INTERNATIONAL

Realtà Mapei

SQUINZI
TO LEAD THE EUROPEAN CHEMICAL INDUSTRY

Year XII - No. 33 - December 2010

Mapelastic® AquaDefense

Application

Ready-to-use, one-component, ultra-quick drying flexible liquid membrane for waterproofing under ceramic, marble and mosaics, for interior and exterior.

- **One-component, ready-to-use**
- Quick drying
- No reinforcement required
- Rain dry after just 3 hours
- **Tiles installation after just 4 hours with suitable adhesive**
- Rooms treated with the product back in use after just 1 day
- **Leed** credits: up to 2 points for regional materials
- All the above mentioned values only refer to a **temperature of +23 °C and a residual humidity of 50%**; the product must be applied on dry screeds with a **residual humidity inferior to 3%**

Summary

IN THE SPOTLIGHT

ADESILEX P9 page 36, **KERABOND** page 40, **MAPELUX LUCIDA** and **MAPEFLOOR FINISH 52 W** page 48, **MAPESHAFT BS 15** page 56, **ULTRAPLAN** page 68.

COVER STORY:
Last October Giorgio Squinzi, President of the Mapei Group, was elected as head of Cefic (European Chemical Industry Council), an organisation based in Brussels, which represents the European chemicals industry.

EDITOR IN CHIEF
Adriana Spazzoli

EDITORIAL CONTRIBUTORS AND ENGLISH TRANSLATION
Tiziano Tiziani, Federica Tomasi, Metella Iaconello, Martyn Anderson, Nicholas John Bartram

PRODUCTION AND EDITORIAL COORDINATOR
Metella Iaconello

GRAPHIC DESIGNER
Studio Magazine - Milan (Italy)

PRINTED BY
Arti Grafiche Beta - Milan

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 - BIMONTHLY MAGAZINE
Registered by the Tribunal of Milan n. 363/20.5.1991
Realtà Mapei International is published 4 times per year

CREDITS
Cefic (European Chemical Industry Council), Confindustria Ceramica, Gianni Dal Magro, Federcomated, Francesco Fiori, IBS L.L.C. (UAE), Lusomapei S.A. (Portugal), Mapei Australia Pty Ltd., Mapei Betontechnik, Mapei Corp. (USA), Mapei Far East Pte Ltd (Singapore), Mapei France SA, Mapei Kft. (Hungary), Mapei Nederland B.V., Mapei Sport, Ufemat (European Association of National Builders' Merchants and Manufacturers), Ugo Sosio, Unieco Sport.

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

Cefic: Squinzi lo lead the European chemical industry

The General Assembly has elected Giorgio Squinzi as its President for the two-year 2010/12

Last October Giorgio Squinzi, President of the Mapei Group, was elected as head of Cefic (European Chemical Industry Council), an organisation based in Brussels, which represents the European chemicals industry and which numbers 29,000 businesses operating in Europe as members, representing over 1,200,000 workers.

The appointment of Giorgio Squinzi, who also covers the role of President of Federchimica (the Italian Federation of chemical companies), and heads the Technical Committee for Europe of Confindustria (the main organisation representing Italian manufacturing and service companies) means that an Italian industrialist is taking on the responsibility of heading the European chemical industry, which, until now, has always been run by corporate managers. Giorgio Squinzi takes over from Cristian Jourquin, CEO of Solvay, a highly prestigious position, which acknowledges on an international level the role played by the Mapei Group in the chemicals industry. Squinzi will lead Cefic for the next two years during an extremely important period in time, almost decisive for the chemical industry on the European continent, as it competes on global markets and takes on the challenge coming from rising competition from emerging countries.

"This new appointment is a very delicate and intricate challenge at a time when the leadership of European chemicals is coming under pressure due to the relocating of many manufacturing assets, particularly in new zones of the planet", was the first comment made by the newly elected President. As he prepared to relinquish his position, Cristian Jourquin took stock of his two years in office as President, which saw good and bad moments for European chemicals: "the past two years have been an interesting journey for all of us. We started with a clear plan and goals but, as you know, the only thing you can be sure of when you make a plan is that it will be disrupted. And I can think of few greater disruptions than the financial and economic crisis still affecting our industry so strongly today. Nevertheless, thanks to our hard work, we have pushed forward with Cefic's strategic priorities and taken many steps in the right direction. I would like to focus on the four priority areas which we wanted to structure our work around: competitiveness, innovation, sustainability, the industry's image. We must continue along this path with great determination".

And Giorgio Squinzi certainly is not lacking in determination. Having confirmed the basic guidelines, in his inaugural speech he outlined the situation in the European chemical industry and the challenges that lie ahead in the future. "The indicators of prices for raw materials point towards a revival in markets, which might be back in a healthy situation again soon. But we must not lower our guard. I believe that the long-term effects of the recession will result in important restructuring operations in our industry. This means – so the new President continued – we are faced with a difficult but stimulating challenge: how can we build our future. Our industry is based on high-tech solutions, so the science of tomorrow must continue to envisage chemicals as being at the very cutting edge. Today, and even more so in the near future, the chemical industry must be the driving force behind European production. There is a fresh awareness of the importance of having a strong industry in Europe. This is, of course, partly due to the bitter experience of the collapse in the financial markets, but now more than ever it is acknowledged that the real economy and values are the result of creativity, innovation and industrial labour".

"Over recent years – so Squinzi continued – I have realised that we must win the support and respect of the institutions. Not just ask for it and expect to be given it. First of all we must take full responsibility for our duties, then we can ask the institutions to play their part. We are firm believers in the European Union 2020 Strategy and we will work to implement it as best as possible. At this time of major changes, Europe cannot afford to make mistakes".

Competitiveness is another key issue which Squinzi talked about. Even though Europe has suffered a decline in terms of its competitiveness, the surplus from the chemicals industry last year was 42.6 billion euros: an encouraging result considering that the chemical industry only

Giorgio Squinzi, CEO of the Mapei Group, giving his speech at the Cefic General Assembly.

1

2

represents 1.1% of the Gross Domestic Product.
Squinzi also stated that "competitiveness is a social value because it means employment, growth and a better quality of life. But competitiveness must be aided and not hindered by legal measures.
Take, for example, the REACH regulation. We will take on our own responsibilities and pledge to enforce this regulation to the letter, but the revision process which will begin in 2012 must simplify bureaucratic procedures and set practical rules, particularly for small and medium-sized companies. The second and third stages in implementing the REACH project will be trickier than the first.
We are well aware of the obstacles which need to be overcome before a quality dossier will be ready for registration. I think it is unacceptable that small and medium-sized companies' structural conditions are not taken into consideration even on a structural level, since they are, after all, an irreplaceable asset for the future of European chemicals. Any financial resources allocated for overcoming bureaucratic obstacles cannot be used for new investments. Is that what we want? I do not think so. As regards future regulations, we must really consider whether extra and more effective means of guaranteeing the safety of chemicals are required. Over recent years we have literally come under fire: REACH, CLP, RoHS, Biocides and many other regulations. In contrast we would like to mention the Global Project Strategy, which is demonstrating the possibility of providing notable benefits to lots of workers and users all over the world under more sustainable conditions."

Photo 1. The table of speakers at the Cefic General Assembly: from the left, Christian Jourquin, outgoing President of Cefic, Emma Marcegaglia, President of Confindustria, Antonio Tajani, European Union Commissioner in charge of Industry and Entrepreneurship, Daniele Manca, assistant editor-in-chief of the Italian newspaper *Corriere della Sera*, and Giorgio Squinzi.
Photo 2. From the left, Hubert Mandery, Director General of Cefic, Giorgio Squinzi and Christian Jourquin.

Simpler Regulations and New Technology

Giorgio Squinzi also focused considerable attention on studying the manufacturing situation at the moment. "The European production level is continuing to increase, but more slowly than in emerging nations, while employment in Europe is decreasing at a rate of almost 2%-a-year. We need to make more investments in research and development to make industrial technology more competitive and support production in terms of real innovation. Basic strategy adopted by the European chemical indus-

ABOUT CEFIC

Cefic, the European Chemical Industry Council, is the Brussels-based organisation that represents the European chemical industry. Created in 1972, it represents 29,000 companies that produce about a quarter of the world's chemicals and employs around 1.2 million people.
As well as guaranteeing absolute conformity to the laws in force, Cefic is also committed to improving its own management of chemical processes and products based on the worldwide Responsible Care programme, a set of voluntary operations and specific plans of action, such as the Global Products Strategy, Long-range Research Project (LRI), SusChem (European technological platform for sustainable chemicals) and lots of other undertakings. Based on these enterprises, Cefic provides a service of the highest standard for its own members, offering solutions geared to company needs. To learn more about Cefic, visit its web site at www.cefic.org.

The headquarters of Cefic in Brussels (Belgium)

Photo 3. A moment from the gala dinner held in Bramante's Cloister in Santa Maria della Pace Church in Rome.
Photo 4. Giorgio Squinzi with Emma Marcegaglia, President of Confindustria.

try must be based on three bearing columns: innovation, internationalisation and specialisation. These are key concepts for taking on the challenge of globalisation, particularly for small and medium-sized companies, which account for most of the turnover in the European chemical industry. I keep emphasising small and medium-sized companies because I truly believe that we need to provide them with a framework of regulations and market situations guaranteeing the same conditions of competitiveness".

Giorgio Squinzi then looked at the issue of the Emission Trading Scheme, which he believes is one of the "hot" points in relations of competitiveness between different manufacturing zones.

"Nobody can deny that industry would like to reduce its emissions. But if we study the old records, we will find that the chemicals industry can only be taken as an example. We are truly committed and this is shown by the facts. But we would like the backing of the institutions. There can be no question that there is an extremely serious problem of competition, which can only be resolved politically through serious discussions with emerging nations. And that is not all. In Europe we have adopted a line – so Squinzi claims – we truly believe in: we plan to come up with technological solutions to the challenge posed by climate change. This results in a series of benefits: we are speeding up innovation, assessing convenient solutions, creating new job opportunities and not relocating. But this decision we have taken must not make us prey to unfair competition, with the European markets and new markets coming under pressure from producers, who have gained a competitive edge from failing to respect environmental rules and regulations. I trust this is only a short-term scenario. But experience teaches us that the biggest threats always lie in the short term when setting about planning the future. I firmly believe that new technology is the way ahead tomorrow. Just take the possibilities and scenarios opened up by nanotechnology.

So European companies must cover the short distance separating them from the future without compromising their operations through actions which I will not hesitate to describe as illegal. At least as far as European legislation is concerned. But we do not want to be sons of a lesser God".

"To carry on successfully with our work – so Squinzi concluded – we must confirm and, if possible, increase our commitment and our efficiency. Cefic can indeed provide a common platform for the whole of the European industry. We must look beyond our companies and create winning alliances. Strategic alliances with other sectors are vital for implementing powerful operations designed to help future growth. I realise I am continuing along a path already taken by Cristian Jourquin, who worked extremely hard to develop this approach during his period in office. Listening and talking to all our fellow players, including social partners, has been a very important aspect over the last two years. I would like to thank him and the Board for the constant efforts they made to lead our organisation and the European industry in general during a difficult period and also for the constant research into new ways ahead for a prosperous future. We must have confidence in the future: European chemicals lead the world, particularly in terms of intellectual property. The challenge we are now facing is to reinforce this leadership through every means at our disposal".

Working Together

During the debate which followed the private session of Cefic (which confirmed all the appointments) and was chaired by the assistant editor-in- chief of the Italian newspaper *Corriere della Sera*, Daniela Manca, the President of Confindustria Emma Marcegaglia, stressed, while congratulating Giorgio Squinzi on his new appointment, that: "we will collaborate with him on European issues which take priority at the moment, and it is important that the European Union has acknowledged industry's role in growth". As regards the challenges facing us over the coming future concerning environmental protection, Emma Marcegaglia has clear ideas when she says that a costs-benefits study is required based on a flexible and non government-controlled approach. "It is vital that no new burdens are imposed on companies – she stated – because this would jeopardise their chances of making new investments and succeeding against global competition".

This line of action was also backed by Antonio Tajani, the European Union Commissioner in charge of Industry and Entrepreneurship, who, while underlining the importance of the European Union's fresh commitment to industrial policy, stated that: "I will shortly be presenting a communiqué to the Council and Parliament of the European Union and then soon after that a work proposal for innovation; one of the key points will be the issue of raw materials, such an important matter for the chemical industry". At the end of his speech, Tajani stated that "this new attitude is important. The European Union Commission is with you". A press conference and gala dinner in the heart of Rome completed the proceedings of the Cefic Assembly.

Responsible Care

Despite the recession, chemical companies are committing more than ever

Responsible Care, the world chemical industry's voluntary program based on implementing principles and lines of action concerning staff health and environmental protection, is continuing its work. This was discussed during the Cefic assembly, while in Italy the 16th Responsible Care report has just been presented.

European Responsible Care Award 2010

The Cefic annual assembly provided the chance to hand out the European Responsible Care Award 2010. Despite having extremely high entry standards, almost twice as many companies were involved, over 53 compared to 29 in 2009. These new entrants, from 10 different countries, did not just provide various examples of cutting-edge approaches to achieving excellence in environmental performance, health and safety, they also showed that the chemical industry is really taking on the challenges of sustainable development based around Responsible Care.

The independent panel of judges decided to award two separate prizes. The 2010 winners were: in the small and medium-size companies category, the German firm Hüttenes Albertus Chemische Werke GmbH, and in the main category, the French-based company N.O.F. Metal Coatings Europe. The judges also decided to commend the following firms:

- Shell Chemical (the Netherlands), for its great innovation in transport safety;
- Sabic Innovative Plastics (the Netherlands), for excellence in Health & Safety Performance;
- Huntsman (Great Britain) for its Biodiversity project;
- Lamberti (Italy), for its project to use recyclable materials and for implementing "Green Chemistry";
- Multisol Group (Great Britain), for its Responsible Care leadership in distribution.

Each of the projects shows how innovation in the chemical industry is improving the eco-efficiency of products, reducing greenhouse gas emissions and increasing stakeholders' confidence.

16th Responsible Care Report

The facts and figures contained in the 16th Responsible Care Report, presented by Federchimica (the Italian Federation of chemical companies) on 11th October 2010 in the presence of, among others, Raffaello Vignali, Vice President of the Production Operations Commission for the Italian Parliament, and Alessandro Crisci, Lombardy Regional Director of Inail (Italian Workers Compensation Authority), show that companies belonging to the Responsible Care project have increased (+0.5%) their expenditure on workers' health and safety and the environment, despite a 16.2% drop in production in 2009. Overall the chemical industry in Italy spent 1300 million euros, equivalent to 2.8% of its overall turnover (3.5% for companies belonging to the Responsible Care program).

During a time of economic crisis, a proper assessment of efforts made in terms of sustainability must be based on stable indicators and not linked to production trends: here again, companies belonging to the Responsible Care program responded in a convincing manner.

According to Giorgio Squinzi, President of Federchimica (the Italian Federation of chemical companies), "the sacrifices companies belonging to the Responsible Care program have had to make to fight the recession have not affected the resources allocated for sustainability. This certainly could not be taken for granted and is certainly a sign that environmental responsibility is an integral part of the values and behavioural patterns characterising our industry".

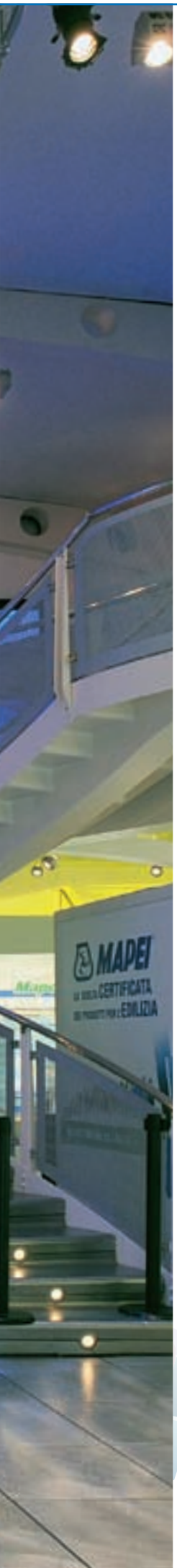
In 2009, the 123 sites of companies belonging to the Responsible Care program obtained certification for their safety management systems in accordance with the OHSAS (Occupational Health and Safety Management Scheme) 18001 standard. That means 91.1% of all certification obtained by the chemical industry, 73% more compared to 2008. This once again underlines that for years now the chemical industry has been at the very top of the list among manufacturing sectors providing the highest safety standards at work, an achievement that was once again sustained in 2009.

"The target we will continue to pursue – so Squinzi went on to say – is to reach 'zero injuries'. That is why we are once again ready to undertake a joint venture with Inail, with whom we first signed an agreement back in 2006, to set up and spread good management practices in safety for contracting operations in chemicals factories".

"After all, Federchimica companies have always placed safety at the focus of their strategies, as is shown by the Italian chemical industry's national contract, which when it was recently renewed incorporated a chapter specifically devoted to Social Responsibility in Business: the first time this has happened in Italy".

There is also plenty of good news about emissions sources. The chemical industry has not just easily achieved the targets set down in the Kyoto Protocol, it is already fully in line with the standards set by the European Union for 2020, including the well-known 20-20-20 target. "Compared to 1990, our companies have reduced greenhouse emissions by 56.6%. This is an extraordinary achievement – so Marco Macciò stated, President of the Responsible Care Commission – confirming we are well on the way towards the ultimate goal of sustainable growth".


Mapelastic
AquaDefense
Mapelastic



Cersaie 2010

Reliable, fast, eco-sustainable complete systems for ceramics

Mapei always attends international exhibitions devoted to the world of ceramics and building, in order to focus on its product lines, introduce the latest innovations to the market, and underline its undisputed international leadership in the field of adhesives and accessory products for installing every type of wall and floor coverings.

The Company's communications strategy sees trade fair events as ideal places for actually presenting products and interacting directly with clients, business partners and friends. Therefore, at Cersaie 2010 Mapei's large and revamped stand was once again one of the most popular and busiest. The 28th edition of Cersaie, the International Exhibition of Ceramic Tiles and Bathroom Furnishing - which was held at Bologna Trade Fair from 28th September to 2nd October 2010 - came at a time when the first signs of a turnaround in this tricky period for the economy and world real-estate market were beginning to emerge.

The overall facts and figures emerging from the event show not only that the number of exhibitors and visitors remained more or less the same, but also (and above all) it highlighted the central importance of this event and its international significance for the various fields represented.

The overall exhibition space of 176,000 m² saw the involvement of 1012 exhibitors from 33 countries, including 263 foreign companies. Cersaie underlined its ability to draw in the general public and a total of 83,286 people attended the event, a similar figure to the 2009 edition (+0.2%). There was actually an increase in the number of overseas visitors, this time a total of 24,960 (+7.9%), while the number of Italian visitors dropped slightly (-4.25%) to a total of 58,326 corresponding to 70% of the total. Focusing on the theme "Ceramic Eden", Cersaie once again included a series of meetings on "Building, Dwelling, Thinking", designed to draw in not only experts and specialists in this field, but also a wider range of people such as journalists, students and even locals, in line with the increasing amount of attention being paid not only to products but also to architecture, design and, generally speaking, all those realms of culture capable of adding something extra to the products themselves.

There were lots of events directly involving the city of Bologna and the Emilia-Romagna territory in general, such as "Cersaie Downtown. The Streets of Design" – featuring exhibitions and events in Bologna city centre – and even an ideas competition entitled "Emilia-Romagna, Urban Polis Future", which involved the nearby cities of Imola, Modena, Sassuolo and Reggio Emilia.

The technical seminars included one held on Friday, 1st October, entitled "Is the Future Slim? Characteristics and Potential of New Low-thickness Ceramic Tiles" which featured engineer Francesco Stronati, Head of Mapei SpA's Technical Service Department.

An international press conference, now a traditional event attended by leading exponents from the world of ceramics and reserved to professionals working in the field of information, was held in the Sala del Podestà Hall in Palazzo Re Enzo on Tuesday, 28th of September 2010.

Chaired by Armando Cafiero, General Manager of Confindustria Ceramica (the Association of Italian Ceramic Tiles and Refractory Materials Manufacturers), the guest speakers included Franco Manfredini, President of Confindustria Ceramica, Gianluca Marvelli, President of Assobagno (the Association of Italian Manufacturers of Bathroom Furnishing), Vittorio Borelli, Chairman of Confindustria Ceramica's Promotional Activities Committee, and Massimo Mamberti, Director General of the Italian Trade Commission (ICE).

The prize-giving ceremony for the 14th edition of Ceramic Tiles of Italy Journalism Award was held at the end of the conference. This prize went to the best report on Cersaie 2009 and on the Italian ceramic tiles industry published in foreign magazines and journals. The panel of judges had to select from 145 articles published in 84 magazines in 25 different nations. This edition award went to the Bulgarian journalist Mariana Svetoslavova, editor-in-chief of the magazine *Idealen Dom*. The award for Italian ceramics distributors, who have really stood out for their business relations with Italian tile manufacturers, was handed out during the Cersaie Gala Evening on Wednesday, the 29th of September. The Confindustria Ceramics Distributor Award 2010 was given to four European distributors. Mapei was delighted that one of its important clients, Orsolini Amedeo Spa based in Viterbo (Italy), received the prize for Italy.

Talking about awards, it is worth mentioning that Franco Manfredini, President of Casalgrande Padana (a leading Italian ceramic tile manufacturer), was made a "Cavaliere del Lavoro" (a sort of knighthood for his contribution to the Italian business world). Mapei would like to express its most sincere congratulations to Manfredini for being awarded this honour.

Above. Mapei stand at the 2010 edition of Cersaie.

Mapei: Top-class Italian Products

Mapei's great experience and the technological innovation of its products were showcased at Cersaie 2010. Products capable of providing solutions to every imaginable problem in the world of ceramics, mosaics, stone, and wooden material.

It exhibited its fast, complete and reliable systems allowing professional installers to carry out craftsman-like work in accordance with the most stringent international standards.

