about Sassuolo as the city where Berardi's team plays. Seeing Zaza in the Italian strip during the singing of the national anthem made us all swell with pride. So now that our strikers play for the Italian team, Sassuolo is no longer just a flash in the pan, it is a team to be reckoned with". Co-founder Matteo Bettuzzi is in no doubt: "This team can come to symbolise a new kind of football. More serious, more transparent and more people-friendly, helping young Italians create the future of this sport that is in a real mess at the moment. Sassuolo team has really shaken up the lives of the people of Sassuolo".

This article, written by Andrea Tosi, was first published in the Italian newspaper *Gazzetta dello Sport* on 7th September, 2014. We would like to thank the writer and newspaper for allowing us to use it.



Giorgio Squinzi: “We are a model for re-launching football in Italy”

The owner of Sassuolo club and President of the Confederation of the Italian Manufacturing and Service Companies: “Two of our players being selected for Italy is rightful recognition for our policy based on youngsters and home players”

Sassuolo’s golden moment bears the name and surname of Giorgio Squinzi. Under the guidance of the leader of Mapei, who is now in his 12th season as the owner, the club has really grown, emerging from the anonymity of the lower divisions to get into the top division after three promotions in 12 years. Squinzi has brought a new kind of patronage to Sassuolo. Mapei sponsors the club for 16 million Euros, the highest amount in the Italian championship. But this is actually money that Squinzi gets back in the form of marketing and return on image. Even in the second division, Mapei paid Sassuolo around 6 million Euros to have its name on their team kit. The purchasing of Reggio Emilia stadium should be viewed in the same light. It is wrongly thought that the stadium is owned by Sassuolo, while in actual fact it belongs to the President of the Confederation of the Italian Manufacturing and Service Companies’ own industrial group, which has adopted a policy of investing in youngsters. Taking a break from his official duties, he found the time to talk about the two Sassuolo players, Zaza and Berardi, who did so well playing for Italy in their respective teams.

Did you manage to watch your two start players representing Italy?

I only saw Italy’s match against the Netherlands on television. A great win with Zaza playing a key part. I heard about Berardi’s winning goal for the Under 21 team. I am very happy. I believe that calling up these two players was rightful recognition for our policy based, as a first option, on young players from Italy. Last Sunday, during our first game this season in the Italian first division, the line-up included 11 Italian players. Lots of teams in the Italian first division, who, in contrast, field 11 foreigners, do not help our sport. I genuinely believe that Sassuolo’s approach is the best way of re-launching the national team after it performed so badly at the World Cup finals in Brazil.

Now everybody is envious of your having Zaza and Berardi. What do you think of them?

They are two well-prepared youngsters. Berardi has developed with us, starting from our junior teams. Zaza, on the other hand, came here to really make a mark. What they are managing to achieve proves that we were right to focus on them. But this Sassuolo team is not just Zaza and Berardi.

Everybody thinks they are getting ready to move to Juventus. Is that the case?

In actual fact we have now paid Juventus everything we owed them for Zaza, he is now 100% ours. In the case of Berardi, all options are still open. We have not promised to sell them to anybody. On the contrary, we hope to build Sassuolo’s future around them. It really is early days to talk about the transfer market.

Do you think there are any other Sassuolo players ready to follow in Zaza’s and Berardi’s footsteps?

Antei already plays for the Italy Under 21 team. But, talking about the Italy team, I think Sansone has all the qualities required to be in the national squad. It would be great to see all three Sassuolo strikers called up by Conte. I think it is only a question of time.

So you are not surprised how well your players have come on?

No, indeed I believe that if Prandelli had been braver, he might have called up at least one of them to go to Brazil. Perhaps Italy’s World Cup would have been different.

Have Sassuolo’s prospects changed in any way this year?

No. We aim to stay up. After that everything is a bonus.

These articles, written by Andrea Tosi, were first published in the Italian newspaper *Gazzetta dello Sport* on 7th September, 2014. We would like to thank the writer and newspaper for allowing us to use it.

THE MANAGER OF THE GREEN-AND-BLACKS IS EVALUATING HIS PUPILS

On the eve of this season’s new Italian football championship, Eusebio Di Francesco turned out to be spot on in his prediction that Zaza and Berardi would hit the headlines straight away. But perhaps not even he could have imagined that they would have done so well for the Italian national teams as well. “I do not think everything has happened too quickly, we are happy that Sassuolo could send two players to represent Italy - so the manager of Sassuolo claimed, as he began his third season in charge of this team - I said that Zaza was the player I expected to really make progress, both for himself and the team. Simone has plenty of room for improvement, but he still makes some stupid mistakes in his finishing. He scores really difficult goals, but sometimes misses the easiest of chances. He needs to learn that the first rule for a great striker is to score the easy goals, he needs to play simpler football and I am certain that he will. As far as Berardi is concerned, I am delighted that he has been a decisive factor

in a tricky situation when the Under 21 team had to come from behind, proving that playing for the national team really is important to him, contrary to what some people were saying until very recently”.





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MANAGER

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LUCA
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LORENZO
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PAOLO
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CHIBSAH

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FRANCESCO
MAGNANELLI

MIDFIELDER



SIMONE
MISSIROLI

MIDFIELDER



SAPHIR
TAIDER SLITI

MIDFIELDER



DOMENICO
BERARDI

STRIKER



SERGIO
FLOCCARI

STRIKER



ANTONIO FLORO
FLORES

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