Mapei's presence at Cersaie also clearly underlined once again that the issue of eco-sustainability is never just a fashionable matter as far as the Company is concerned, but always an integral part of its corporate philosophy; the Group is only in favour of certification issued by serious and internationally recognised institutes, working based on firmly establish procedures accepted on an international level.

Because "it is not enough to paint yourself green to make your products ECO" as one of the latest Mapei's slogan reads.

What is actually required is plenty of investments in Research & Development and an awareness that all solutions capable of helping produce better products, less harmful to both people and the environment, must be created in the laboratory.

It is worth remembering that approximately two-thirds of Mapei's research work - almost 60 million euros being allocated each year - are actually invested in research and development of products and systems which are increasingly compatible with people and the environment. One of the targets that has been achieved is the almost complete cancel-

ling out of the use of harmful solvents.

These are certainly the reasons why the precarious state of the international economy and building industry at the moment, particularly the world of ceramics, has not prevented Mapei from increasing its business all around the world this year, both in terms of its overall turnover and industrial expansion.

Mapei at Cersaie

There were two areas where visitors may take a closer look at the quality of Mapei systems, the Company's attention to all the most innovative market trends and its commitment to innovation and environment: the main stand and the demonstration area.

The main stand had a surface area of more than 800 m^2 split on two levels, in the external area 45, at n. 18. It displayed a complete range of products for smaller jobs to large building site works, with

At Cersaie 2010 Mapei displayed eco-sustainable solutions for laying ceramics.

systems developed by Mapei to satisfy, with the certainty of getting the best results, any requirement that professional layers have to meet in industrial, commercial and residential projects.

Smoothing, waterproofing, soundproofing, bonding, grouting, sealing and cleaning: for any specific intervention where laying ceramic, mosaic and stone are involved, Mapei proposes systems and innovative products for all the requirements of designers, sector experts and final users, by offering quick, guaranteed solutions.

Eco-Sustainable Systems for Laying Ceramic Tiles

At Cersaie trade fair all the demonstration slabs and graphic panels mentioned the LEED points that the use of Mapei systems for laying ceramic tiles and stone materials can contribute to gain.

Due to its commitment to environment the Company's research activities focus on the development of eco-sustainable products and systems which are solvent-free and do not include polluting substances.

The Company's systems include more than 150 "Green Innovation" products which comply with LEED standards (Leadership in Energy and Environmental Design), and offer the widest range of products available in the sector which respect the environment with EMICODE EC1 - extremely low emission level of volatile organic compounds (VOC) - certification issued by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.).

Adhesives

Among the wide range of Mapei products for bonding ceramic tiles and natural stone, ULTRALITE S1 was one in the spotlight. This is a cementitious adhesive especially suitable for laying large-size thin (3-4.5 mm) porcelain tiles. It is an eco-sustainable product since it has a lower weight (15 kg) compared with common cementitious adhesives (25 kg), thus reducing handling and transportation costs; it contains more than 30% recycled materials. Beside, the Low Dust technology reduces the amount of dust emission during mixing; it complies with EN 12004, class C2FT S1.

The KERAFLEX line also encloses eco-sustainable adhesives such as the EMICODE EC1-certified KERAFLEX, KERAFLEX EASY and

KERAFLEX MAXI S1 featuring Low Dust technology.

The World of Grouts

Mapei wide range of grouts for joints was also on display.

Among the cementitious grouts ULTRACOLOR PLUS (CG2 according to EN 13888) was in the spotlight. It is a EMICODE EC1-certified, fast-setting and drying, high performance, anti-efflorescence, water-repellent grout for joints from 2 to 20 mm. It features DropEffect®, is anti-mould with BioBlock® technology and available in 26 colours.

Among the epoxy grouts on display visitors could find KERAPOXY DESIGN (RG according to EN 13888). It can also be used as an adhesive (R2 according to EN 12004) and is available in 15 colours which can be blended with MapeGlitter to create special aesthetic effects and range colours.

Mapei also offers grouts for industrial applications such as KERAPOXY CQ (class RG according to EN 13888). It is available in 6 colours, KERAPOXY CQ is ideal for ceramic tile wall and floor coverings where a high resistance to chemicals is required (kitchens, abattoirs, dairies, cheese factories, etc.).

A special, new cleaner for epoxy grouts KERAPOXY CLEANER was also on display at Cersaie. This is a product specially developed for removing residues of epoxy grout from surfaces of ceramic, porcelain tile, glass finishes and for cleaning the tile or mosaic surfaces which have been grouted with the KERAPOXY line grouts.

Waterproofing

Waterproofing is definitely one Mapei's most successful field of activity.

At Cersaie 2010 Mapei exhibited its solutions for every kind of waterproofing applications: from bathrooms to old terraces, from showers to swimming-pools; Mapei, by relying on long-term international experience, can offer plenty of durable and guaranteed solutions.

In the waterproofing sector, the key player is MAPELASTIC, the well-know two-component flexible cementitious mortar which ensures perfect waterproofing to concrete structure particularly subject to cracking. The product is now also available in a 16 kg packaging.

Among the new Mapei products displayed at Cersaie 2010 one could find the complementary products which are needed for a

Among the Mapei grouts for joints, KERAPOXY CLEANER was in the spotlight at Cersaie.

complete waterproofing: DRAIN LATERAL and DRAIN VERTICAL, complete floor drain kit to install drains on terraces, balconies, in bathrooms, boiler rooms, laundry rooms, etc. and DRAIN FRONT, TPE angular drainage outlet for balconies.

Great Expectations for Mapelastic Aquadefense

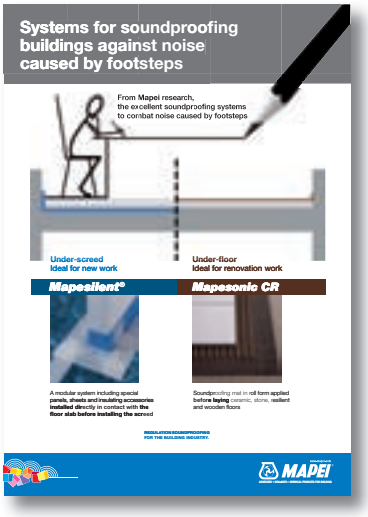
MAPELASTIC AQUADEFENSE is the new quick-defence system against water which was displayed at Cersaie 2010. After the success of MAPELASTIC AQUADEFENSE launched in the Americas 2 years ago, the new Mapei product which has increased the range of MAPELASTIC waterproofing products on offer is now available in Europe. Fast-drying MAPELASTIC AQUADEFENSE is a ready-to-use liquid membrane for waterproofing balconies, terraces, bathrooms, shower booths, saunas and damp environments in general, and is applied underneath ceramic, marble and mosaics in internal and external environments.

MAPELASTIC AQUADEFENSE, the new quick-defence system against water, was displayed at Cersaie 2010.

MAPELASTIC AQUADEFENSE is a blue-coloured, mono-component paste. Created for both small and large projects, speed is the main advantage of MAPELASTIC AQUADEFENSE: thanks to its extremely fast-drying capacity, it is rain dry after just 3 hours, tiles can be laid after just 4 hours and surfaces are available for use after just 1 day. It may be applied by brush or with a roller: it is ultra-practical and easy to use at a competitive price.
These values only refer to a temperature of + 23 °C, with residual humidity of 50%. MAPELASTIC AQUADEFENSE must be applied on dry screeds with residual humidity inferior to 3%.

Soundproofing Floors

For soundproofing floors, apart from the MAPESILENT SYSTEM (ROLL or PANEL), a consolidated system for combating the noise of footsteps, Mapei presented



at Cersaie MAPESONIC CR, the under-floor soundproofing membrane in rolls made from cork and rubber, which is laid directly on all types of substrates, including on old floors, before laying any type of flooring material (ceramic, stone, parquet, resilient materials, etc.).

Laying Systems

The Mapei stand also highlighted eco-sustainable low VOC (EMICODE EC1 certified) systems for laying porcelain tiles on existing floors and for laying large-size porcelain tiles on heated screeds, as well as thin-tiled systems for renovating existing floorings and systems for quickly installing porcelain tiles on façades.

Primers

Among the Mapei primers ECO PRIM GRIP was in the spotlight. This is a multi-purpose, ready-to-use acrylic resin and inert silica sand based bonding promoter and primer, with extremely low emission level of volatile organic compounds.
Beside, ECO PRIM PU1K and ECO PRIM PU 1K TURBO, two primers specially developed for wooden floors, were also on display at Mapei stand.

Sealants

"Look at me and I'll tell you what to do". This slogan is the inspiration for the new packaging for the sealants range, presented in new cartridges with simple illustrations which describe how they are used. In fact, the entire range of Mapei products to be sold in retailers/distributors of building materials have packaging with new, self-explanatory graphics. Particularly noteworthy are MAPESIL Z PLUS acetic, mould-resistant silicon sealant for sanitary fittings, MAPESIL AC solvent-free, acetic-cross-linking, mildew-resistant silicon sealant available in 26 different colours and transparent and MAPESIL LM solvent-free, odourless neutral cross-linking silicon sealant for natural stone and ceramic tiles on façades.

Mapei also supports retailers and distributors with plenty of promotional and marketing tools such as flyers, training materials, display stands, special packaging, custom-made advertising activities, etc.

Mapei's Demonstration Area
As usual this edition, Mapei has once again spoken directly through its products, as its expert technicians illustrated their full potential on a very practical basis in a special demonstration area.
This approximately 160 m² facility was used each day for hosting proper courses in installing and applying Mapei products.
Lots of visitors attending these special demonstrations were able to observe the systems recommended by Mapei, ask the technicians questions, and gather invaluable information.
From the R&D laboratories where they are developed to the building sites where they are actually used, these products are proudly displayed by distributors all over the world, eventually becoming invisible components in homes, offices and all the various buildings surrounding us. We are talking about Mapei products, a fine example of made-in-Italy excellence. Mapei's cutting-edge Italian manufacturing focuses on these products, because nowadays doing well means focusing on excellence and quality. This is the real strength of products made in Italy... products made by Mapei.

Mapei demo area hosted training sessions for laying ceramics and applying the Company's products.

Ceramic Tiles of Italy Playground. Natural Inspiration

Some pictures of the exhibition organized by Confindustria Ceramica in the Cersaie's exhibition ground outdoor areas.

Mapei also took part in the "Ceramic Tiles of Italy Playground. Natural Inspiration" exhibition organised by Confindustria Ceramica and showed off all its latest products and technology in a very creative way. The event showcased some ceramic installations created by young designers in conjunction with seven ceramic tiles manufacturing companies. The idea was to design and manufacture products inspired by the playful side of life, leisure time and pure and simple entertainment, focusing on originality. Mapei was involved in the "Labyrinth" project devised by Matteo Beraldi, an original multicoloured piece of design with a raised square base covered with coloured pieces of ceramics separated by equally colourful grouting.

The exhibition had already been on display at the Milan Trienniale Design Museum in April 2010 during the Milan's Salone del Mobile (Furniture Show), as you can read in our Italian-language in-house magazine *Realtà Mapei* no. 102.

The theme of the 2010 edition of Cersaie, "Ceramic Eden", will be followed by "Ceramic Evolution", the new challenge for Italian ceramics, which showed once again at this edition of Cersaie that it is fully capable of updating while combining tradition and innovation, functionality and design, managing, even during these difficult years, to hold onto its undisputed worldwide leadership based on the quality of its exports.

The Cersaie 2011's event is scheduled to take place from 20th to 24th of September, one week before the date when it is usually held on the cusp between September and October.

Mapelastic **AquaDefense**

The new rapid defence against water

Waterproofing is a field where Mapei plays a leading role: the Company can rely on a long-term experience and offer a wide range of safe and long-lasting solutions.

Both small interventions and major works makes use of special cementitious membranes which feature flexibility, can be applied with a brush or a trowel and can protect surfaces with up to 1 mm wide cracks.

The key player in the waterproofing range is doubtless MAPELASTIC, the well-know two-component flexible cementitious mortar which ensures perfect waterproofing to terraces, bathrooms, bridges, viaducts, basins, water tanks, swimming-pools and external surfaces. More than 180 million m² surfaces were successfully waterproofed with this product.

As Mapei's evolution in the waterproofing never stops, the Company now also offers quick-drying MAPELASTIC AQUADEFENSE, ready-to-use, liquid membrane which is applied underneath ceramic, marble and mosaics in internal and external environments.

It is a blue-coloured, mono-component paste, ideal for waterproofing balconies, terraces, bathrooms, shower booths, saunas and damp environments in general.

Created for both small and large projects, speed is the main advantage of MAPELASTIC AQUADEFENSE: thanks to its extremely quick-drying capacity, it is rain dry after just 3 hours, tiles can be laid after just 4 hours and rooms are available for use after just 1 day.

These values only refer to a temperature of + 23 °C, with residual humidity of 50%. MAPELASTIC AQUADEFENSE must be applied on dry screeds with residual humidity inferior to 3%.

MAPELASTIC AQUADEFENSE may be applied on concrete; cementitious screeds and screeds made using special binders (TOPCEM, TOPCEM PRONTO, MAPECEM or MAPECEM PRONTO); plasterboard (for internal applications only); existing coatings in ceramic, terrazzo tile and stone; cementitious renders, etc.

Above. The graphic layout chosen for promoting MAPELASTIC AQUADEFENSE at the last edition of Cersaie trade fair.

MAPELASTIC AQUADEFENSE TECHNICAL DATA:

Properties of the Product
Consumption: 1 kg/m² for two coats (1.3 kg/m² per mm of thickness)
Packaging: 15 kg plastic bucket suitable for covering 15 m²
Storage time in original packaging: 24 months

Waiting time between first and second coat: approximately 60 minutes
Waiting time before laying coating: 3-4 hours (with temperature of +23°C and residual humidity of 50%, to be applied on dry screeds with a residual humidity inferior to 3%)

Colour: light blue

Where and How to Use

- Waterproofing balconies, terraces, bathrooms, shower booths in damp environments before laying coverings on dry screeds with 3% residual humidity
- May be applied by roller, brush and trowel
- May be used and re-used with no waste if kept in its original packaging
- May be used with special items of the MAPELASTIC system: MAPEBAND (90°, 270°, T, CROSS), MAPEBAND TPE (T, CROSS), DRAIN VERTICAL, DRAIN LATERAL and DRAIN FRONT.

MAPELASTIC AQUADEFENSE can be applied to form an anti-fracture membrane on cracked substrates before laying ceramics or stone materials. MAPELASTIC AQUADEFENSE may be applied by brush, trowel or with a roller: it is ultra-practical and easy to use at a competitive price.

Photo 1. Application of the first coat of MAPELASTIC AQUADEFENSE on screeds and existing tile floors.
Photo 2. After one hour the second coat can be applied.
Photo 3. Laying ceramic tiles after 4 hours.

One 15 kg plastic bucket is sufficient to waterproof a surface area of more than 15 m^2, and even if the whole bucket is not used in one go, the characteristics of the unused product remain stable so it may be used again.
Following wide-scale testing in the lab and on site, MAPELASTIC AQUADEFENSE complies with the most severe international norms and standards and can contribute to obtain 2 points as a local material in the "LEED Credit" rating system.

Flexible adhesives and sealants

A complete range of specific products for any kind of use

Buildings are manufactured items designed and constructed by employing a wide variety of materials with different compositions and behaviour.
When there are variations in the surrounding temperature and the level of humidity due to exposure to the atmosphere, each material deform and shrinks differently, which makes it necessary to include interruptions in the surface: joints.
Sealing joints with suitable elastomeric products stops these interruptions becoming ingress points for water, dust, noise, heat and cold, and also guarantee flexible compensation for deformation and movements.

High-Tech Products and Commitment to the Environment

Mapei sealants range fully satisfies the various technical and application requirements and includes one and two-component acrylic, silicon, polyurethane, epoxy-polyurethane and hybrid products.

The main characteristic of the Mapei offer is represented by the extreme formulation and production flexibility which exploits the professionalism of its R&D laboratories and production capacity of its facilities to the full. The product range includes: acid and neutral silicon sealants (MAPESIL line), acrylic, polyurethane and epoxy-polyurethane sealants and adhesives (MAPEFLEX line) and acrylic and hybrid adhesives (ULTRABOND), concrete examples of the complete, wide-ranging offer currently available for various applications in the building industry.
For a long time Mapei, as with its other product ranges, has been dedicating its research to the development and fine-tuning of flexible sealants and adhesives which have a low impact on the environment. Proof of this commitment are the various products from the MAPEFLEX range, which are EC1 and EC1 R certified according to GEV EMICODE, a guarantee of products with very low emission levels of VOC.

Distribution Channels and Eye-Catching Products

The Mapei sealants range also differ for the type of sales points at which the products are aimed: there are products for building materials distributors and specific products for professional layers. All the products for distributors are presented in self-explanatory packaging which offers an efficient and immediate indication of the main uses of the products and their main advantages. All the products for professional users are presented in packaging – such as 0.6 litre cartridges and 5 and 10 kg buckets – created to optimise costs and application times.
Mapei range of flexible sealants and adhesives is integrated with a series of tools designed specifically to promote sales: catalogues, information packs, display units, promotion packages and targeted publicity campaigns.

PRODUCTS CERTIFICATIONS

Products	ISO 11600	GEV EMICODE	GREEN BUILDING COUNCIL ITALIA SOCIO / GREEN INNOVATION	Other certifications
MAPESIL AC	F 25 LM			DIN 18540, BS 5889, ASTM C 920, TT S 00230C, TT S 001543A
MAPEFLEX PU40	F 25 LM	EC1 R	**3** points	
MAPEFLEX PU45	F 20 HM	EC1 R	**3** points	
MAPEFLEX PU50 SL	F 25 LM		**2** points	
MAPEFLEX PU20	F 7,5 P		**2** points	
MAPEFLEX PU21			**2** points	
MAPEFLEX PU30	F 7,5 P		**2** points	
MAPEFLEX PB27	F 25 LM			
MAPEFLEX PB25	F 25 LM			
MAPESIL BM	F 25 LM - G 25 LM			
MAPESIL LM	F 25 LM - G 25 LM			ASTM C920, ASTM C1248, DIN 18540, DIN 18545-2, BS 5889, TTS 001543A, TTS 00230C
MAPEFLEX AC4	F 12,5 P up			
MAPEFLEX AC-FR				EN 1366-4
ULTRABOND SUPER GRIP			**2** points	

A COMPLETE RANGE OF ELASTIC SEALANTS AND ADHESIVES

Acetic silicon sealants

Mapesil Z
Acetic silicon sealant for glass

Packaging: boxes of 12 280 ml cartridge
Colours available: transparent and black

Mapesil Z Plus
Mould-resistant acetic silicon sealant for sanitary wares

Packaging: boxes of 12 280 ml cartridge
Colours available: transparent and white

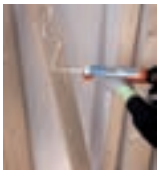
Mapesil AC
Pure mould-resistant acetic silicon sealant, with a low modulus of elasticity

Packaging: boxes of 12 310 ml cartridge
Colours available: transparent 999 + 26 colours coordinated with the "Mapei Coloured Grouts" range

Acrylic sealants and adhesives

Mapeflex AC4
Paintable acrylic sealant

Packaging: boxes of 12 310 ml cartridge
Colours available: white and grey



Ultrabond Super Grip
Acrylic adhesive for mounting internal fixtures

Packaging: boxes of 12 310 ml cartridge
Colours available: white

Mapeflex AC-P
"Render-effect" paintable acrylic sealant

Packaging: boxes of 12 310 ml cartridge
Colours available: white

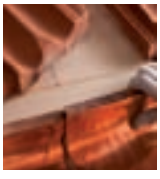
Mapeflex AC-PRO
Paintable professional-grade acrylic sealant

Packaging: boxes of 20 550 ml tubes
Colours available: white and grey

Mapeflex AC-FR
Paintable acrylic sealant for fire-break joints, certified EN 1366-4

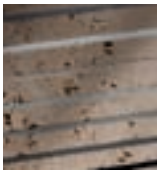
Packaging: boxes of 20 550 ml soft-cartridge
Colours available: grey

Neutral silicon sealants



Mapesil BM
Pure neutral silicon sealant for metalwork, with a low modulus of elasticity

Packaging: boxes of 12 310 ml cartridge
Colours available: transparent, grey, copper and dark brown



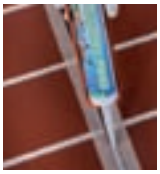
Mapesil LM
Neutral silicon sealant for stone, with a low modulus of elasticity

Packaging: boxes of 12 310 ml cartridge
Colours available: transparent 999 + 6 colours coordinated with the "Mapei Coloured Grouts" range

Polyurethane sealants

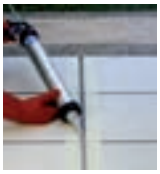
Mapeflex PU40
Polyurethane sealant with a low modulus of elasticity for joints, paintable

Packaging: boxes of 12 300 ml cartridge; boxes of 20 600 ml soft-cartridge
Colours available: white and grey



Mapeflex PU45
Polyurethane sealant and adhesive with a high modulus of elasticity, paintable

Packaging: boxes of 12 300 ml cartridge; boxes of 20 600 ml soft-cartridge
Colours available: white, grey and black



Mapeflex PU50 SL
High flow polyurethane sealant with a low modulus of elasticity, paintable

Packaging: boxes of 20 600 ml soft-cartridge
Colours available: grey

Mapeflex PB27
Two-component, high flow modified polyurethane sealant, with a low modulus of elasticity, resistant to hydro-carbons

Packaging: 10 kg kit (A+B)
Colours available: black

Mapeflex PB25
Two-component thixotropic polyurethane sealant with a low modulus of elasticity, resistant to hydro-carbons

Packaging: 10 kg kit (A+B)
Colours available: black

Mapeflex PU65
Two-component polyurethane sealant for road joints

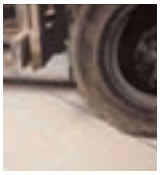
Packaging: 10 kg drums (A+B)
Colours available: black

Mapeflex PU20
Two-component high flow epoxy-polyurethane sealant, high strength and chemical resistance

Packaging: 10 kg units (A+B)
Colours available: 113 grey

Mapeflex PU30
Two-component thixotropic epoxy-polyurethane sealant, high strength and chemical resistance

Packaging: 5 kg units (A+B)
Colours available: 113 grey



Mapeflex PU21
Two-component thixotropic epoxy-polyurethane sealant, high strength resistance

Packaging: 5 kg units (A+B)
Colours available: 113 grey

MARMOMACC
ARCHITECTURE AND DESIGN

Marble, stone, design and technology

All in all, the results of the 45th edition of Marmomacc, the International Exhibition of Stone Design and Technology held at the Veronafiere exhibition centre from the 29th of September to the 2nd of October 2010, were generally positive.
A regular appointment at which this year, as always, Mapei took part with a new stand in a new, more central position.
Over the four days the exhibition, open to specialists and those who operate in the sector, welcomed more than 56,000 visitors (+6% compared with 2009), with an increase of 13% in the number of visitors from overseas from more than 130 countries. The 1,500 exhibitors, 50% of which from 56 foreign countries (9% more compared with the previous edition), were hosted in 11 exhibition halls over a total surface area of 172,000 m^2.
"After an extremely difficult two years, the results obtained in terms of negotiations and deals with the numerous delegations present have helped to give new hope for the future of one of the historic and most specialised sectors of Made in Italy" said Ettore Riello, President of Veronafiere.
The results from Verona are a clear sign that the crisis is still not over, but there has been an inversion in the overall trend, especially for exports. For example, China, Brazil, Russia, the Middle East and the Far East have started buying again.
In the first semester of 2010, overall Italian exports of marble and granite, both rough-cut and finished pieces, reached 771 million euros (+6% compared with 2009), while exports of machinery and technology have also increased significantly to 402.9 million euros (+28.9% compared with 2009).

Below. The use of Mapei products in the most important building sites all around the world was highlighted by presenting a number of prestigious references, and these are just two examples.

The New Mapei Solutions
Mapei, synonymous with safety and reliability, grabbed the chance offered by this

important exhibition in Verona to present its numerous solutions for laying stone on internal and external surfaces.
This was achieved by highlighting the Company's complete range of products for the commercial and residential building sector and for urban architecture, from waterproofing to laying and treating stone materials.
At just a glance, visitors to the Mapei stand were able to focus on both the problem to be solved and the solution offered by Mapei, but that's not all. For every system presented, the maximum number of LEED (Leadership in Energy and Environmental Design) award points obtainable was displayed alongside, with reference to both the Italian and the USA protocols.
Because, as happens wherever Mapei is presented to the general public, the accent was on the Company's commitment to the environment and its more than 150 products with the Green Innovation label which respect the LEED criteria, as well as on its wide range of products with EMICODE EC1 – "very low emission level of volatile organic compounds" - certification awarded by GEV.
Amongst the new products presented at Marmomacc 2010, and contemporarily at the Cersaie trade fair, there was MAPELASTIC AQUADEFENSE, the new rapid defence system against water, which further increases the range of waterproofing products in the MAPELASTIC range.
Created for both small and large building projects, the main advantage of MAPELASTIC AQUADEFENSE, which is the only real one-component product of its kind available on the market, is its speed.
With no need for reinforcement and a very short drying time – rain dry in just 3 hours, the laying of ceramic, stone and mosaic coverings after 4 hours and the area available for use after just one day – means work may be carried out quickly and efficiently.

Another important evolution from the range dedicated to soundproofing is MAPESONIC CR, the under-floor soundproofing system made using cork, rubber and high quality polyurethane rolls, laid directly on any kind of substrate including old floors, before laying all kinds of covering materials (ceramic, stone, parquet, resilients, etc.).
The entire range of sealants was presented with their new, more practical packaging, with particular attention to MAPESIL LM, a solvent-free, odourless, neutral cross-linking silicon sealant for natural stone and ceramic tiles on façades.
Amongst the numerous applications of this versatile product, a special mention goes to the flexible sealing of expansion joints in ceramic and stone coverings on internal and external surfaces, as well as for glass, mirrors, metal, PVC, polycarbonate, etc.
MAPESIL LM is particularly suitable for flexible sealing of joints on external façades, including those in acid-sensitive limestone. In fact, unlike acetic silicon sealants, it does not provoke the formation of unsightly stains around the joint.

Architectural Stone Floors

Another important field in which Mapei presented an interesting new product, in keeping with the themes of the exhibition, regarded the topic of architectural stone floors. Here, Mapei Betontechnik – a company which became part of the Mapei Group in August 2009 – presented its systems for porphyry blocks, DURIMENT. Following the same logic of communications aimed above all at exalting the results achieved, an important reference was the best way to illustrate this innovative, efficient system.
When posed with the problem of repositioning the Ademello granite slabs in Piazza Garibaldi in Cantù (Italy), Mapei Betontechnik proposed a winning solution comprising two pre-blended cementitious products: DURIMENT TFB 3.2 for the substrate and DURIMENT PFS/PCC/2 to seal the joints, to form a class XF 4 concrete.
With a stand full of concrete ideas, Mapei demonstrated once again at Marmomacc 2010 how close it is to the stone and marble market.
A market which is slowly but surely taking off again and in which Mapei knows it has an important role to play.
The next edition of Marmomacc will be held once again at Veronafiere, from the 30th of September to the 3rd of October 2011.

From America to Verona for natural stones

Mapei working alongside a group of American architects at lectures on eco-sustainable design and LEED (Leadership in Energy and Environmental Design)

Mapei's presence at Marmomacc 2010 was not just confined to setting up a spacious stand and displaying numerous products and technological means of installing stone materials as described over the following pages.

For years now the Company has been working with Veronafiere, the body in charge of organising Marmomacc trade fair, supplying technical experts who have made a real contribution to the staging of the seminars, lectures, courses and other training events aimed, primarily, at foreign architects.

In keeping with tradition, Mapei wanted to take part in the course for architects entitled "Designing with Natural Stone", which was held in Verona from 27th September to 2nd October 2010. The event, organised by Veronafiere, drew in architects from all over the world (Great Britain, South Africa, Singapore, Taiwan, etc.). Notably, over half of the people taking part came from the United States, partly due to the fact that the course offered special credits recognised by the AIA (American Institute of Architects). The Americans taking part included representatives from such well-known firms as Skidmore Owens and Merill and architects from firms specialising in housing projects of the highest quality, who were interested in enhancing their knowledge and expertise in the realms of international certification and eco-sustainability.

The course focused on the latest techniques for extracting, working, using and looking after marble, granite and other types of natural stone. Classroom lectures were alternated with guided tours around various works of architecture in Verona, local quarries and facilities designed for processing these materials.

Above. Michael Granatowski (right) from Mapei Corp. described to the training's participants Mapei eco-sustainable systems for laying natural stone.
Below. The participants to the training course on "Designing with Natural Stone".

In addition to information about the distinctive characteristics and traits of stone material, one of the most important topics of the event was eco-sustainability, which numerous speakers and participants discussed at length. Some of the credits awarded at the end of the course actually concerned sustainable design (SD).

Mapei, which has always focused special attention on the environment and allocated plenty of resources for developing eco-sustainable installation systems, actually illustrated the proper use of materials for installing large slabs of stone. Michael Granatowski, the National Manager for Architectural and Commercial Projects for Mapei Corp. (the Mapei Group's US subsidiary), led a session on the proper use of adhesives for laying natural stones, in accordance with the strictest international standards and requisites foreseen by the Green Building Council for awarding LEED certification (Leadership in Energy and Environmental Design), which promotes excellence in the design, construction and maintenance of eco-sustainable and energetically efficient buildings. Indeed, over 150 Mapei products help designers and contractors create LEED-certified projects. These include those belonging to eco-sustainable systems for laying stone material, such as those Granatowski presented in Verona.

This was yet another chance for the Company to provide an audience of professional people with further knowledge about Mapei solutions, at the same time strengthening bonds with architecture firms and laying the foundations for working partnerships on important building projects at some later date.

Ufemat: 52nd Annual Conference

Building Industry in 2010-2020

From 7th-10th October, 2010 Venice hosted the annual conference of Ufemat, the European Association of National Builders' Merchants Associations and Manufacturers, devoted to the "2010-2020 Construction Industry". At a time when the Council of the European Union is under the triple presidency of Spain, Belgium and Hungary, known as Eutrio (www.eutrio.be), the 52nd conference took place under the patronage of the Belgian presidency, and its main sponsor was Mapei.

Mapei's backing and support for this international association is a concrete sign of a working partnership, whose roots extend well back in time, based on the fact that business relations between manufacturers and building materials traders is one of the most important ways of tackling the challenges and difficulties this market is currently going through.

Four days of busy proceedings attended by delegations from 16 European nations (Bulgaria, Germany, France, Hungary, Ireland, Luxembourg, Austria, Switzerland, Belgium, Denmark, the Netherlands, Portugal, Slovakia, Sweden, Great Britain, and Italy) helped paint a picture of the state of affairs in the construction industry over the period 2010-2020 and provide an overview of the challenges Europe will have had to face over the next decade in the realm of trading and distributing construction materials. On 7th October, on the eve of the conference, the Ufemat Annual General Meeting bringing together the Presidents and Directors of national associations and European manufacturers of construction materials, officially appointed its new President, who will remain in office for the next two years.

After expressing its thanks to the incumbent chairman, Géraud Spire, President of the French Federation of Building Materials Traders (FFNMC), for his leadership and hard work, the assembly announced the appointment of a new President: it is Giuseppe Freri (President of Federcomated the Italian National Federation of Traders in Concrete, Brick and Building Materials

1

Photo 1. Entrance to La Fenice Theatre in Venice, where the 2010 Ufemat conference was held.
Photo 2. A moment from the round-table chaired by the Italian journalist Sara Cristaldi.

2

and already Vice-President of Ufemat), the first Italian to be awarded this prestigious position.
The Ufemat convention was held at La Fenice Theatre on Friday, 8th October. What sales strategies will be implemented by European manufacturers in the near future? What role has been allocated to the construction materials industry? What does the sustainability of buildings mean in Europe? What recent government measures have had positive effects? These were just some of the questions which Ufemat tried to answer during the day's proceedings. Federcomated in the person of its President, Giuseppe Freri, demonstrated its propensity for innovation by making two important proposals aimed at enhancing the central role of distribution companies: the project for a European-wide aggregation of national federations and the setting up of a permanent round-table for Europe together with the rest of the market's leading players, drawing inspiration from what has been achieved by Sercomated, the services centre for distribution companies in the Italian building industry.
Ufemat set down some proposals for measures to be taken in the construction industry, which will be presented to the European Union. These suggestions are based on the results of a Ufemat survey carried out on: the measures adopted in nations belonging to the Association aimed at backing the building industry during crisis periods; electronic data processing systems; how payments are handled in the various countries. The results of the survey were presented by Marnix Van Hoe, the General Secretary of Ufemat, and Bieke Gepts from Essencia Marketing.
During the morning session, Professor Sandro Castaldo outlined the research project entitled "The Advantages of Indirect Channel: the Manufacturer, Retailer and Customer Perspective", commissioned by Sercomated to Bocconi University in Milan, and then gave a speech on "A Comparison of the Problems Facing the European Building Industry". The research project basically attempted to answer two questions: how is value generated through the distribution channel in the building materials industry? If a manufacturer resorts to an indirect rather than a direct channel will this make any difference to how value is generated?
During the afternoon session, the market's strategic prospects were at the focus of a round-table entitled "Scenarios in the 2010-2020 Building Sector", which, chaired by the Italian journalist Sara Cristaldi, was attended by various leading figures such as Carlo Sangalli (President of Confcommercio – the Italian General Confederation of Enterprises, Professional Occupations and Self-Employment), Giorgio Squinzi (CEO of the Mapei Group), Carlo Pesenti (CEO of Italcementi), Heimo Scheuch (CEO of Wienerberg), Jos Cox (CEO of Xella), as well as Vicente Leoz-Argüelles, Head of the Construction Department of DG Enterprise and Industry at the European Union's Commission.
As regards the situation in Italy, Carlo Sangalli listed the proposals to suggest ways in which small and medium-sized businesses might contribute to overcoming the current crisis: the simplifying of tax measures, the reduction of taxation, better relations between banks and businesses, and tax exemptions on end salaries. "This 'business community' – so Sangalli pointed out – must be enhanced, bearing in mind that the services it provides account for 58% of the Italian GNP and 53% of employment, and this might well help speed up growth and reinforce it".
In his speech, after giving all the facts and figures providing a snapshot of the Mapei Group's growth around the world, Giorgio Squinzi illustrated the trends in the building and chemical industries over coming years. These two markets appear to mirror each other and, after the violent recession in 2009, are gradually recovering in all nations, with forecasts for exponential growth right across Asia and China in particular, with the exception of Japan, whose trend seems to be similar to that of Europe and North America, two markets which are gradually emerging from the recent crisis and whose signs of recovery are still uncertain.
As an example, it is worth mentioning the note issued by the American Department of Trade, which pointed out that spending in the construction industry in September 2010 showed a positive trend of 0.5% growth compared to the previous figure, which saw a drop from +0.4% to -0.2%. This figure was better than the market was predicting with forecasts expecting a drop 0.5%.
The figures presented by Squinzi are sig-

Photo 3. Giuseppe Freri, President of Federcomated and new President of Ufemat.
Photo 4. Carlo Sangalli, President of Confcommercio, with Giorgio Squinzi, CEO of the Mapei Group.
Photo 5. Mario Verduci, General Secretary of Federcomated.
Photo 6. A picture of the Peggy Guggenheim Museum in Venice during the restoration work carried out with Mapei's help. The Ufemat's gala evening took place in the museum.
Photo 7. Giuseppe Freri with Géraud Spire, the incumbent President of Ufemat.

6


7

CLOSER TIES WITH MANUFACTURING
Interview with Giuseppe Freri

We asked Giuseppe Freri – the President of Federcomated and new President of Ufemat – a few questions about the distribution of building materials and its business relations with the world of manufacturing.

What is the state of distribution nowadays in Italy?

The distribution of building materials in Italy has two main traits. First of all, its scope and scale: Italian distribution is "small", in the sense that it is based around lots of small enterprises, each employing about 4/5 workers on a national average (editor's note: Federcomated has approximately 4800 members and 8000 sales outlets).

The second distinctive feature, which is actually a major issue, is the technical-financial matter of cashing in bills and protecting credit.

Is being small, in a world that is heading in the direction of concentration and big trade areas, a problem?

Although it might be so in absolute terms, the small scale of building materials distribution in Italy may actually be an opportunity for everybody, from manufacturers to end customers. This is because we manage to cover most of the national territory.

On the other hand protecting credit is, indeed, a tricky issue....

Nowadays distributors give credit to lots of craft businesses, which, for various reasons, cannot pay back their debts, thereby jeopardising an entire chain of economic players, first and foremost us. The answer to this problem must inevitably be political. For this reason Federcomated has given its full backing to a bill which was recently incorporated in the Italian Government's anti-crisis package. As well as guaranteeing credit, recouping outstanding payments directly from the customer, this law will give a real boost to the fight against tax evasion.

What are the relations with the world of manufacturing?

First of all, almost as a slogan, I would like to indicate a different view of things: let's be distributors rather than retailers.

Federcomated has always tried to carry out two tasks. On one hand, its aim is to attempt to enhance the specific skills of distributors, in order to meet every single customer's needs. On the other, it is hoped that this will attract manufacturing, ensuring it has increasing confidence in opting for a safe and reliable channel, capable of playing an important role for manufacturing companies, like, for example, enhancing their trademark and brand. Indeed, for me, it is most certainly true that distribution is a vital part of the manufacturing process.

Of course all this has come about by maintaining strong and profitable contacts and open roundtable discussions with the world of professional craft, industry and trade associations and all the various businesses revolving around the world of building.

One final question on a European scale. As the new President of Ufemat, what are the Association's goals over the next two years?

First of all, the broadening of the association's base, getting the federations of Greece and Spain involved, which are not members at the moment. Then the setting up of a permanent control and monitoring round-table on a European scale, involving distributors and industries. An important issue we would like to develop and explore through a recently commissioned study is that of transport and logistics in Europe. All this while keeping open and busy the channels with those responsible for making rules and passing laws or, in other words, the European Union and its various bodies, such as the commissions which, either directly or indirectly, deal with issues affecting us closely.

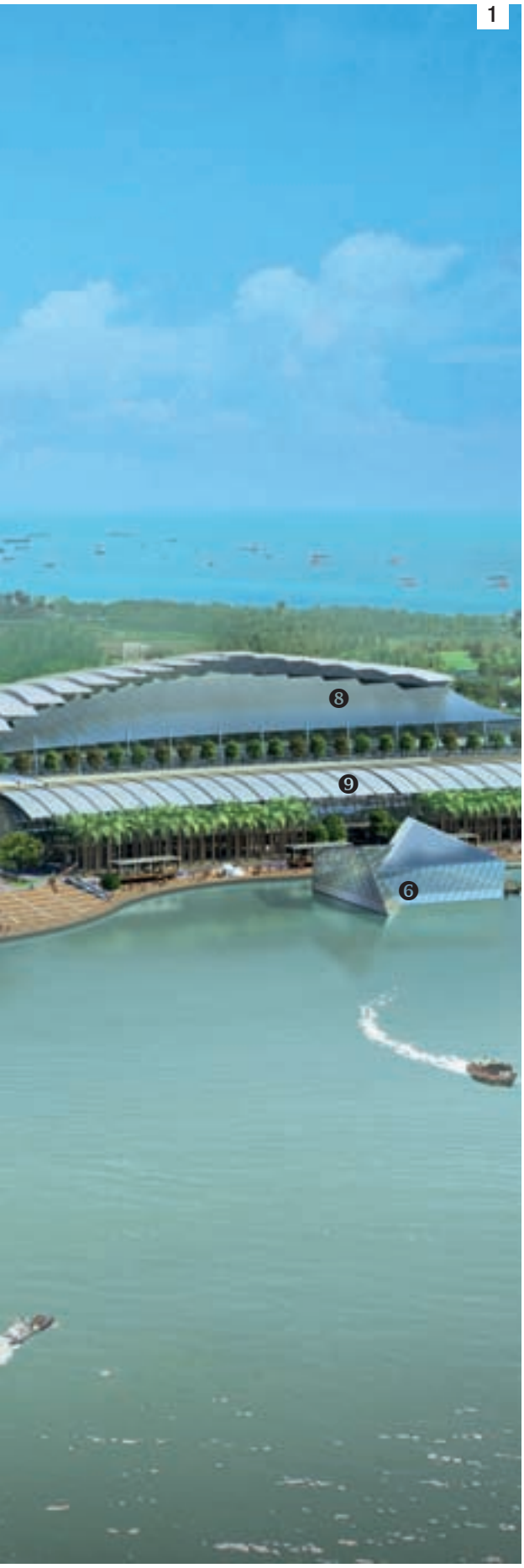
nificant and highlighted the fact that the recovery will be led by emerging countries and that any contribution from Italy and Europe will have to be based on harmonious growth, which will see internationalisation, technological innovation and a modern industrialisation process as the real keys for successfully negotiating the changes underway. All the speeches given are available online from the website www.ufemat.eu.

Gala Evening at the Guggenheim

The handing over of the reins to the new President of Ufemat, Giuseppe Freri, from his predecessor, Géraud Spire, took place during a gala evening held in the garden of the Peggy Guggenheim Museum at the end of the conference. The evening was organised by Mapei, whose products and experience helped restore the façade of this prestige Venetian building facing onto Canal Grande back in 2009 (see *Realtà Mapei International* no.31). Ufemat's official flag – representing all the member states – was handed over to the new President, who was clearly moved and quite rightly proud, during the ceremony, together with the "presidential collar". During the same gala evening, Ufemat presented its 1st Building Materials Award to Connie Hedegaard, the European Commissioner for the Climate Action, emphasising the importance of sustainability in the building industry and this Danish lady's activism and great commitment to the cause. The award took the form of a work of art made of bronze and natural stone by the Belgian artist, Jeffriey Devriese, and it was accepted on her behalf by the President and Director of the Danish Federation.

This was an important event for Mapei, once again confirming its ability to work closely with the leading players in its field. The 53rd European Ufemat Conference will be held in Copenhagen (Denmark) from 15th to 17th September 2011.

Photo 1. View of the Marina Bay Sands Resort. In the middle one can see the three hotel towers (n. 1) with the Sands SkyPark (2) on the top. At their bottom from left on: the ArtScience Museum (3), the theatres (4), the casino (5), the two Crystal Pavilions (6), the event plaza (7), the Expo and Convention Centre (8) and the shopping and dining area (9).



1

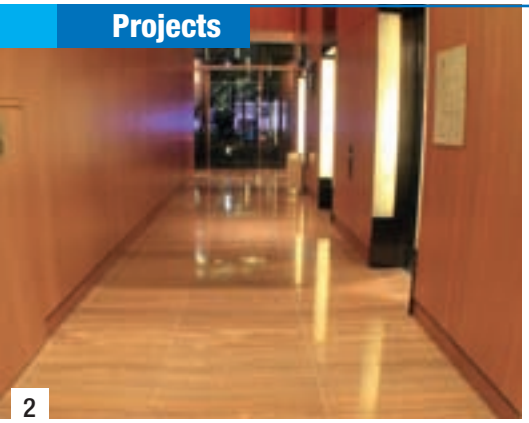
Marina Bay Sands Resort

An innovative project changed Singapore's skyline

Singapore is a South-Eastern Asian country off the southern tip of the Malay Peninsula including 63 islands. It is the world's fourth leading financial centre and a cosmopolitan city, playing a key role in international trade and finance. Its port is one of the five busiest ports in the world.
In 2006, the Singapore government announced its decision to build two integrated resorts after much public deliberation and controversy over integrating casinos inside them. In the past, Singapore's law did not allow casinos within the country. The change in the government's decision, based on the underlying notion to boost the country's economy and tourism sector, resulted in amendments of the law.
The decision to build two mammoth resorts in such a grandeur scale became the highlight of Singapore and that of Asia.
Following that, a highly competitive bidding process was cast out. In 27 May 2006, Las Vegas Sands Corporation (USA) was appointed to build the second of the two resorts, which was later known as Marina Bay Sands. This architectural wonder, said to be inspired by a deck of cards, was designed by the internationally renowned architect Moshe Safdie.
Three 55-storey hotel towers are crowned by the majestic SkyPark, a 1 hectare skypark floating 200 m above the sea level. From the deck, visitors are offered a panoramic view of the city skyline. The SkyPark accommodates a public observatory, landscaped gardens, a 151-metre infinity outdoor swimming pool, restaurants and jogging paths. The hotel towers have sloping and straight legs and are connected at level 23 to form a single building.
The complex also includes an Expo and Convention Centre; a shopping and dining area with luxury retailers and signature restaurants; a casino with 669 gaming tables and 1,500 slot machines; a 5,000 m^2 plaza meant for local and international live performances; two floating Crystal Pavilions on water housing shops and night clubs; parking facilities for 4,000 cars.

Mapei's Contribution

The Marina Bay Sands Resort's construction was an enormous and extremely demanding project. Besides having to meet a tight schedule, the structure had to be of the finest condition, not just the finishes, but also right down to its underlying structure. Mapei, which is well known in the Far Eastern countries through its subsidiaries based in Singapore, Malaysia, China and Vietnam, has been extensively involved. Since it has already contributed to com-


2


3


4


5


6


7

plete prestigious building projects in these countries, it could not but take part in the Marina Bay Sands' construction by supplying cutting-edge products and technologies. Mapei solutions were used in the three hotel towers, SkyPark, hotel atrium, casino and retail mall.

Installation of Ceramics and Stone Materials in the Towers

KERAFLEX MAXI high performance cementitious adhesive with no vertical slip was used for laying porcelain tiles and natural marble slabs (sizes: 600x300x10 mm and 300x300x20 mm) on the floors of back-of-house for towers 1 and 3 and all 742 bathrooms' floors and guestrooms' foyer floors in tower 2. KERAFLEX MAXI has been superseded on several markets by KERAFLEX MAXI S1 featuring Low Dust technology.

800x800x20 mm natural marble slabs were bonded onto raised plywood floors in the lifts, lift lobbies as well as in the lobby area in tower 3 by using ELASTORAPID two-component, highly flexible, high performance, quick setting and quick hydration cementitious adhesive.

KERAPOXY high performance two-component acid-resistant adhesive with no vertical slip was used to install 1800x2200x30 mm

Photos 2 and 3. For laying marble slabs and porcelain tiles on the floors and walls of the towers' toilets KERAFLEX MAXI, KERAPOXY and KERACOLOR SF were used.

Photo 4. The marble floorings in the tower 3's lifts and lift lobbies were bonded with ELASTORAPID.

Photo 5. Marble floors were laid in the atrium with GRANIRAPID.

Photo 6. The bamboo mosaic flooring of the Rise restaurant was bonded with GRANIRAPID. Joints were grouted with KERACOLOR SF.

Photo 7. In the Rise restaurant the floor substrates of the open kitchen were waterproofed with MAPELASTIC before laying marble slabs with ELASTORAPID.

and 2500x1500x30 mm natural marble slabs with aluminium honeycomb base on the guestrooms' bathrooms walls and floors and on the guestrooms' foyer floors.
The joints of all the above-mentioned wall and floor coverings were grouted with KERACOLOR SF high performance, white superfine cementitious grout for joints up to 4 mm.

Photo 8. From the Sands SkyPark terraces one can enjoy a breathtaking way on Singapore city.
Photos 9 and 10. In the shopping area the marble, slate and granite floorings were installed with GRANIRAPID.

Atrium and Lift Lobby: Installation of Marble, Slate and Bamboo Floorings
In the atrium linking the three towers and in the lift lobbies Jura marble, bamboo mosaic and slate floorings were bonded with GRANIRAPID high performance, deformable, two-component cementitious adhesive.
KERACOLOR SF was again used to grout the joints.

Laying Ceramic and Marble Floorings in the Sands SkyPark
For laying porcelain tiles on floors and walls in the SkyPark toilettes and lift lobbies KERAFLEX MAXI was used.
KERACRETE and KERABOND + ISOLASTIC adhesive systems were chosen for bonding marble slabs on the restaurants' walls and floors.
All joints were grouted with KERACOLOR SF, except for joints of the porcelain tile floors in the toilettes where KERACOLOR FF high performance, polymer-modified, water-repellent, cementitious grout with DropEffect® technology was used.

Rise Restaurant: Waterproofing with Mapelastic
The Rise restaurant features an open kitchen which allows customers to watch the food's preparation. Before laying the marble floor, a first layer of MAPELASTIC two-component flexible cementitious mortar was applied on the plywood of the raised floor to waterproof the substrate. Then the alkali-resistant FIBREGLASS MESH (N.B the product has been superseded on several markets by MAPENET 150) was embedded for reinforcement.
The second layer of MAPELASTIC was subsequently applied after the first layer has set.
ELASTORAPID was then applied to bond the 600x600x20 mm natural marble slabs on the raised plywood floor. Joints were again grouted with KERACOLOR SF.


11


15


16

Installation of Floor and Wall Coverings in the Retail Mall and Casino

Natural marble, slate, granite floors were laid on three levels in the retail mall with GRANIRAPID.
GRANIRAPID was also used to bond the natural marble floors of the casino's VIP private rooms.
KERAFLEX MAXI was chosen to lay the porcelain tiles on the casino's toilette walls.
KERAFLEX was used to install natural marble slabs in the casino entrance.
Joints of all the above-mentioned wall and floor coverings were grouted with KERACOLOR SF.

Structural Strengthening: Dry Cracks

Several areas in the three hotel towers and basements needed repair works. Mapei was called upon for expertise and reliable solutions for cracks and concrete repairs and complete Mapei systems were adopted.
Dry cracks along the walls and ceilings of the building were discovered. ADESILEX PG2 SP epoxy adhesive was recommended to seal the cracks. Its special formulation was developed for the Singaporean market.
Where microcracks were present, injection packers were inserted into the walls and ceilings. Next, EPOJET LV, an epoxy resin with very low viscosity, was injected into the packers to seal the microcracks.
After the application of EPOJET LV, a water ponding test was conducted in which a curb was formed above the repaired ceilings. The curb was filled with shallow water to test the success of application. After 3-5 days, there was no water leakage from the cracks, proving that the application was perfectly done.
After both ADESILEX PG2 SP and EPOJET LV have dried up, the next step was to remove the packers and grind the surface to ensure a smooth finish.

Photo 11. In the casino entrance KERAFLEX was used to bond marble floorings.
Photo 12. ADESILEX PG2 SP was used to grout dry cracks on ceilings and walls before applying EPOJET LV epoxy resin.
Photos 13 and 14. EPOJET LV was injected into packers to seal the microcracks.
Photos 15 and 16. Some concrete surfaces featured wet cracks which were treated with RESFOAM 1 KM to remove moisture, before applying ADESILEX PG2 SP and EPOJET LV.

Structural Strengthening: Wet Cracks

Besides dry cracks, wet cracks, that is cracks with water leakage, were also found on walls and ceilings. This situation required the use of RESFOAM 1 KM, an ultra fluid, one-component polyurethane injection resin for waterproofing concrete or masonry structures, grounds and rocks.
RESFOAM 1 KM was injected into the preinstalled packers attached to the ceiling.
Due to its high fluidity, this product is able to penetrate and seal micro cracks, hence preventing water leakage. A yellow excess is formed as RESFOAM 1 KM reacts with moisture present in the concrete, thus removing moisture in the structure.


12


13


14


17

After the water seepage problem was curbed, ADESILEX PG2 SP and EPOJET LV were then applied onto as in the case of dry cracks.

Injecting Cementitious Mortars by Pressure Grouting

To repair damaged concrete in other areas a different Mapei product system was used.


18


19

Rusting reinforcing rods needed to be treated since rusting formations on rods would have lead to concrete damage. MAPEFER corrosion-inhibiting cement mortar was chosen to prevent corrosion and rusting and to restore alkalinity. Before application, the rods had to be cleaned; thereafter, two coats of MAPEFER were applied with a brush.

To restore the concrete structures Mapei Technical Service Department recommended the use of MAPEFILL SP, a super flow non-shrink cementitious grout suitable for grouting concrete structures. MAPEFILL SP, whose formulation has been especially developed for the Far Eastern countries, has excellent adhesion to concrete, elasticity and waterproofing. These properties make it the appropriate choice for sturdy and long-lasting concrete structures.

MAPEFILL SP can be applied both by pressure grouting and by pouring. Both methods were used in the works at Marina Bay Sands.

The pressure grouting method was used for most of the damaged areas; the pouring method was used for the most urgent cases and only when the site conditions allowed for room for pouring.

In the case of pressure grouting, only water was mixed with MAPEFILL SP to form a homogenous fluid. MAPEFILL SP was then pumped through the preinstalled hoses sticking out of the formwork which had been prepared in advance.

Where the surface area to be repaired included substantial cavities, the damaged concrete sections were removed. The reinforcing rods were cleaned and treated with MAPEFER. A prepack formwork was formed which comprises of aggregates and reinforcing rods bounded with a mesh. MAPEFILL SP was then applied by pressure grouting.

In the case of the gravity pouring method, water and chippings were

Photo 17. MAPEFER was applied on the reinforcing rods to prevent corrosion and damage of the concrete.

Photo 18. A formwork was set up on the damaged concrete structure.

Photo 19. Applying MAPEFILL SP by pressure grouting through the preinstalled hoses sticking out of the formwork.

Photo 20. Where the surface area to be repaired included substantial cavities, a prepack formwork was formed which comprises of aggregates and reinforcing rods bounded with a mesh. MAPEFILL SP was then applied by pressure grouting.

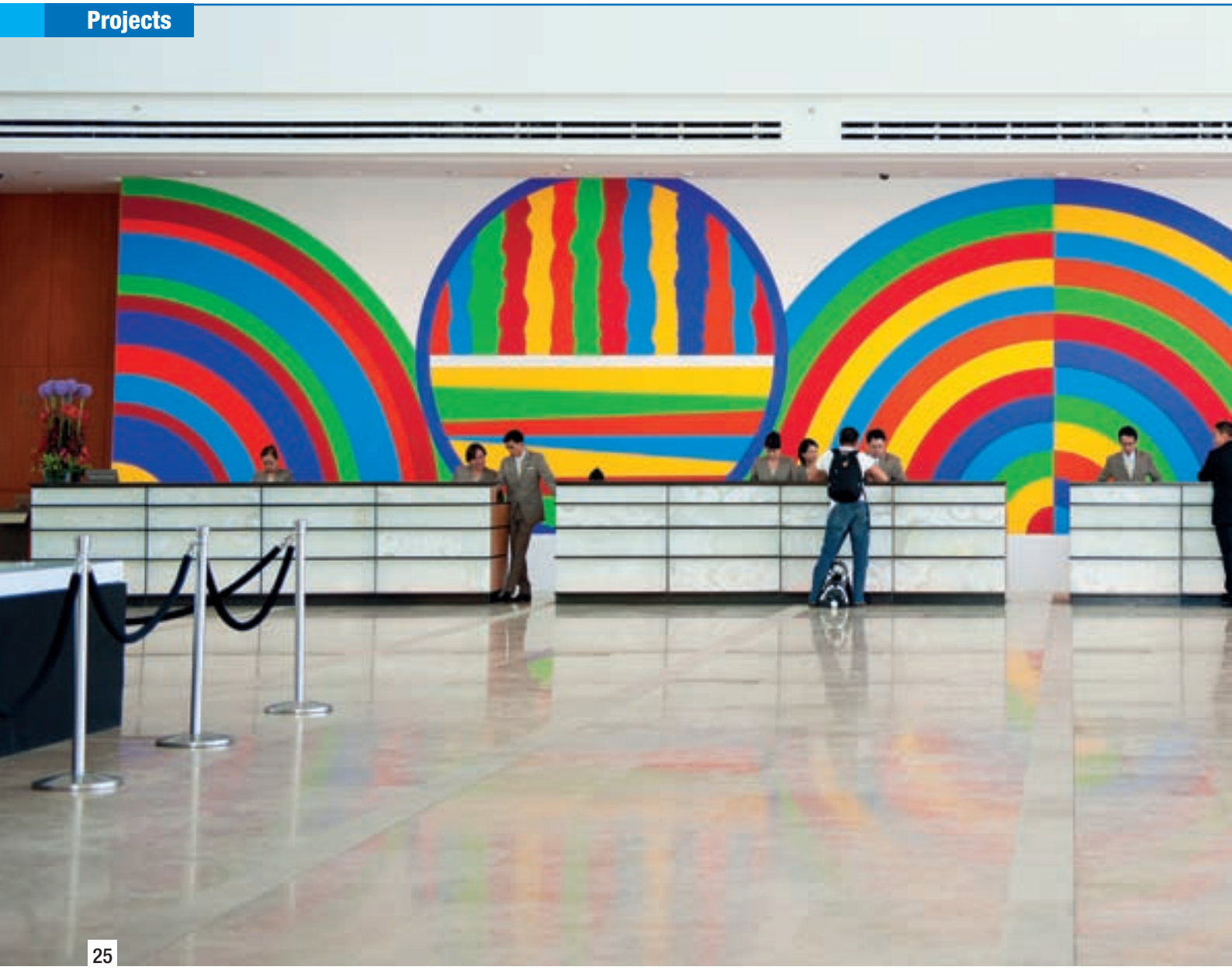
Photo 21. Where the application was particularly urgent, water and chippings were added and mixed with MAPEFILL SP, which was then applied by gravity pouring.

Photo 22. The concrete structure after completion of the works.


20


21


22



25

23

24

Photos 23 and 24. To repair damaged concrete in some areas a Mapei product system was used including MAPEFER, PLANICRETE SP and MAPEGROUT THIXOTROPIC.

Photo 25. In the hotel lobby marble floorings were installed with GRANIRAPID.

added and mixed with MAPEFILL SP until a homogenous fluid was formed, which was then applied by gravity pouring.

Repairing with Cementitious Mortars

Other concrete surfaces within the Marina Bay Sands Resort were repaired with a system made up of MAPEFER, PLANICRETE SP and MAPEGROUT THIXOTROPIC.

First, MAPEFER was applied onto the reinforcing bars.

Subsequently, PLANICRETE SP synthetic-rubber latex for cementitious mortar (whose formulation has been specially developed for the Far Eastern market) was mixed with cement and applied onto the partially finished concrete. PLANICRETE SP acted as a bonding slurry between the concrete and MAPEGROUT THIXOTROPIC shrinkage-compensated fibre-reinforced thixotropic mortar, which was then applied on top of the PLANICRETE SP layer. Lastly, MAPEGROUT THIXOTROPIC was used to make the concrete smooth and uniform. The products recommended by Mapei Technical Service Department ensured that installation and repair works were completed in a fast and satisfying way. Mapei also supplied similar solutions for the ongoing construction of the ArtScience Museum and Theatres which will be opened in early 2011. Just like it was the case with the Venetian Macao and City of Dreams complexes (see *Realtà Mapei International* n. 26 and 32), one more prestigious structure symbolising contemporary Asia was completed in Far East with the contribution of Mapei.

TECHNICAL DATA

Marina Bay Sands Integrated Resort, Singapore
Project: Moshe Safdie & Associates
Period of Construction: 2008 - June 2010

Period of the Intervention: January 2008 - December 2010
Intervention by Mapei: supplying products for waterproofing the substrates, laying ceramic and stone material floor and wall coverings in the three towers hotel, in the casino, retail mall and restaurant area, as well as for structural repair operations on walls and ceilings in several areas of the towers and in the basements
Client: Marina Bay Sands Pte Ltd (Singapore) - Las Vegas Sands Corporation (USA)
Contractor: SsangYong Engineering & Construction Co. Ltd (Singapore)
Laying Companies: Shanghai Chong Kee Furniture & Construction Pte Ltd, Engareh (S) Pte Ltd, Builders Shop Pte Ltd, Kwang Mooi Renovation Contractor, Sunray Woodcraft Construction Pte Ltd, DDS Contract & Interior Solutions Pte Ltd
Concrete Repair Specialists: Grouteam Pte Ltd, Y.H.H. Engineering Pte Ltd, Technocrete Pte Ltd, Chua Chuan Ho Construction, VSL Singapore Pte Ltd
Laid Materials: natural stone, slate, porcelain tiles, bamboo mosaic
Mapei Coordinators: Chong Lawrence, Heng Rodney and Poon Fabian - Mapei Far East (Singapore)

MAPEI PRODUCTS

The products mentioned in the article belong to the "Products for Ceramic Tiles and Stone Materials" and "Building Speciality Line" ranges. The technical data sheets are available at the web site: www.mapei.com. Mapei's adhesives for ceramics and stone materials conform to EN 12004 and have been awarded the CE mark in compliance with Annex ZA, standard EN 12004. Mapei grouts for ceramics and stone materials conform to EN 13888 standard. Mapei products for the protection and repair of concrete surfaces and structures have been awarded the CE mark in compliance with EN 1504 standard. Mapei levelling and smoothing compounds and pre-blended mortars for screeds conform to EN 13813 standard and have been awarded the CE mark in compliance with annex ZA, standard EN 13813. Almost all the Mapei products for laying floors and walls are also GEV-certified and have been awarded the EMICODE EC1 ("very low emission level of volatile organic compounds") mark, awarded by GEV.

Preparation of substrates

Fibreglass Mesh: alkali-resistant fibreglass mesh. N.B This product has been superseded in several markets by Mapenet 150.
Mapelastic (CE EN 1504-2, coating **(C)** principles **PI, MC and IR, EN 14891):** two-component flexible cementitious mortar for waterproofing balconies, terraces and bathrooms.

Installation of ceramic, stone materials, bamboo and slate floor and wall coverings:

Elastorapid (CE EN 12004, C2FTE S2): two-component, highly flexible, high performance, quick setting and quick hydration cementitious adhesive with extended open time and no vertical slip, for ceramic tiles and stone material.
Granirapid (CE EN 12004, C2F S1, EC1): high performance, deformable, two-component cementitious adhesive with rapid setting and hydration for installing ceramic tiles and stone material.
Kerabond (CE EN 12004, C1, becomes **C2E S2** if mixed with **Isolastic):** cementitious adhesive for ceramic tiles.
Keracolor FF (CG2, EC1 R): high performance, polymer-modified, water-repellent, cementitious grout with DropEffect® technology for joints up to 6 mm.
Keracolor SF (CG2, EC1 R): high performance, white superfine cementitious grout for joints up to 4 mm.
Keracrete: synthetic-rubber latex to be mixed with Keracrete Powder (white and grey) or with sand and cement.
Keracrete Powder (CE EN 12004, C2T): ready-to-use mixture of sand and cement to be mixed with KERACRETE latex. This adhesive has high performance, no vertical slip and is suitable for ceramic tiles, glass mosaic and stone material.
Keraflex (CE EN 12004, C2TE, EC1 R): high performance cementitious adhesive, with no vertical slip and with extended open time for ceramic tiles and stone material.
Keraflex Maxi (CE EN 12004, C2TE S1): high performance cementitious adhesive with no vertical slip, extended open time and deformable for ceramic tiles. N.B This product has been superseded in several markets by Keraflex Maxi S1.
Kerapoxy (R2T, CE EN 12004; RG): high performance two-component acid-resistant grout and adhesive with no vertical slip for installing and grouting ceramic tiles and stone material (with joints over 3 mm).

Products for structural repair:

Adesilex PG2 SP (CE EN 1504-4): two-component thixotropic epoxy adhesive with extended open time for structural bonding. N.B. The product is manufactured and distributed on the Far Eastern markets by Mapei Far East, the Group's subsidiary based in Singapore.
Epojet LV (CE EN 1504-5): two-component epoxy resin with very low viscosity for injection.
Mapefer (CE EN 1504-7): two-component corrosion-inhibiting cementitious mortar for reinforcing rods.
Mapefill SP (CE EN 1504-6): super-flow non-shrink cementitious grout for repairing concrete structures. N.B. The product is manufactured and distributed on the Far Eastern markets by Mapei Far East.
Mapegrout Thixotropic (CE EN 1504-3, class R4): shrinkage-compensated fibre-reinforced thixotropic mortar for the repair of concrete
Planicrete SP: synthetic-rubber latex for cementitious mortars. N.B. The product is manufactured and distributed on the Far Eastern markets by Mapei Far East.
Resfoam 1 KM: ultra fluid, one-component polyurethane injection resin for waterproofing concrete or masonry structures, grounds and rocks.

1

2

Photo 1. The new Sá hypermarket in Santana, which was built with the help of various Mapei products.
Photo 2. The covering on the façades was created using regional materials such as “cantarias” (natural stone of volcanic origin) installed using KERABOND cementitious adhesive mixed with ISOLASTIC.
Photo 3. Ceramics were installed on thermal insulating panels using KERALASTIC.

3

Hiper Sá in Madeira

Mapei products were used for lots of installation purposes in a new shopping mall in Santana

Santana is a town in the north-east of the Portuguese island of Madeira, famous for its distinctive triangular-shaped stone houses. These colourful houses with straw roofs date back to the 15th century and are still predominantly in a good state of repair. Santana is the ideal destination for setting off to explore some of the other locations on the island: the Levadas of the Laurisilva forests (of laurel trees) in Queimadas, Pico das Pedras and, for the really fit, Pico Ruivo, the highest point in Madeira (1,861 m). Until recently one of the most annoying things for the inhabitants of Santana was having to travel to nearby Machico or Funchal to do their shopping, because the town did not have its own proper shopping mall.

The Grupo Sá has catered for this shortcoming by constructing its nineteenth hypermarket at the entrance to the town, near the motorway exit. This is an extremely important project for the local people, who finally have their own multipurpose shopping centre making the entire area self-sufficient. Numerous Mapei products were involved in its construction.

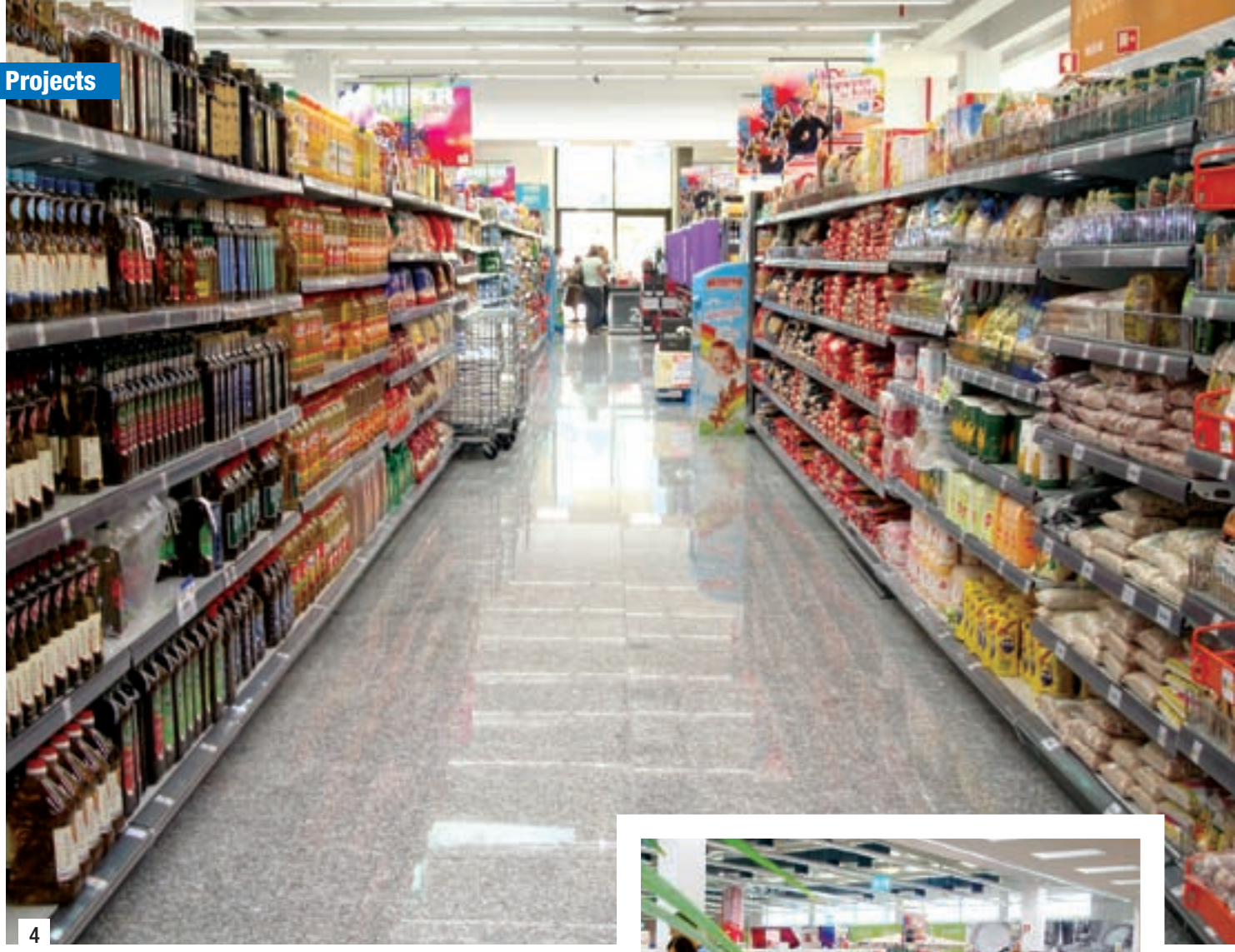
Hiper Sá in the town of Santana, which opened at the end of July 2008, covers an overall area of 5000 m², including 1200 m² of commercial space. It is constructed over four levels and includes an electrical shop and "Domestik" multimedia store (covering 120 m²), a telecommunication shop, a tobacconist and "A Severa" self-service and take away restaurant. The shopping arcade also holds the "Espaço Bio" bio-store. There is also a spacious underground car park available for shoppers.

Designed by Atelier Melim architecture firm, Hiper Sá is extremely modern looking and was constructed using local materials for covering the façades, such as "cantarias" (natural stone of volcanic origin). This falls in line with the Grupo Sá's policy for all its projects and means that paint and other products which are not very eco-sustainable do not need to be used. It also allows savings on maintenance costs, which are practically non-existent in the case of "cantarias". This is the same corporate policy adopted by all the most modern and highly developed international companies, which, like Mapei, always have a watchful eye for the delicate issue of eco-sustainability.

In order to conform to this corporate philosophy, the new hypermarket in Santana and the latest commercial units built by the Grupo Sá are equipped with a special system for treating both liquid and solid waste. Building work was carried out in conjunction with Lusomapei S.A., the Portoguese subsidiary of the Mapei Group, and the Mapei distributor from Madeira, Flagame; in addition to waterproofing operations Mapei's contribution mainly consisted in supplying various specific products from its line for the installation of ceramics and natural stone. Let's now take a more careful look at how and where these products were used.

Adhesives for All Types of Materials

Starting with the covering made of cantarias, it was decided to use KERABOND cementitious adhesive mixed with ISOLASTIC flexible latex additive for bonding the façades. Mixing KERABOND and ISOLASTIC as a substitute for



4

5

water makes it possible to improve the system's characteristics, so that it meets C2ES2 requirements (improved highly deformable cementitious adhesive with an extended opening time) in accordance with EN 12004 standard.
The adhesive obtained in this way is suitable for bonding all kinds of tiles, both indoors and outdoors (quarry tiles, single-fired, porcelain and klinker tiles, mosaics, etc.), as well as other stone materials (as long as they are stable and moisture-proof) on conventional substrates, foamed concrete walls, pre-cast or cast concrete structures, underfloor heating installations, wooden substrates, gypsum board walls, metal, rubber, PVC ad lineolum surfaces. On the other hand, ADESILEX P9, high performance cementitious adhesive with no vertical slip and extended open time, was chosen for installing the porcelain tiles (supplied by the Portuguese company Margres, belonging to the Panaria Group) on the floors in the entrance and along the stairways. KERAFLEX high performance cementitious adhesive, with no vertical slip and with extended open time was chosen for bonding the 60x60 cm granite slabs on the floorings in the widest areas of the commercial section. This was an excellent choice because KERAFLEX is the ideal product for installing floors subject to strong stress. The lock-

IN THE SPOTLIGHT

ADESILEX P9

It is an improved **(2)** slip resistant **(T)** cementitious adhesive **(C)** with extended open time **(E)** classified as **C2TE** according to **EN 12004.**
ADESILEX P9 is used for interior and exterior bonding of ceramic tiles and mosaics on floors, walls and ceilings. It is also suitable for spot bonding of insulating materials such as expanded polystyrene, rock and glass wool, Eraclit® (wood-cement panels), sound-deadening panels, etc.
A mortar with the following properties is obtained when mixed with water: easily workable; highly thixotropic; perfect adherence to all materials normally used in building; hardens with minimal shrinkage; extended open time.
ADESILEX P9 is CE marked, as declared in **ITT** certificate **n. 25050141/Gi (TUM)** and **n. 25080230/Gi (TUM)** issued by the Technische Universität München laboratory (Germany).

6

7

Photo 4. KERAFLEX was chosen for bonding the granite floors in the commercial area.
Foto 5. ADESILEX P9 was used for installing porcelain tiles on the floors in the entrance and along the stairways.
Photos 6 and 7. The adhesive used for the installation of the granite floors in the main sections of the commercial area was KERAFLEX.

er room area and terraces were waterproofed using one of Mapei's leading and best-known product, MAPELASTIC, two-component flexible cementitious mortar for waterproofing balconies, terraces, bathrooms and swimming pools. After the waterproofing operations, natural stone was installed on the terraces using GRANIRAPID adhesive, whose extraordinary bonding and fast-setting properties make it ideal for quick re-tiling jobs or floorings which need to be put in service within very short time (supermarkets, industries, hospitals, airports, swimming pools, etc.). KERALASTIC, high performance two-component polyurethane adhesive, was used for installing ceramics on the thermal insulating panels on the outside walls of the refrigerating cells, which separate the aforementioned cells from the fresh food sales area. One of the most distinctive features of this high-tech adhesive is how versatile it is to apply. KERALASTIC is actually ideal for bonding ceramic tiles and all kinds of stone and mosaic material onto screeds, render, concrete, asphalt, wood, metal, PVC, reinforced polyester, asbestos-cement, gypsum, gypsum boards etc., both indoors and outdoors.
Finally, four different colours of ULTRACOLOR PLUS (100, 113, 130, 114) were used for grouting the joints in all the aforementioned surfaces. Ideal for grouting joints in ceramic floor and wall coverings of every kind (quarry tiles, single-fired, porcelain and klinker tiles, mosaics, natural stone, marble, granite as glass mosaic), ULTRACOLOR PLUS guarantees uniformity of colour, does not cause surface efflorescence, dries quickly and allows floor and wall coverings to be used very quickly. It is practical examples of building work like the one examined here, which allow the development of a wide range of solutions for installing every kind of covering material on every kind of substrate, also emphasising the importance of the work carried out at Mapei's Research & Development laboratories to develop increasingly efficient high performance products.

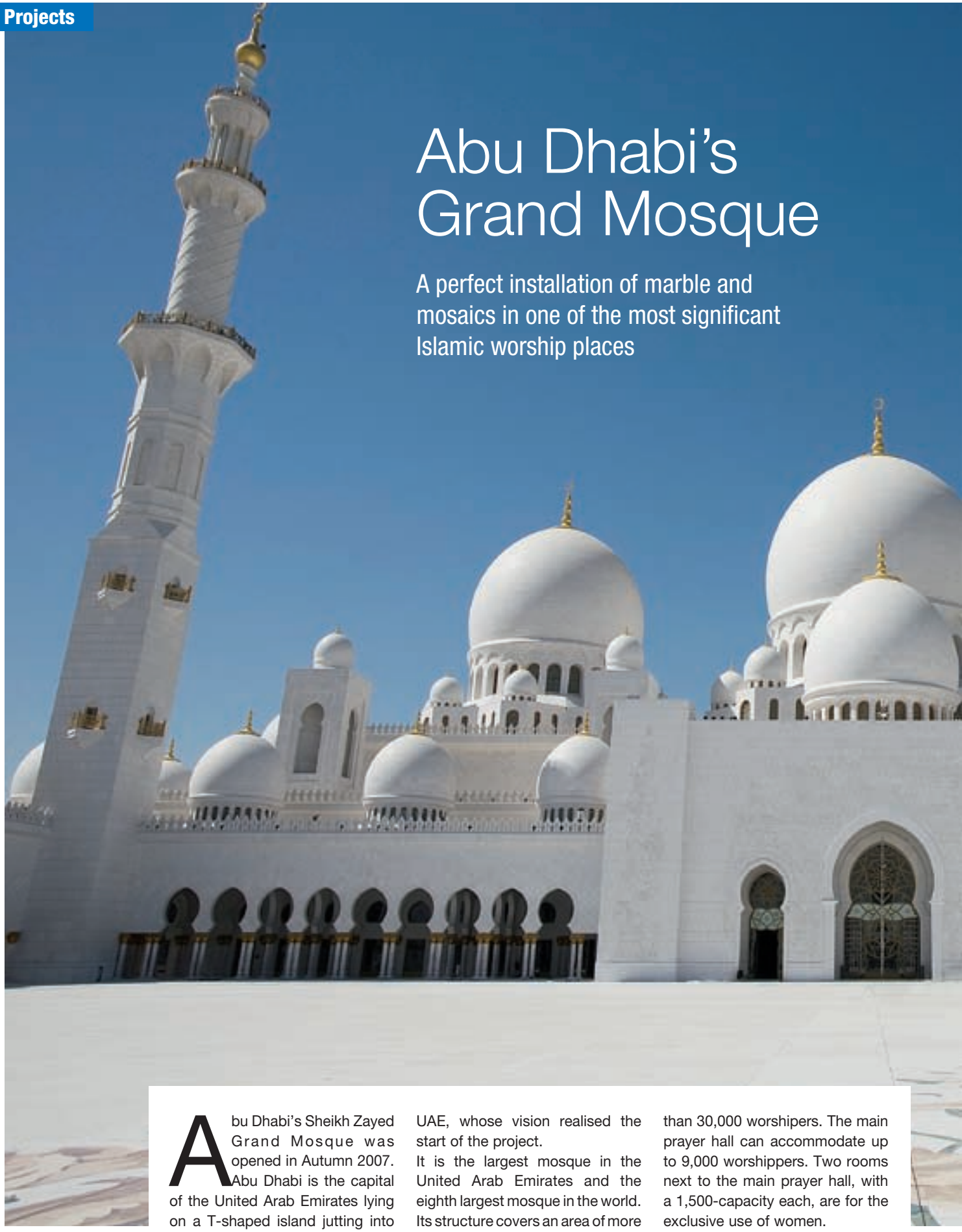
TECHNICAL DATA

Hiper Sá Santana, Santana, Madeira (Portugal)
Period of Construction: November 2007 - August 2008

Year of the Intervention: 2008
Intervention by Mapei: supplying products and technical assistance for installing ceramics and stone materials flooring
Customer: Grupo Sá Santana
Project: Atelier Melim, Funchal (Madeira)
Works Director: Paulo Marinho (Madeira)
Laying Company: Somague (Madeira)
Laid Materials: ceramic tiles, granite, natural stone, porcelain tiles
Mapei Distributor: Flagame (Madeira)
Mapei Co-ordinators: Mario Jordão and Luca Sacripanti, Lusomapei S. A. (Portugal)

MAPEI PRODUCTS

The products mentioned in the article belong to the "Products for Ceramic Tiles and Stone Materials" range. The technical data sheets are available at the web site: www.mapei.com. Mapei adhesives for ceramics and stone materials conform to EN 12004 and have been awarded the CE mark in compliance with Annex ZA, standard EN 12004. Mapei grouts for ceramics and stone materials conform to EN 13888 standard. Almost all the Mapei products for laying floors and walls are also GEV-certified and have been awarded the EMICODE EC1 ("very low emission level of volatile organic compounds") mark, awarded by GEV. Mapei products for the protection and repair of concrete surfaces and structures have been awarded the CE mark in compliance with EN 1504 standard.
Adesilex P9 (C2TE, EC1 R, CE EN 12004): high performance cementitious adhesive with no vertical slip and extended open time for ceramic tiles.
Granirapid (CE EN 12004, C2F S1, EC1): high performance, deformable, two-component cementitious adhesive with rapid setting and hydration for bonding ceramic tiles and stone material.
Isolastic: flexible latex additive to be mixed with Kerabond, Kerabond T, Kerafloor and Adesilex P10.
Keralastic (CE EN 12004, R2): high performance two-component polyurethane adhesive for ceramic tiles and stone material.
Kerabond (CE EN 12004, C1, it becomes **C2ES2** when mixed with **Isolastic, EC1 R):** cementitious adhesive for ceramic tiles.
Keraflex (CE EN 12004, C2TE, EC1 R): high performance cementitious adhesive, with no vertical slip and with extended open time for ceramic tiles and stone material.
Mapelastic (CE EN 1504-2, coating **(C)**, principles **PI**, **MC** and **IR, EN 14891)**: two-component flexible cementitious mortar for waterproofing balconies, terraces and bathrooms.
Ultracolor Plus (CG2, EC1): fast-setting and drying, high performance, anti-efflorescence, water-repellent grout for joints from 2 to 20 mm, with DropEffect® and anti-mould with BioBlock® technology.



Abu Dhabi's Grand Mosque

A perfect installation of marble and mosaics in one of the most significant Islamic worship places

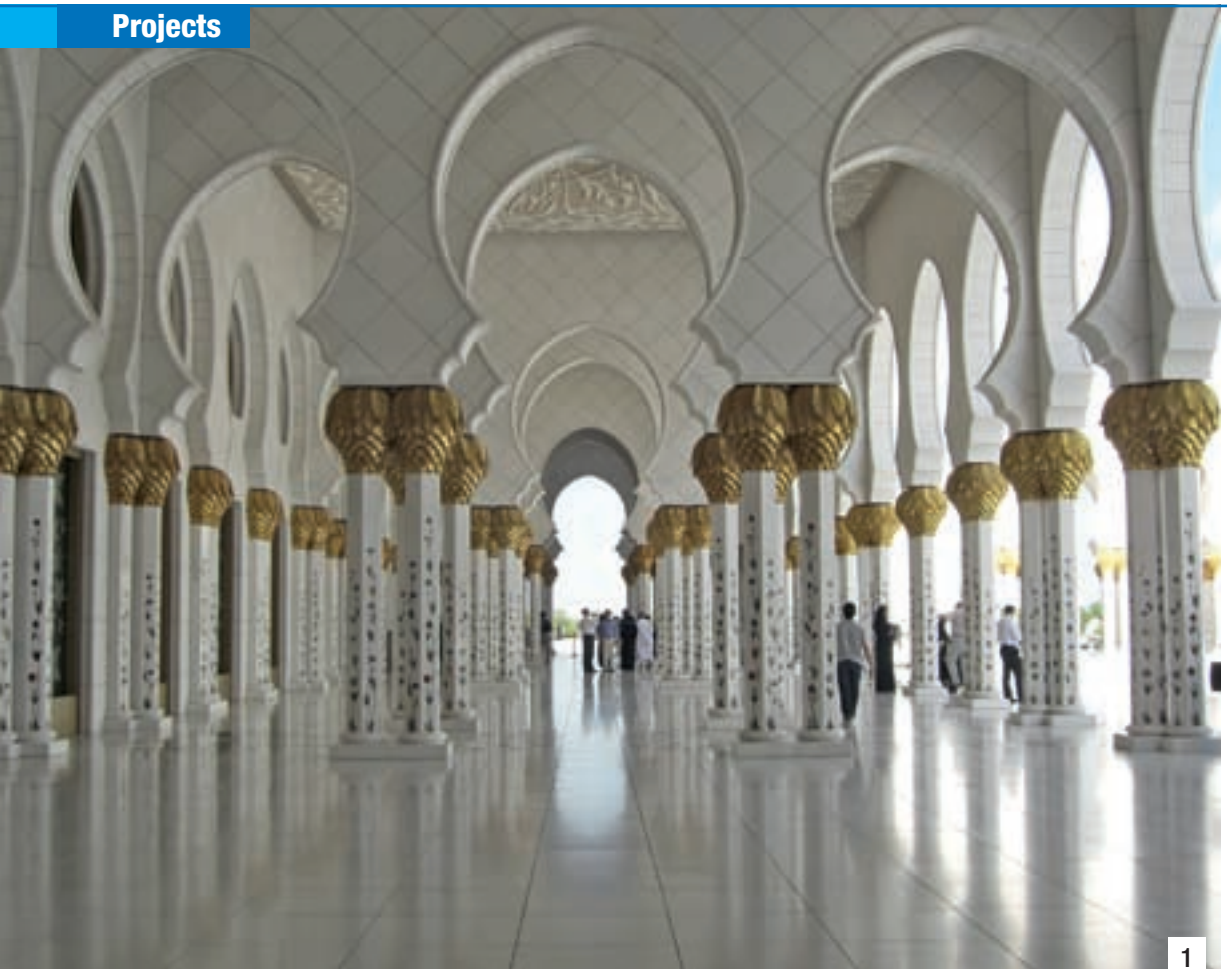
Abu Dhabi's Sheikh Zayed Grand Mosque was opened in Autumn 2007. Abu Dhabi is the capital of the United Arab Emirates lying on a T-shaped island jutting into the Arabian Gulf from the central western coast.

The Mosque was named after Sheikh Zayed Bin Sultan Al Nahyan, the late President of the UAE, whose vision realised the start of the project.

It is the largest mosque in the United Arab Emirates and the eighth largest mosque in the world. Its structure covers an area of more than 22,000 m^2 and some 210,000 m^3 of concrete and 33,000 tonnes of steel reinforcement were used in its construction. The Mosque is able to accommodate more than 30,000 worshipers. The main prayer hall can accommodate up to 9,000 worshippers. Two rooms next to the main prayer hall, with a 1,500-capacity each, are for the exclusive use of women.

The design of the Mosque can be best described as a fusion of Arab, Mughal and Moorish architecture with the dome layout and floor-plan of the mosque inspired by

Above. View of the Abu Dhabi's Grand Mosque.
Right. Giorgio Squinzi, CEO of the Mapei Group, and Mapei staff visiting the Grand Mosque.



Photos 1, 2 and 3. Flower decorations made of selected stones have been laid on the floors and columns with KERAPOXY.
Photo 4. KERABOND was used to bond marble slabs and mosaics on the internal walls. KERACOLOR FF + FUGOLASTIC were used to grout the joints.
Photo 5. View of the largest chandelier in the Mosque.

both Mughal and Moorish design, its archways being quintessentially Moorish and its minarets classically Arab.
This beautiful Mosque is completely covered by marble and also features intricate Islamic decoration and carvings as well as extensive landscaping works.
There are four minarets on the four corners of the mosque which rise about 115 m in height. There are 57 domes covering the outside yard and the main building as well. The domes are decorated with white marble and the interior decoration is also made of marble. The courtyard is paved with intricate floral marble designs and measures about 17,000 m^2.
The Mosque also encloses the "World's Largest Carpet" measuring 5,627 m^2.
There are seven copper-and gold-plated imported chandeliers from Germany.

IN THE SPOTLIGHT

KERABOND

It is a normal **(1)** cementitious **(C)** adhesive of class **C1** according to **EN 12004**.
KERABOND is **CE** marked. It is used for indoor and outdoor bonding of ceramic tiles and mosaics of all types on floors, walls and ceilings; spot bonding of insulating materials such as expanded polystyrene, expanded polyurethane, rock and glass wool, Heraclit® wood-cement and sound-deadening panels etc.
KERABOND is a grey or white powder composed of cement, fine-grade, synthetic resins and special additives formulated in the Mapei Research & Development Laboratories. Mixed with water, it becomes an easily trowellable mortar with good bonding strength, low slump and high grab so that it can be applied vertically without sagging, even holding heavy tiles.

3

4

The largest chandelier has a 10 m diameter and a 15 m height.

Mapei in Action For Marble and Flower Decorations

Several specialized companies and artisans from all over the world contributed to the construction of the Abu Dhabi Mosque.

The building features white marble which was laid both inside and outside, on the façades and the domes' external surfaces.

After extensive testing of several adhesives, Mapei'sTechnical Service Department recommended the use of ADESILEX P10 white adhesive mixed with 50% ISOLASTIC latex additive for bonding Macedonian marble mosaic tiles onto the GRC (glass reinforced concrete) domes.This adhesive system was chosen because it maintains deformability even under difficult external conditions.

When mixed with ISOLASTIC, the high performance cementitious adhesive ADESILEX P10 satisfies class S1's (deformable adhesive) requirements according to EN 12004 standard.

The Grand Mosque's inside areas and praying halls sport intricately designed floral and geometrical patterns typical of Islamic art on floors and columns. These decorations made with a variety of specially selected stones were bonded onto floors and columns with KERAPOXY, a high performance two-component epoxy adhesive complying with EN12004 as class R2.

KERABOND cementitious adhesive was used for bonding marble slabs and mosaic tiles.

5

For grouting the joints on both inside and outside walls and floors, KERACOLOR FF high performance, polymer-modified, water-repellent, cementitious grout in its brilliant white shade (colour 100) was applied after mixing with FUGOLASTIC liquid polymeric additive to improve its final characteristics.

MAPESIL LM, an odourless one-component, neutral cross-linking, silicone sealant was selected for sealing the control and expansion joints on the marble floors, again after extensive on-site testing.

Mapei is truly proud to have contributed, through its local subsidiary I.B.S. (Innovative Building Solutions) L.L.C., to such a magnificent structure which is definitely one of the prominent and important landmarks for Abu Dhabi, and indeed the UAE.

TECHNICAL DATA

Sheikh Zayed Bin Sultan Al Nahyan Mosque, Abu Dhabi (United Arab Emirates)
Period of Construction: 1995-2008

Period of the Intervention: 2006-2007
Intervention by Mapei: supplying products for laying marble, marble mosaics and specially selected stones on inside and outside surfaces (court yard floors, façades, domes, columns, floors, etc.)
Project: Halcrow (executive architects); Spatium Architects, Milan (interior design); Speirs and Major Associates, Edinburgh (lighting project)
Client: UAE Ministry of Public Works
Works Direction: Hill International
Contractor: ACC Sixconstruct J.V.
Laying Companies: Six Constuct, Al Hashim Marble and Fantini Mosaic
Laid Materials: marble slabs, marble mosaics, semi precious stones
Mapei Coordinators: Laith Haboubi and Naheed Younis, IBS L.L.C. (UAE)
Photos by: Francisco Fernandez, Adriana Spazzoli

MAPEI PRODUCTS

The products mentioned in the article belong to the "Products for Ceramic Tiles and Stone Materials" range. The technical data sheets are available at the web site: www.mapei.com. Mapei's adhesives for ceramics and stone materials conform to EN 12004 and have been awarded the CE mark in compliance with Annex ZA, standard EN 12004. Mapei grouts for ceramics and stone materials conform to EN 13888 standard. Almost all the Mapei products for laying floors and walls are also GEV-certified and have been awarded the EMICODE EC1 ("very low emission level of volatile organic compounds") mark by GEV. Mapei sealants comply with ISO 11600 standard.

Adesilex P10 (C2TE, CE EN 12004, EC1 R): white high performance cementitious adhesive with no vertical slip and extended open time for glass, ceramic and marble mosaic coverings.
Fugolastic: liquid polymeric additive for Keracolor FF, Keracolor GG and Keracolor SF.
Isolastic: flexible latex additive to be mixed with Kerabond, Kerabond T, Kerafloor and Adesilex P10.
Kerabond (C1, CE EN 12004, EC1 R): cementitious adhesive for ceramic tiles.
Keracolor FF (CG2, EC1 R): high performance, polymer-modified, water-repellent, cementitious grout with DropEffect® technology for joints up to 6 mm.
Kerapoxy (R2T, CE EN 12004, RG): high performance two-component acid-resistant grout and adhesive with no vertical slip for installing and grouting ceramic tiles and stone material (with joints over 3 mm).
Mapesil LM (ISO 11600, F-25-LM): odourless one-component, neutral cross-linking, silicon sealant for natural stone and ceramic tiles installed on a façade.

1

Mapei in the Netherlands

The office hosting the new subsidiary is in line with the Green Innovation strategy

On 25th June 2010, an opening ceremony was held at Mapei Nederland B.V.'s new premises in Almelo which include offices and a garden around them.
The ceremony was attended by the Dutch subsidiary's staff, its General Manager Maarten jan Leppink, the General Manager for Mapei Benelux, Aristide Mariotti, and several representatives of the mother-company Mapei SpA, including Giorgio Squinzi, CEO of the Mapei Group.
Mapei Nederland B.V. was founded on October 26th 2009, after a 10-year long presence in the Dutch market.
For several years the Group has distributed products for building and for installing ceramic tiles to retailers, flooring contractors and tile distributors. Originally the Dutch market was managed by Mapei Benelux, Mapei's Belgian subsidiary based in Luik and founded in 1997. In 2009 it was decided that, in order to be more successful in the Dutch market, a separate subsidiary had to be founded, which could better react to the Dutch market's characteristics (technical specifications, application methods, etc.).
The new subsidiary has a strategic position: Almelo is a town in the middle of a potential market of tile installers, building retailers, contractors, laying companies, etc.
Mapei Nederland B.V. became active as an independent operating company on January 1st, 2010, with the transfer of 10 Netherlands-based sales and technical employees to the office in Almelo. Today Mapei Nederland B.V. is active in the field of adhesives for ceramic tiles and stone materials, adhesives for resilient and textile materials, wooden floorings and products for renovation and repair of floor substrates. As Mapei has 15 products lines, Mapei Nederland B.V. has started to investigate the

Photo 1. Mapei Nederland's new headquarters at Almelo.
Photo 2. A scene from the opening ceremony of the new headquarters in the garden surrounding the offices.

2


3


4

Photos 3 and 4.
Views of some inside areas at Mapei Nederland B.V.'s headquarters.
Photo 5.
Maarten jan Leppink, General Manager of Mapei Nederland, and Giorgio Squinzi, CEO of the Mapei Group.

demand for some of these lines on the local market. It is to be expected that in 2011 at least one new product range will be introduced to the Netherlands.

A Positive Beginning

Despite the strong decrease in the demand for products for the building industry in the Netherlands, Mapei Nederland B.V. is proud to look back at a small growth in its sales in the first 6 months of 2010 (compared to the same period of 2009) and an increase in its market share in the floor covering and tile adhesives sector. An even bigger growth is expected in the next future. Mapei has no doubt that this also results from the opening of its new subsidiary based in the Netherlands and its strategy of supplying high quality products at competitive prices.

Furthermore, Mapei Nederland B.V.'s premises in Almelo enclose not only sales offices but also a training-center where since January many customers have been trained or discussed applications of products with Mapei staff. Mapei Nederland B.V. now consists of 18 staff, with 11 sales and technical people.

Mapei Nederland and Green Innovation

For many years Mapei Group has been supporting the thought of Green Innovation. Not only by word but also in real actions. Mapei's commitment to environment involves its buildings, products and processes, from reduction of wastes to the use of recycled materials.

The Company is a strong supporter of LEED (Leadership in Energy and Environmental Design) in the USA, Italy and other countries.

This is a voluntary, consensus-based standard for developing high-performance, eco-sustainable buildings. More than 150 Mapei products assist project designers and contractors create LEED certified projects, in compliance with the Green Building Council. They are identified by the Green Innovation logo featuring a green tree. Mapei also focuses on the use of trains instead of trucks to lower pollution.

Mapei Nederland B.V. has adopted Green Innovation in its own specific way. On June 25th 2010 it signed a contract for the next 5 years to support Stichting Nationale Boomfeestdag (the Dutch tree planting foundation) with a sponsor gift of 50,000 Euros per year to create a small forest called the "Mapei Green Innovation Forest". The money represents


5

6

7

8

9

Photo 6. From left on: Frank Tijhuis, CFO of Mapei Nederland, Maarten jan Leppink and Aristide Mariotti, General Manager of Mapei Benelux.
Photo 7. From left on: Marco Manzoni from Mapei SpA's Marketing Department, Adriana Spazzoli, Operational Marketing and Communication Director for the Mapei Group, Aristide Mariotti, Veronica Squinzi, Global Development Director for the Mapei Group, and Fabio Fenech, Mapei Export Manager for the Netherlands.

10

a percentage of each EMICODE EC1-certified product which is sold by Mapei onto the Dutch market. 'EC1 certified' stands for products with very low emission level of VOC (volatile organic compounds). It is the highest qualification of the Düsseldorf-based GEV (Gemeinschaft emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an independent certifying institute operating on an European scale. Mapei Nederland B.V. is already selling 22 EC1-certified products (such as ULTRAPLAN ECO, ULTRABOND ECO 520, ULTRABOND ECO S955 1K and ECO PRIM GRIP) on the Dutch market and the amount is rapidly growing. The Mapei Green Innovation Forest will be realized in close cooperation with Staatsbosbeheer (the Dutch Forest Authorities) and will have a surface of at least 5 hectares in 2015. The forest will be open to the public and will also be used for educational activities. On June 25th, 2010, during the opening ceremony Giorgio Squinzi unveiled a commemorative plaque mentioning the start of the Green Innovation Forest project next to the wallnut tree in the fruit tree garden in Mapei Nederland B.V.'s new premises. The new offices were designed following the Green Innovation's principles and with the goal of meeting the employees' needs and properly welcoming the customers. The complex hosts on


11

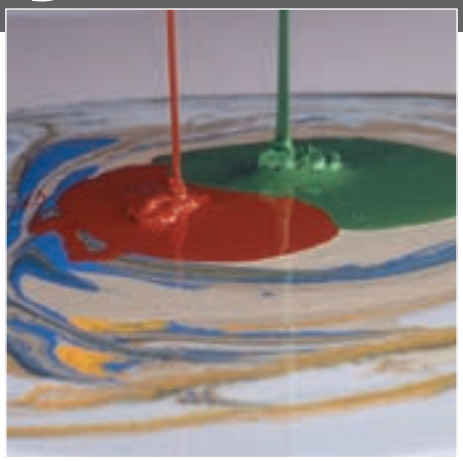

12


13

the ground floor the training centre which also includes areas for products displays and application sessions as well as for catering.
The toilettes show beautiful decorations made by using Mosaico+ glass mosaic and KERAPOXY DESIGN adhesive and grout mixed with MAPEGLITTER metallized coloured glitter.
The first floor features transparent façades and walls which allow employees and customers to have a clear and wide view of both inside and outside space.
The building has a 300 m² surface and hosts four sections devoted to offices, sales meetings, a library and a meeting room for customers or videoconferences.
As a token of its Green Innovation strategy, Mapei Nederland B.V. has also realized a fruit tree garden on its premises. It is a unique project on an office building park in the Netherlands. The fruit tree garden has the same surface as the building: 300 m². It contains 15 trees: apples, pears, prunes and wallnuts. This green area is available for the employees for breaks and meetings when the weather is fine. The fruits from the trees might be used for catering purposes and the trees help to reduce CO_2 emissions. Parking space is available for bicycles, allowing employees to go by bike. In a few words, this is a comfortable working place which is fully in line with Mapei's commitment to environment.

Photos 8. From left on: G.J.P. Jansen, Vice President of Stichting Nationale Boomfeestdag (the Dutch tree planting foundation), Maarten jan Leppink, Adriana Spazzoli and Giorgio Squinzi.
Photo 9, 10, 11, 12 and 13. Some scenes of the opening ceremony.

Mapefloor System



Application

Systems for resin floorings.

A complete range of epoxy and polyurethane floorings systems for industrial and civil environments, showrooms, shopping centres and supermarkets.

- Continuous surfaces without joints
- Water-repellent, hygienic and easy to clean
- Excellent mechanical resistance and resistance to chemical agents
- Available in several colour shades
- Very short application times
- Long-lasting

Photo by Sándor Bánvai and Mónika Barna

1

A Training and Research Centre in Budapest

Plenty of Mapei products were used in this new section of the Budapest University Faculty of Medicine

The brand-new building of the Training and Research Centre of the Semmelweis University of Budapest's Faculty of Medicine (SOTE) was inaugurated in November 2008. Constructed in public-private partnership, the building is high-tech and outstandingly modern in both its external appearance and inside equipement. On a total of 27,000 m² it contains research laboratories and study rooms (9,600 m²), with 25 student labs, five lecturing rooms (one with 300, two with 180 and another two with 80 seats) and seven seminary rooms within the educational area (3,000 m²). Moreover, there are offices for the central administration, a sport complex (400 m²), a restaurant, an elegant assembly hall with a gallery (2,600 m²) for great events.

Photo 1. In the gallery of the assembly hall ROLLCOLL and ULTRABOND ECO V4 SP adhesives were used for installing linoleum floorings, while the artistic floor on the ground level was made using ULTRATOP.

It was a great honour and achievement for Mapei Kft., the Group's Hungarian subsidiary, that the contractors opted for the Company's products for the substrate preparation and tile installation works of this huge undertaking.

Laying Resilient Floors

In the lecturing and study rooms, the laboratories and the gallery of the assembly hall Mapei products were used for substrate preparation and levelling prior to installating resilient floor coverings: PRIMER G was used for primering the substrate, PLANOLIT 315 for levelling the surfaces.

The inoleum floorings supplied by Forbo were installed by using ROLLCOLL rapid-setting universal adhesive in water dispersion and ULTRABOND ECO V4 SP solvent-free all-purpose acrylic adhesive in water dispersion, with extended open time. The use of the latter product made it possible to create interiors with no health hazard thanks to its very low emission level of VOC (volatile organic compounds).

AQUACOL T solvent-free ultra fast-setting synthetic polymer based adhesive in water dispersion, again with very low VOC emission level, was used in the offices and the library for bonding the custom-made Vorwerk carpet. ADESILEX LP double coat polychloroprene adhesive was used to

Photos 2, 3 and 4. Laying ULTRATOP self-levelling mortar on the assembly hall's flooring.
Photo 5. View of the artistic flooring after completion of the works.

bond the PVC skirtings.

Laying Ceramic Tiles Floors
Mapei products were also used for preparing the substrates and installing ceramic tile floors in the assembly hall, corridors and staircase.
ULTRAPLAN ultra-fast hardening self-levelling smoothing compound (for thicknesses from 1 to 10 mm) was employed for the levelling of a 233 m² flooring in the corridors and aula with thicknesses less than 10 mm. PLANOLIT 315 fast-setting self-levelling compound was used on a 315,200 m² area with thicknesses over 10 mm.

Some areas needed waterproofing treatment which was carried out in some sections with MAPEGUM WPS on 167 m² in the bathrooms, while MAPELASTIC was used on the openair terrace on the top of the building (700 m²) and, where needed, MAPEBAND waterproofing tape was applied on the expansion joints.
When installing the 22 showering trays TOPCEM PRONTO ready-to-use, pre-blended, normal-setting mortar was used to prepare the screeds. When installing tile coverings on floors and walls in the corridors, staircases and assembly hall KERAFLEX and KERAFLEX S1 adhesives were chosen for 30x30 cm (or smaller) porcelain tiles while KERAFLEX MAXI S1 was used for large-size porcelain tiles.
In the bathrooms ADESILEX P9 was used for installing tiles on both floors and walls. For grouting the tile joints KERACOLOR FF FLEX cementitious mortar, (which is distributed by Mapei Kft. on

IN THE SPOTLIGHT

MAPELUX LUCIDA
It is a shiny, metal-filled, high-resistance, cross bond floor wax used inside buildings for civil use, such as shops, showrooms, apartments, offices, etc. for protecting floors made using the MAPEFLOOR SYSTEM subject to particularly intense use, or to make maintenance operations of the finishing treatment on floors made using ULTRATOP easier.
MAPELUX LUCIDA is characterised by high resistance to traffic and frequent cleaning, even if strong detergents are used. Thanks to the product's cross bond which binds all the components, the film is easy to clean and marks and stains left by traffic may be removed by a simple washing cycle.
MAPELUX LUCIDA is extremely fluid and is easy and quick to spread on the surface.

MAPEFLOOR FINISH 52 W
It is a solvent-free, two-component, low-yellowing polyurethane finishing product in water dispersion, specially formulated to form a transparent, semi-opaque, wear-resistant protective finishing coat on epoxy products, such as MAPEFLOOR I 300 SL and MAPEFLOOR I 500 W.
This product is particularly suitable as a finishing coat on cementitious systems such as ULTRATOP, and as a dust-repellent and anti-oil treatment for concrete and natural-finish concrete floors, without leaving the surface with a "wet-look" finish.
Thanks to its good penetration properties when applied on cementitious substrates, MAPEFLOOR FINISH 52 W may also be used for protecting concrete structures subject to light attack by chemical agents.


4

the Hungarian market and is the counterpart of KERACOLOR FF), was used.
MAPESIL AC was also used in the bathrooms for sealing expansion joints on the walls covered with large-size porcelain tiles.

The Installation of the Artistic Flooring

One most spectacular elements of the building is the artistic floor of the gigantic assembly hall designed by Antal Örkény.
The floor's pattern base structure is made up of points randomly generated by a computer.
The points are interconnected through segmentary lines. The irregular polygons formed by these lines have different soft colors.
The unique floor pattern is entitled "Connection Network" and was made with ULTRATOP ultra-quick setting self-levelling mortar.
The floor was constructed on two surfaces: 1,000 m² of industrial concrete and 500 m² of screeds. The screeds were made with TOPCEM PRONTO ready-to-use, pre-blended, normal-setting mortar.
MAPEFLOOR H02 epoxy primer, which is distributed on the Hungarian market by Mapei Kft., ensured the necessary levelling between the industrial concrete surface and the existing screed.
Before applying ULTRATOP, the entire surface was treated with PRIMER SN two-component, solvent-free epoxy filling primer and dusted with 0.4–0.8 mm sand. After removing excess sand, a wooden moulding was fixed with dubels in order to allow the differently colored ULTRATOP surfaces to be properly cast into shape.
The subtly colored sections of the floor were created with ULTRATOP according to a special design in a 15 mm layer, reduced to 12–13 mm by later rubbing.
Upon removing the moulding, its place was filled up with white ULTRATOP. The final surface of the glossy and grainy-structured floor was achieved by burnishing and polishing.
MAPEFLOOR FINISH 52 W polyurethane finishing compound and MAPELUX LUCIDA shiny, metal-filled wax were then used to obtain the final appareance which characterizes the floor.

This article was taken from Mapei Krónika, no. 22., the in-house magazine published by Mapei Kft., which we would like to thank.

TECHNICAL DATA

Semmelweis Training and Research Centre (Sote), Faculty of Medicine, University of Budapest (Hungary)
Year of Construction: 2008

Year of the Intervention: 2008
Intervention by Mapei: supplying products for laying ceramic tile, resilient and cementitious floorings
Client: SE Campus Ltd., Semmelweis University
Contractor: Arcadom Zrt.
Works Direction: Tamás Noll, M-Teampannon Architecture and Engineering Kft.
Project: Rózsa Csavarga; Antal Örkény for the artistic flooring
Laying Companies: Ratskó-Bau Kft. for the ceramic tile floorings; Metacor Kft. for the cementitious flooring; Vizi & Co. Kft. for the resilient floorings
Mapei Distributor: Vizi & Co. Kft.
Mapei Co-ordinators: Mónika Barna, László Herczig and Attila Mátyus, Mapei Kf. (Hungary)

MAPEI PRODUCTS

The products mentioned in the article belong to the "Products for the Installation of Resilient, Textile and Wood Floor and Wall Coverings" and the "Products for Ceramic Tiles and Stone Materials" ranges.
The technical data sheets are available at the web site: www.mapei.com. Almost all the Mapei products for laying floors and walls have been awarded the EMICODE EC1 ("very low emission level of volatile organic compounds") mark by GEV. Mapei's adhesives for ceramics and stone materials conform to EN 12004 and have been awarded the CE mark in compliance with Annex ZA, standard EN 12004. Mapei grouts for ceramics and stone materials conform to EN 13888 standard. Mapei products for the protection and repair of concrete surfaces and structures have been awarded the CE mark in compliance with EN 1504 standard. Mapei levelling and smoothing compounds and pre-blended mortars for screeds conform to EN 13813 standard and have been awarded the CE mark in compliance with annex ZA, standard EN 13813.

Preparing the substrates:

Mapeband: rubber tape with alkali-resistant fabric for cementitious waterproofing systems and liquid membranes.
Mapefloor H02: general epoxy primer. N.B. The product is distributed on the Hungarian market by Mapei Kft, and is the local counterpart of KERACOLOR FF.
Mapegum WPS: flexible, liquid membrane for waterproofing bathrooms and internal shower booths.
Mapelastic (CE EN 1504-2, coating **(C)** principles **PI**, **MC** and **IR, EN 14891):** two-component flexible cementitious mortar for waterproofing balconies, terraces and bathrooms.
Planolit 315: fast-setting self-levelling compound. N.B.This product is distributed on the Hungarian market by Mapei Kft.
Primer SN: two-component, solvent-free epoxy filling primer.
Topcem: special hydraulic binder for normal-setting, fast drying (4 days) and controlled shrinkage screeds.
Topcem Pronto (CE EN 13813, CT-C30-F6 $A1_{fl}$): ready-to-use, pre-blended, normal-setting mortar with controlled shrinkage for fast-drying screeds.
Ultraplan (EC1, CE EN 13813, CT-C30-F7 $A2_{fl}$): ultra-fast hardening self-levelling smoothing compound for thicknesses from 1 to 10 mm.

Laying resilient floorings:

Adesilex LP: double coat polychloroprene adhesive in solvent for the installation of rubber floor and wall coverings.
Rollcoll: rapid-setting universal adhesive in water dispersion for the installation of vinyl floor and wall coverings, for bonding textile wall and floor coverings with all types of backs.
Ultrabond Eco V4 SP (EC1): solvent-free all-purpose acrylic adhesive in water dispersion, with extended open time and very low VOC content for the installation of rubber, PVC, vinyl, polyolefin flooring, linoleum and carpet.

Laying ceramic tile floors:

Adesilex P9 (C2TE, CE EN 12004, EC1 R): high performance cementitious adhesive with no vertical slip and extended open time for ceramic tiles.
Keracolor FF Flex (CG2, EC1 R): cementitious mortar for ceramic tiles. N.B. The product is distributed on the Hungarian market by Mapei Kft. and is the local counterpart of KERACOLOR FF.
Keraflex (C2TE, CE EN 12004, EC1 R): high performance cementitious adhesive, with no vertical slip and with extended open time for ceramic tiles and stone material.

Laying cementitious floorings:

Mapefloor Finish 52 W: two-component, non-yellowing, polyurethane finishing product in water dispersion for dust and oil-resistant treatments.
Mapelux Lucida: shiny, metal-filled, high-resistance, double-reticulation floor wax.
Ultratop (EC1, CE EN 13813, CT-C40-F10 A9-$A2_{fl}$): ultra-quick setting self-levelling mortar based on special hydraulic binders, for abrasion-resistant floor coverings applied at a thickness of 5-40 mm.

Superplasticizers: past, present and future

From an accidental discovery a revolution in building technology and new solutions for environmental protection

Text by Giorgio Ferrari* and Francesco Surico* - Translation by Vincenzo Russo*

Superplasticizers: the Past

It was the 1930s, and in the United States Ford and General Motors were committed to manufacturing faster and more powerful cars. Roads were widened and outside of urban areas three-lane highways were built: the central lane was devoted to overtaking for cars coming from both directions.

The danger created by such a road design became more evident every day, to the point that, due to the high occurrence of head-on collisions, the central lane would soon be better known as the "suicide lane." In trying to minimize the risk of fatal car wrecks, the Federal Highway Administration (FHWA) thought about changing the passing lane by modifying the color of the concrete pavement through the use of charcoal (carbon black). The first attempts were unsuccessful because the charcoal did not mix well with cement and the resulting color was not uniformly distributed on the surface, but instead formed isolated spots. Moreover, the exceedingly high quantity of charcoal used in the slurry caused a worsening in the development of the mechanical properties of the concrete. Trying to solve these problems, George Tucker, a researcher at the chemical manufacturing company Dewey & Almy, proposed the use of a dispersant based on naphthalenesulfonate condensed with formaldehyde, which turned out to be successful. In fact, thanks to the action of these molecules, the charcoal was able to perfectly distribute itself in the cement mix, providing the pavement with a well-defined and homogeneous color, even at low concentrations of dye. The biggest surprise, though, came when the tester at FHWA discovered that the central lanes made with charcoal and the new additive were characterized by mechanical strengths higher than those of the side lanes that did not contain any additives.

It was not hard to understand that the new additive, which meanwhile had reached commercial development under the name of TDA (Tucker Dispersing Agent), was not only effective as a dispersant for charcoal but also acted on the cement.

In fact, checks on construction sites pointed out that castings for the central lanes required much less water in the mix than those for the side lanes [1].

Thanks to the addition of TDA it was possible to create a fluid concrete with little mixing water that was easy to cast and had excellent mechanical properties in the hardened state: the first superplasticizer had just been born!

Tucker's invention was patented [2] and this gave rise to a number of studies of the effect of TDA on cement mixes.

The American Society for Testing Materials (ASTM), which had been hesitant to allow the use of any additive in cement, on the basis of a series of in-depth studies by the National Bureau of Standard (known today as NIST, National Institute of Standard and Technology), declared the use of TDA in cementitious systems safe [3]. During the 1960s and the 1970s researchers in the main companies in the field developed the so-called

1

2

second-generation superplasticizers: Kenichi Hattori, at Kao Soap in Japan modified the synthesis of the naphthalenesulfonate (BNS) discovered by Tucker, significantly improving its dispersant and air entrainment properties [4], while Alois Aignesberger, at SKW, Germany, synthesized an accelerating superplasticizer based on melamine (MS), which was particularly effective in cold climates [5].

In 1975, professor Mario Collepardi, at that time teaching at the University of Ancona (Italy), developed "rheoplastic concrete," characterized by high fluidity (class S5, slump ≥ 22 cm) and not subject to segregation. [6]. Thanks to the high dosage of naphthalenesulfonate-based superplasticizers and to the accurate study of mix-design, this concrete could be pumped for long distances without segregating and allowed the realization of complex cast structures, minimizing the need for concrete vibration.

In the 1980s superplasticizers became essential components of fluid and superfluid concrete and the benefits of their use were scien-

Photo 1. Casting the foundations of Calatrava's bridge in Venice. The self-compacting concrete guaranteed the complete filling of the rebar network without the need to vibrate (picture by Ettore Menegaldo, Mapei).
Photo 2. The anti-seismic housing units under construction for the C.A.S.E. project (picture by Prefabbricati Sicap) in the Italian city of L'Aquila after the earthquake of April 2009.

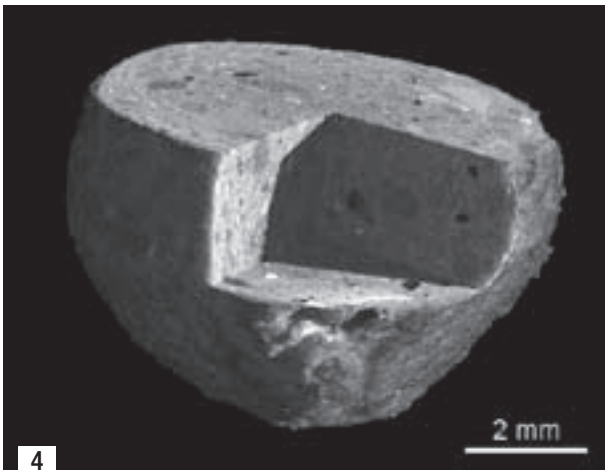
tifically proven with respect to the improvement of mechanical properties and durability of concrete. The study of the mechanisms of acting of superplasticizers led to the development of new molecules, with better concrete-dispersing properties. Nonetheless, the new products that were proposed, in addition to being costly, caused an excessive inclusion of air bubbles in the concrete which resulted in poor mechanical strengths and a detrimental effect on the surface of cast structures. For these reasons, the new superplasticizers were not accepted by the market, which continued to prefer the naphthalenesulfonate-based ones.

The New Chemistry of Superplasticizers

In 1992, in the Mapei laboratories, a new monomer was developed that utilized polyglycol ethers, raw materials up to then exclusively utilized in niche sectors, such as detergents and cosmetics.
This monomer, which was a polyglycol ether methacrylate, became the fundamental ingredient of a new low-air-entrainment superplasticizer that finally allowed the manufacture of concrete with an excellent conservation of workability without delaying the development of mechanical strength.
Up to then, in fact, maintaining the workability necessary to allow transport of concrete over long distances and in hot climates had been possible only through the addition of substances that hindered cement hydration (lignosulfonates, gluconates), slowing down concrete hardening, and delaying the demoulding process. The new additive, thanks to the entirely new molecular structure and mechanism of action, was able to effectively disperse the cement grains without retarding hydration. Moreover, the new molecule was much more effective than naphthalenesulfonate and could be used in significantly lower doses, rendering it notably more convenient in terms of costs. Last but not least, the new additive did not contain formaldehyde, a carcinogenic substance that was present in both

naphthalenesulfonate and melamine sulfonate [7].
An international patent was issued for the new product which was launched in 1993 under the name of MAPEFLUID X404 [8], becoming the first polyether carboxylate produced and distributed on the European market and the progenitor of the third-generation superplasticizers, based on an entirely new chemistry. The intense research work carried out in the Mapei laboratories led to a better understanding of the fundamental mechanisms that govern the interaction between additives and cement and to the perfect control of the synthesis and structure of the polymers that are the basic constituents of the DYNAMON superplasticizer family. The DYNAMON line provides a complete range of superplasticizers that cover all the needs of the concrete market.
Photo 1 shows the realization of the foundations of the Ponte della Costituzione (Constitution Bridge), the fourth bridge over the Grand Canal in Venice, better known as Calatrava's Bridge. The casting was completed using a self-compacting concrete (Rck > 65 MPa, w/c = 0.45, DYNAMON SP1 superplasticizer and VISCOFLUID SCC/10 viscosity modifying agent, both in 5.5 kg/m^3 dosage).
The superplasticizers of the DYNAMON line were utilized for the C.A.S.E. (Complessi Antisismici Sostenibili Ecocompatibili Sustainable Eco-compatible Anti-seismic Complexes) project planned by the Italian Government for the reconstruction of the city of L'Aquila, destroyed by an earthquake on the 6th of April 2009 (photo 2). In less than 120 days, 187 new buildings were constructed at 19 locations around the city, making use of cutting-edge anti-seismic construction technologies.
The new apartment homes were built on concrete slabs which were held by columns equipped with shock absorbers capable of freeing the slabs from oscillations generated by telluric movements. Overall, more than 215,000 m^3 of concrete with an average Rck of 40 MPa were cast, 115,000 m^3 of which were self-compacting concrete, manufactured by different pre-casting companies under the direction of a single project head. Mapei contributed to the realization of the C.A.S.E. project with the following additives: DYNAMON SR 912, DYNAMON SR3, MAPECURE SRA 25, VISCOFLUID SCC/10 and VISCOSTAR 3K.


3



4

Photo 3. The head of the tunnel boring machine utilized for the construction of Line C of Rome's subway system (picture by Alessandro Boscaro, Mapei-UTT Group).
Picture 4. Microtomography image of an HPSS aggregate. The virtual section of the granule shows an extremely compact low-porosity structure, made possible only through superplasticizers (picture by Matteo Parisatto, Geoscience Department, University of Padua, Italy).

The Future of Superplasticizers

The search for new superplasticizers and the development of new building technologies are closely interdependent activities. In fact, the research of new polymers has to respond to the construction industry's need for ever more reliable, quick and economical technologies and this can, at the same time, pave the way to the solution of not yet solved problems or to new applications. The use of additives of the DYNAMON line, as well as VISCOFLUID SCC/10 and VISCOSTAR 3K, for the production of self-compacting concretes has allowed the development of a revolutionary technology in the foundation poles sector that is faster and more environmentally friendly. When using this technology, concrete no longer fills up the rebar cages. Instead, the cages are lowered into holes already filled with concrete. In this way, thanks to the rheological properties and the high viscosity that characterize concrete, it is possible to eliminate the use of bentonite, which poses an environmental problem, and lowering the tied rebar beam cage becomes noticeably easier [9]. The tunnel boring machine (TBM) system represents the state of the art of the tunnel boring technology (Photo 3). This technology allows a complete mechanization of the boring phase and the simultaneous realization of the final lining with precast self-supporting segments produced on site. The most advanced machines are able to move forward at a rate of over 10 m per day. The production of the segments can become the limiting step in the process, and a high productive capacity is therefore necessary to support the digging activity. The new additives of the DYNAMON NRG series have been studied to develop high mechanical strengths at low curing times. This property, which derives from the utilization of special monomers that promote the cement hydration process without decreasing the workability of the mix, allows a considerable reduction in the time necessary to take off the formworks with an increased production capacity. The use of these superplasticizers allows the production of precast segments with mechanical strengths over 23 N/mm^2 after only 4 hours of steam curing at 60 °C, a performance that is impossible with the traditional superplasticizers.
The use of concrete in hot climates requires particular devices to prevent high temperatures from reducing the workability of the fresh mix below the allowed levels. In extreme cases, typical of the climatic conditions of Middle Eastern countries, the tempera-

ture of fresh concrete can get over 30 °C, even though ice chips are used to replace mixing water and, sometimes, liquid nitrogen is injected to cool down the mix. In these conditions, normal retardant additives are not suitable, since they have to be used at a dosage that severely damages mechanical strengths at low curing times. To solve this problem, the Mapei laboratories developed a new line of products, the CHRONOS (Chemically Reactive Nanostructural Superplasticizers) superplasticizers, that modify their chemical structure over time and activate in a progressive fashion, making up for the natural reduction of consistency of fresh cement. With CHRONOS VF 202, at 1.2% dosage, it was possible to manufacture concrete in critical conditions (27–29°C) maintaining a slump of 230 mm for 3 hours, without any delay in the development of mechanical strengths after 24 hours. The CHRONOS products are the first example of "smart superplasticizers," a new generation of "sensitive" polymers that, once added to concrete, modify their chemical structure over time depending on the environmental conditions and the task they are required to accomplish.

The future of superplasticizers is also represented by the development of new applications in non-conventional sectors.

One of the non-traditional fields of cement use is waste treatment, which Portland Cement Association (PCA) lists as one of the 16 main reasons of cement consumption in North America [10]. In the process of solidification/stabilization (S/S), cement is mixed with waste of various nature, to provide the waste with a better dimensional stability, "trap" the contaminants, minimize the leaching of toxic substances and finally improve the environmental compatibility of the waste.

To enhance the solidification/stabilization treatment, the Mapei laboratories developed the HPSS (High Performance Solidification Stabilization) system, an innovative process that makes use of the water-reducing power of superplasticizers to achieve environmental protection. With this process, contaminated land and sediments in the areas that undergo soil remediation are mixed with cement and tailor-made third-generation superplasticizers to afford granular cementitious conglomerates using the least amount of mixing water [11, 12]. The artificial aggregates so produced are characterized by low capillary porosity and low contaminant leaching levels. Moreover, thanks to the low water/cement ratio, these inert materials are able to satisfy the standards for their reuse in construction and civil engineering. With the HPSS process, the benefit of recycling contaminated sediments and lands, without sending them to landfills, is associated with the advantage of producing artificial aggregates, reducing the use of gravel pits and preserving the landscape. The density and compactness of an HPSS aggregate are shown in picture 4, obtained through computerized axial microtomography by the research group of professor Gilberto Artioli, at the Geoscience Department of the University of Padua (Italy), who received a grant from Mapei for the long-term project of developing knowledge concerning cement chemistry.

Mapei found in the application of the HPSS system to soil remediation a new possibility of developing a market for the superplasticizers. It is sufficient to think that, according to ISPRA (Istituto Superiore per la Protezione e la Ricerca Ambientale - Superior Institute for Environmental Protection and Research), in Italy there are more than 13,000 potentially contaminated sites, 4,400 of which have already been declared to be contaminated.

To these figures one should add the number of abandoned mining sites, which is estimated to be over 1,500, and the areas included in the 54 Italian national interest sites, that account for more than 3% of the entire surface of the Italian country; furthermore, over 170,000 hectares of Italian marine port areas have been found to be contaminated [13].

Mapei's HPSS system has already been applied successfully by Mapintec, a joint-venture between Mapei and Intec for the commercialization of this technique, to three soil remediation sites and it has already been approved for future amelioration projects, including the Moranzani Project, which involves the treatment of over 100,000 m^3 of sediments in the Venice lagoon to produce HPSS aggregates. Based on this data, it is possible to predict a future growth of the application of superplasticizers in the framework of environmental protection which will account for a significant portion of the market of these products.

The history of superplasticizers proves that these polymers have been one of the key factors for the development of new building technologies and represent the key to the development of environmental technologies that allow a safe reuse of contaminated lands and sediments.

The synthesis of new reactive polymers, the "smart superplasticizers," that are able to modify their chemical structure based on the concrete environment and develop new functionalities over time, represents the current efforts of Mapei's research in this field, with the goal of constant improvement of the technology and properties of concrete. For Mapei the future of superplasticizers has already begun!

Mapei Research & Development Laboratories

References

1. V. Dodson, *Concrete Admixtures*, Van Nostrand Reinhold, 1990, pp. 42-44.
2. G.R. Tucker, Dewey & Almy, "Concrete and Hydraulic Cement", US patent 2,141,569, 1938.
3. N.R. Strohman, "Cement Additives. From TDA to Polyfon T", *Standardization News*, ASTM International, November 2002.
4. K. Hattori and T. Yamakawa, Kao Soap, "Dispersing Composition", US patent U.S. 3,686,133, 1972
5. A. Aignesberger and P. Bornmann, Suddeutsche Kalkstickstoff Werke, "Process for Preparing a Sulfite Modified Melamine Resin Solution", US patent 3,941, 734,1976.
6. M. Collepardi, "Il Calcestruzzo Reoplastico" (Rheoplastic Concrete), *Il Cemento (The Cement)*, 1975, No. 4, pp 195-200.
7 "Formaldehyde, 2-Buthoxyethanol and 1-tert-Butoxypropan-2-ol", *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans*, Volume 88, 2006.
8. T. Cerulli, P. Clemente, M. Collepardi, G. Ferrari, P. Zaffaroni, Mapei, "Zero Slumploss Superplasticizer", U.S. patent 5,362,324, 1994.
9. A. Finotto, "Cultura Autocompattante" (Self-Compacting Culture), *Perforazioni & Fondazioni (Boring and Foundations)*, pp. 109-114, January 2008.
10. Portland Cement Association, "Third Quarter 2009 Survey of Portland Cement Consumption by User Groups", 2009.
11. G. Ferrari, R. Pellay, Mapei-Intec, "Materiali Litoidi Granulari" (Lithoidal Granular Materials), Italian patent 0001365290, 2009.
12. G. Ferrari, R. Pellay, Mapei-Intec, "Lithoidal Granular Materials", application for International patent WO 2006/097272, 2006.
13. Ministero Italiano dello Sviluppo Economico (Italian Ministry for Economic Development), *Programma Straordinario Nazionale per il Recupero Economico Produttivo di Siti Industriali Inquinati* (Italian National Extraordinary Programme For Economical and Production Recovery of Contaminated Industrial Sites), March 2008.


1


2


3

Bois hydroelectric power station

Mapei products were used for a unique building site in the heart of Mont Blanc

Since 1973, a hydroelectric power station is located under the biggest glacier in France know as “Mer de Glace” (Sea of Ice).
Thanks to the snowmelt, the Bois hydroelectric power station owned by the EDF company has an annual production rate of 115 million kW/h, enough to supply a small town of 50,000 inhabitants. 95% of the electricity is produced during the 7 months of ice melt. For a number of years, however, global warming has been speeding up this process. In order to face up to the reduction of the glacier, EDF decided to modify the plant and move the water-captation facilities to a higher altitude. Mapei has supplied a number of products for this impressive underground project, a marvel of modern technology, to preserve the area’s extraordinary natural surroundings and the unique hydroelectric power station.

France’s Largest Glacier is in Danger

With an overall length of 12 km, a surface area of 40 km^2 and 4 billion m^3 of ice, the “Mer de Glace” is the largest glacier in France. Its famous ice cavern attracts more than 300,000 visitors every year which use the rack railway to tour this enormous translucent tunnel. Unfortunately, this is an attraction which is currently under threat. In fact, according to researchers from the Laboratory of Glaciology and Geophysical Environment (LGGE) in Grenoble (France), the glacier shrinks by around 30 metres in length and 5-10 metres in thickness every year.
Because of this exceptional thaw, EDF has undertaken a commitment to find a solution to extend the service life of the hydraulic plant by moving the original captation site. After carrying out in-depth research of the zone, the company decided to move the new site 1,000 m further up the mountain to a point where the glacier is still around 130 m thick, which will enable the plant to exploit the glacier for several more decades.

A Unique Hydroelectric Power Station

In service since 1973, the Bois power station is almost unique in the world. In fact, there are very few power stations of this type: the Emosson plant, also in Vallorcine in Upper Savoy, which uses water from the Argentière and Tour glaciers (both belonging to the Mont Blanc massif) and a further two similar plants in Norway.
The operating principle is as follows: the captured water is channelled into a tunnel and then made to flow into a well around 300 m deep. The force generated by the falling water produces 100% renewable energy: 3 m^3 of water

Photo 1. The entrance to the muck disposal gallery.
Photo 2. The stairway on the site with its 320 steps and 45° slope, and the adjacent elevator used to transport materials.
Photo 3. The Aiguille Verte (1.422 m high) in the Mont Blanc complex.
Photo 4. A view of the Mer de Glace glacier.

4

derived from melted snow produces approximately 2 kW/h.
The Bois underground power station is perfectly integrated into the landscape and does not compromise the natural beauty of Mont Blanc, a site under environmental protection. Site activities, which are still ongoing, also have a low impact on the natural environment and tourist activities of the glacier. In fact, EDF is particularly careful about reducing outdoor activities to a minimum and not leaving the tools and equipment used on view.

An Exceptional Underground Site

This exceptional site requires meticulous organisation and special logistics, because at an altitude of 1500 m, and with extremely low temperatures during the winter, conditions are particularly hard and reaching the site is particularly arduous. In fact, those who work on the site use a private cable-car while the materials are mainly transported by helicopter.
Each trip to and from the site for the personnel lasts 3 minutes. After getting out of the cable-car, they have to go through a tunnel 1 km long, either on foot or by bike, and then climb 320 steps roped together, before reaching a platform which marks the starting point of the 2 new tunnels under construction. In collaboration with mountain guides from nearby Chamonix, the work squads from the construction company use technicians specialised in working at high altitudes. Professional miners are also involved in the project, and work goes ahead non-stop 24 hours a day, 7 days a week and 365 days a year.
In June 2008, a first muck disposal tunnel was opened to have access to the outside. Then, between January and April 2009, a temporary pipe line was made to

Photo 5. Helicopters are used to transport around 40 big-bags to the site every hour.
Photo 6. The platform at the heliport where the big-bags of MAPESHAFT BS 15 are picked up.
Photo 7. The existing muck disposal tunnel which leads to the initial water captation point.

IN THE SPOTLIGHT

MAPESHAFT BS 15

It is a pre-mixed cementitious product, made up of pozzolanic cements, selected aggregates and special additives, specifically designed to be applied for casting floorings and other accessory structures, especially in tunnelling projects. It is particularly suitable for casting floorings even with weak gradients; casting every concrete structure in a tunnel, such as walls, partitions, etc.; repairing concrete structures.
The particular hydraulic binders contained in MAPESHAFT BS 15 make the product resistant to sulphates and thereby increase the durability. After adding water, it gives rise to a concrete with medium fluidity and controlled rheology. According to **EN 12350/2**, the concrete prepared with MAPESHAFT BS 15 has a fluidity of **class S4** for at least 30 minutes (the workability maintained is significantly influenced by external temperatures during the product application). The concrete has a constant development in the mechanical strength culminating in Class R_{ck} = 30.

8

feed the power station while work was being carried out. Since May 2009, a survey tunnel is being dug in order to study and establish the exact position for the future captation point for the water.
The digging of the second tunnel started in June 2009, to connect the new captation point with the power station as soon as possible.
The 2,400 m tunnel has been excavated in the rock using mainly explosives. Below the ice, on the other hand, the survey tunnels are being excavated using jets of hot water.

Mapei Products Specially Developed For This Project

Mapei's UTT (Underground Technology Team) division has developed two products specifically for this site: MAPESHAFT BS 15 and MAPESHAFT BS 15 CHF.
MAPESHAFT BS 15 is a pre-mixed, ready-to-use concrete characterized by controlled rheology and fluidity and high resistance to sulphates.
After adding water, it forms a high-strength, durable class S4 concrete which remains fluid for at least 30 minutes.
MAPESHAFT BS 15 CHF is a ready-to-use, pre-mixed, controlled-rheology concrete.
The hydraulic binders contained in the product make it highly resistant to sulphates and highly durable. After adding water, it also forms a class S4 concrete which remains fluid for at least 30 minutes. The two types of concrete are transported by helicopter in big-bags and then mixed using a mixer located underground in a specially created hollow.
They are then transported into the tunnels to build the foundations, the service zones adjacent to the tunnels (such as the canteen and maintenance areas) and other parts of the structure, such as the roof of the tunnels and the water-tight doors between the tunnels, which are fixed on frames made by anchoring MAPESHAFT BS 15 CHF.
When the work is completed, the service life of the plant and production of hydroelectric energy will be extended, whereas if the Bois plant was to be abandoned, the French energy network would be deprived of an important source of renewable energy.

This article was taken from "Mapei & Vous", issue n. 28, the in-house magazine published by Mapei France, the French subsidiary of the Mapei Group, whom we kindly thank.

Photo 8. A view of the Aiguille Verte and Aiguilles du Dru mountains in the Mont Blanc complex.

TECHNICAL DATA

Bois Hydroelectric Power Station, Upper Savoy (France)
Period of Construction: 1973

Period of the Intervention: 2008 - 2011
Intervention by Mapei: supplying products for the concrete mix for building the tunnels and other elements (such as the water-tight doors)
Client: EDF Unité de Production Alpes, Grenoble (France)
Project: SPIE Batignolles TPCI
Works Director: EDF Centre d'Ingénierie Hydraulique, Chambery (France)
Contractors: SPIE Batignolles TPCI
Mapei Distributor: Brian Perry Civil
Mapei Co-ordinators: Christian Lafond and Jérôme Darras (UTT Mapei France), Giorgio Tansini (UTT Mapei SpA, Italy), Francesco Surico (UTT Lab, Mapei SpA, Italy), Emanuele Della Pasqua (VA.GA.)

MAPEI PRODUCTS

The products mentioned in this article belong to the "Admixtures for Concrete" and "Products for Underground Constructions" ranges. The technical data sheets are available at the web site: www.mapei.com.
Mapeshaft BS 15: is a pre-mixed, ready-to-use concrete characterized by controlled rheology and fluidity and high resistance to sulphates.
Mapeshaft BS 15 CHF: is a pre-mixed, ready-to-use concrete characterized by controlled rheology and fluidity and high resistance to sulphates.

Parma Football Club

Synthetic grass in the club colours of blue and yellow for training the team

A new and evolving material is making its mark in the world of sports facilities: synthetic grass is a solid and realistic alternative to playing fields made of natural grass. This is a growing industry all over the world, which Mapei has been following ever since it first came to the fore, promoting its own increasingly developed installation systems and relying on long-term experience in the realm of resilient materials. Thanks also to the help from the Mapei Sport centre (located in Castellanza, Province of Varese, Northern Italy) and working with leading manufacturers of synthetic grass, Mapei has committed not only to developing products and systems based on cutting-edge technology but also to carrying out careful technical-performance assessments of the synthetic turf-adhesive system. This innovative material has plenty of benefits: synthetic grass overcomes certain problems connected with the use of natural grass, such as maintenance costs and weather-related problems, particularly during the winter months.

In actual fact, one of the main benefits of playing fields made of artificial turf is how they handle extreme weather conditions, meaning the fields are never out of action for long periods.

1

Photo 1. Parma Football Club's new regulation size training field for 11-a-side football is made of synthetic grass.

Blue for the Pitch and Yellow for the Lines

The above-mentioned advantages are the reason why Parma Football Club, which plays in Italy's top division, has chosen this material for constructing a standard foot-

ball field and a seven-a-side pitch (for special skill training exercises) at its training centre in Collecchio (in the Province of Parma).
Mapei played a major part in this enterprise, supplying ULTRABOND TURF PU 1K, the ideal product for meeting the requirements stipulated by the manufacturer of the synthetic grass, Unieco Sport.
Unieco Sport, which is part of the Unieco Group (whose headquarters are based in Reggio Emilia, Italy), is involved in designing and constructing sports facilities, as well as having its own special manufacturing unit for synthetic grass.
The company, which was also the contractor and builder, supplied two types of synthetic grass surfaces. In the case of the full-size pitch for 11 players, it was decided to opt for 620 MONO TOP artificial turf, the latest generation of monofilament yard. This is a 11,500 dtex, 120 micron, 12,800 stitch/m² yard, composed of prefabricated rolls made of special fibres which are resistant to UV rays and woven with a very special primary support. It has been stabilised using quartz-based sand and with green rubber infills.
On the other hand, 420 MONO TOP, a blue-coloured extruded polyethylene monofilament resistant to UV rays has been used for the seven-a-side pitch. This material has a dtex of 11,500, a thickness of 180 micron and a tufted texture of 10,880 stitch/ m². It also has a special waterproof latex spread over its bottom side serving drainage purposes.
The colour blue was chosen for the synthetic grass and colour yellow for the lines because they are Parma football club's official colours. The stabilising infill was made from quartz-based sand and blue-coloured rubber.
Works on both playing fields followed the same procedure. After levelling the existing substrate, a waterproofing membrane was installed together with a drainage system made of longitudinal channels.
Having completed these preliminary operations, the synthetic grass was installed by laying down the turf panels and bonding them onto a special stabilised geo-textile seaming tape using ULTRABOND TURF PU 1K, a one-component polyurethane adhe-

Photo 2. Laying out and bonding the grass surfaces using ULTRABOND TURF PU 1K required stabilised geo-textile seaming tapes.
Photo 3. A stage in the bonding of the synthetic grass surface using ULTRABOND TURF PU 1K, one-component polyurethane adhesive with low emissions of volatile organic compounds.
Photo 4. Overall view of the new 11-a-side pitch made of synthetic grass.

5

6

sive for bonding synthetic grass surfaces with extremely low emission level of volatile organic compounds (awarded the EMICODE EC1 certification by GEV). Ideal for turf layers who tend to be allergic to epoxy or epoxy-polyurethane products, ULTRABOND TURF PU 1K is particularly useful for bonding at low temperatures and, since it is an one-component ready-to-use adhesive, it does not require the addition of a catalyser to make it easier to use, so that blending errors are avoided.

The installation of the synthetic grass surfaces continued with the positioning of a 10 cm-wide white line for the 11-a-side football pitch and 8 cm line for the seven-a-side pitch. The infill was made using quartz-based sand for the first layer and green/blue granular rubber for the second layer as a high-performance infill.

Work was completed by installing the concealed irrigation system, metal perimeter fencing and nylon elevation.

The pitches, created in record time in 2009, appear to have been very useful to Parma's football players, because (perhaps partly due to the intense usage they made of it during the winter) their performances really improved and they managed to climb back up to Italian football league in the 2009-2010 season.

We can certainly claim that Mapei, together with the companies it works with on designing and supplying products for cutting-edge technological installations, is the ideal partner for playing with and winning with consummate ease.

Photo 5. Bonding the synthetic grass surface onto a special seaming tape with ULTRABOND TURF PU 1K.

Photo 6. A football in Parma's club colours on the previously installed turf surface.

Photo 7. A detail of the new 7-a-side training pitch; the colour blue was chosen for the synthetic grass and yellow for the lines because they are the club's official colours.

7

TECHNICAL DATA

Parma Football Club Training Centre, Collecchio (Province of Parma, Italy)

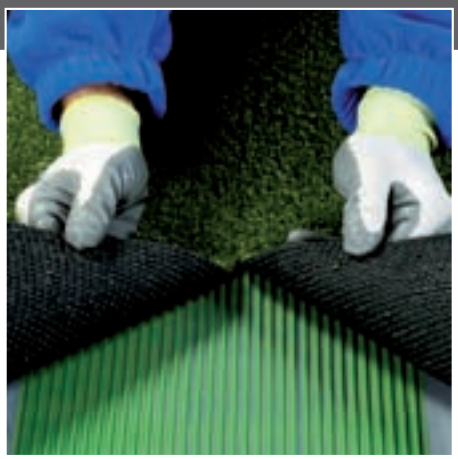
Year of the Intervention: 2009
Intervention by Mapei: supplying a product for laying synthetic grass football pitches
Client: Parma Football Club SpA (Parma, Italy)
Laying Company: Unieco Sport, Reggio Emilia (Italy)
Laid Materials: synthetic grass supplied by Unieco Sport
Mapei Distributor: Unieco Sport
Mapei Coordinator: Angelo Nobili, Mapei SpA (Italy)

MAPEI PRODUCTS

The product mentioned in the article belongs to the "Products for the Installation of Resilient, Textile and Wood Floor and Wall Coverings" product range. The technical data sheet is available at the web site: www.mapei.com. Almost all the Mapei products for laying floors have been awarded the EMICODE EC1 ("very low emission level of volatile organic compounds") mark by GEV.

Ultrabond Turf PU 1K (EC1 R): one component, solvent-free, ready to use polyurethane adhesive for bonding seaming tape between panels of synthetic grass.

Ultrabond Turf PU 1K



Application

From Mapei's Research and Development laboratories the one component polyurethane adhesive which improves application, offers easy installation of artificial grass, safeguards health and protects the enviroment

- One component polyurethane-based
- Odourless
- Low environmental impact(*)
- Particularly suitable for bonding at low temperatures

GEV-EMICODE EC 1 R Very low emission

(*)Certified by the GEV Institut as EC1 R

The Sun in the Sky, Ballero in our hearts

Right. The souvenir photo taken in front of the giant picture of Franco Ballerini at the final bend of the Strada Imperiale up the Stelvio Pass.

The sun in the sky and Franco Ballerini in our hearts. That is what we will always remember about this sixth edition of Mapei Day. As usual this wonderful sporting entertainment, full of emotion, fatigue and joy, took place in Bormio (Province of Sondrio, Northern Italy) over the middle weekend of July (10th-11th July 2010). This time it commemorated the former head couch of the Italian cycling team and Mapei professional cyclist, Franco Ballerini, who took part in the previous five editions of this event. This great friend of Mapei and the whole of the Italian sports community, who tragically died in February 2010, received the tributes he rightly deserved on a beautiful and warm summer day, which saw the local district shining with the blue colour of the Mapei and thousands of vests and T-shirts dedicated to Ballerini.

Special items of clothing - with "Grazie Franco" ("Thanks Franco") written on the front and the words "Merci Monsieur Roubaix" on the back, just above his arms holding up the porphyry stone trophy awarded to the winner of the Paris-Roubaix cycle race - were worn by all those taking part in Sunday's races to commemorate his greatest performances in the toughest of all races he won twice wearing the Mapei team jersey. A tribute which turned into an authentic celebration around the final hairpin bend leading up to the roof of Europe, the highest mountain peak of all, where a giant picture of the cycling champion symbolised his spiritual presence along that final never-ending and incredibly tiring stretch before crossing the finishing line.

Ballero, as his friends used to call him, really was there on Sunday, 11th July, as, with emotions running high, everybody remembered what a great man he was, as well as a brilliant athlete.

Big Figures

For a couple of days, the roads in the Alta Valtellina area were livened up by thousands of sports fans, who joined together to take part in what is now a classic event, Mapei

Day. After five-a-side football, golf and ski races on Saturday, the event was taken over by the roller skaters, half marathon runners and competitive cyclists, who were also joined by people taking part in the walk and non-competitive cycle ride. Among the Mapei guests who came specially to take part in this event, there were also groups of Polish, Slovenian and American customers. Big numbers were involved this year and, as you will see, some great new records were set. The 2010 edition of Mapei Day saw 3000 people taking part in the cycling, running and roller ski races, plus thousands of others in the events held on Saturday 10th July and an estimated further 1000 people along the road up to the Stelvio Pass who had not officially entered. The striking setting is always the same, even though the weather conditions change from year to year: the famous and extremely tough Bormio-Strada Imperiale-Stelvio Pass along the road leading up from Bormio (1225 m above sea level) to Stelvio Pass (2758 m above sea level) over a distance of 21.097 km, with 42 hairpin bends to negotiate and a total climb of 1533 m.

Sponsored by Bormio City Council and the Province of Sondrio, lots of other companies and associations helped organise Mapei Day 2010, in conjunction with Mapei and Mapei Sport (the sport and research centre located in Castellanza, Province of Varese): the Unione Sportiva Bormiese, which as usual made sure everything ran smoothly, the local bank Banca Popolare di Sondrio, and the Pirovano Centre (University of Skiing). Once again this year there were lots of technical sponsors: Bormio Terme, Colnago, Enervit, Giussani Enrico e Figli, Limonta Sport, Mic-Shimano, SMS Santini and Winning Time. Everybody could take satisfaction in having helped organise an event – devised by Mapei to provide the chance to share an intense sporting experience together with its customers and all its friends – now an important date on the calendar of Italian sporting events.

1


2

Photo 3. The Vinavil team which won the five-a-side football tournament together with Marco Squinzi (Mapei Group's Research & Development Director) and Zaverio Rovea (Vinavil's Managing Director) on the synthetic turf pitch provided by Limonta and Mapei.

The Five-a-side Tournament

Vinavil won the five-a-side tournament, which was held at Bormio sports centre and on the Bormio parish playing fields right in the middle of the city centre (grass on one hand and artificial turf on the other). This was the first of the events held over the Mapei weekend in the Alta Valtellina region.

A challenge eagerly awaited by the various "departments" of the big Mapei family (such as those located in the Italian cities of Mediglia and Latina where the Company owns two manufacturing plants); a chance to get involved in a tough sports competition, but also the opportunity for the families of those taking part to meet together. Over 400 people took part in the event, including the players and people with them.

16 teams took part and really fought hard on the pitches for the 2010 edition of the Mapei Day five-a-side trophy. The Italian journalist Alessandro Brambilla did the commentary from the side of the pitch, adding his own personal touch to describe the most important action out on the playing field.

The semi-finals were two great games: Mapei Latina won 6-4 against a team from Limonta


3

Photo 1. Vew of Bormio Golf Club's nine-hole course.
Photo 2. Winners of the Mapei Day Golf Trophy.

4


5

Photo 4. The starting gate of the ski race down the Stelvio glacier organised by Banca Popolare di Sondrio and Pirovano Centre.
Photo 5. Margherita Bigarella, the winner of the women's ski race, as she enters a sharp turn.
Photo 6. The sprint finish of the Valtellina stage of the 2010 women's Tour of Italy.
Photo 7. The winner's podium showing the American Mara Abbott - who won the stage and then the entire Tour - being awarded by the new Italian cycling team head couch Paolo Bettini and Sara Brambilla, President of the Organising Committee of the cycling race.

Sport and the Vinavil team easily beat Mapei Mediglia 8-1. Vinavil also won the final 5-3 against the team from Mapei Latina. There was plenty of excitement as the score line suddenly changed: after leading 3-0 right up until a few minutes from the end, the team from Vinavil, perhaps over confident of winning the match, was pegged back to 3-3, but two great goals following excellent team play made the result safe at the end of the match.

Skiing
Once again Mapei guests who love the snow were able to take part in a ski race down the slopes of Stelvio Pass. A sunny day provided the chance to really enjoy the ski slopes, unique and highly exclusive due to their altitude and the breathtaking view from Stelvio Pass. They are the only ski slopes still open in the middle of summer even at 5 p.m. in the afternoon. Thanks to over 20 km of ski slopes of all different degrees of difficulty covering over 700 m in height, Stelvio Pass is one of the most important summer skiing and snowboarding resorts in the whole of Europe.
Luca Carazzai won the giant slalom, whose course was set out and organised as usual by Pirovano University of Skiing, followed by Cesare Bertrand and Giulio Nava. Margherita Bigarella won the women's event ahead of Fabiola Bicolai and Monica Montemezzo, who came second and third respectively.

Golf
Golf is traditionally one of the sports on the schedule of events for Mapei Day. The Mapei Day Golf Trophy was held on the magnificent nine hole course at Bormio Golf Club, which stretches for 4236 m on the outskirts of Bormio in a place called La Fornace. In perfect harmony with the Alpine setting around the course, Bormio Golf Club is one of the most highly rated Italian mountain golf courses. Mapei friends and customers did battle in a competition which, for the first time this year, was a 18-hole invitational event held on a "four balls, two players" format. Over 40 Mapei guests played all day on the Bormio fairways and greens enjoying a course in absolutely perfect condition. The competition was won by the pair composed of Osvaldo Cella-Lorenzo Tomasi, both in the scratch and handicap categories. The top three pairs on the scoreboard was completed by Claudio Capocelli - Giovanni Grattarola and Andrea Quaglia–Marco Mainardi (the latter pair came top of the rankings among Mapei customers).

6


7

1

On the left. The start of the running and cycling races.
Photo 1. The half marathon running race.
Photo 2. Vasyl Matviychuk from Co-Ver Mapei, winner of the half marathon, in action.

Roller Skiing
The roller skiers set the ball rolling; the 44 entrants in the race included the reigning world champion Simone Paredi and the captain of the Italian biathlon team Christian De Lorenzi. Paredi won the race in the record time of 1.21'06''38. Eugenio Bianchi came third.
Erika Bettineschi took the lead straight away in the women's race, but was eventually overtaken by Ursina Badilatti, who went on to win the race in a new record time of 1.48'08''80. Bettineschi was also beaten by the Italian biathlete Michela Andreola, who came second.

Half Marathon
The second race on the schedule was the half marathon. The Ukrainian athlete from Co-Ver Mapei, Vasyl Matviychuk, was first to reach the finish line at the top of the Stelvio after chasing the Moroccan athlete, Mohamed Hajjy, and the Italian, Pietro Colnaghi, over the early part of the race. Behind them Italian athlete Enzo Vanotti came in fourth, ahead of Andrea Siciliani and Mauro Bernardini representing Co-Ver Mapei.
The women's event was an one horse race; right from the start the Romanian athlete Ana Nanu, who lives and races in Italy for Gabbi Bologna, went into the lead and finished 29th overall and set a new course record of 2.00'17''97. Almost 6 minutes later Monica Carlin (Brema Running) crossed the finishing line at the top of the Stelvio, with Daniela Gilardi (Valmadrera) coming in third seven minutes behind the winner. Lorenza Combi (Colico) came in fourth, ahead of Giovanna Confortola racing for Marathon Livigno and Cinzia Besseghini representing Rupe Magna di Grosio.

"Re Stelvio" Cycling Race
Next came the classic competitive cycling race: the so-called "Re Stelvio", which has been attracting cyclists to the slopes of this mountain pass for the last 26 years. The first race was the women's event featuring about 50 athletes. Marina Ilmer representing Vinschgau was the first to take the lead, gradually accelerating away on her own to win in a time of 1.16'30''91, which was a new record for the women's event.
The world Alpine ski champion, Roberta Pedranzini, representing US Bormiese came in second in the time of 1.28'21''92, ahead of Annarita Piccari, Laura Giordano and Valeria Bradanini. Andrea Acquistapace (Velo Sondriese) led the race right from the first kilometre, gradually pulling away from all his rivals until he reached the summit in a time of 1.04'47''16.
Romeo Arrigoni and Niki Giussani ensured Team Carimate Kuota was also represented on the winner's podium; Arrigoni finished two minutes behind the winner, while Giussani beat Jacopo Bettoni (Orobica) and Demetrio Bellò

2

(Unoteam Cittadella) in a sprint finish.
Half the Italian short track team also took part in a race, with the club colours of the Unione Sportiva Bormiese highly prominent, and in the end Michele Antonioli and Yuri Confortola finished 31st and 32nd overall.

Mapei Amateur Cycle Ride
Due to the number of entrants (over 800 finished the race, along with dozens of others who had not officially entered), the big names attending the event, the special commemoration for Franco Ballerini and the spirit shown by everybody taking part in the event, the Mapei amateur cycle ride really left its mark on the 40 hairpins leading up to the top of the Stelvio. With champions of the calibre of Andrea Tafi and Daniele Nardello riding alongside him, together with the Vice President of US Bormiese, Mario Zangrando, and a team of Mapei executives, the CEO of the Group Giorgio Squinzi rode up to the top of the mountain together with the rest of the amateurs.
The fastest times in the amateur race were recorded by Sergey Yuriyev (1.19''53''28) and Elena Intrusi (1.3805''67).

Prize-giving Ceremony
The sixth edition of Mapei Day drew to a close with a prize-giving ceremony for the winners of all the races in the historical Piazza Kuerc in Bormio. The prize awarded to the winner of the "Re Stelvio" race was also a fitting tribute to Franco Ballerini: the trophy won by Andrea Acquistapace was a stone from Bormio, reminiscent of the porphyry block awarded to winners of the Paris-Roubaix cycle race, which Ballero won twice.

This page. Pictures from the bike ride up the Stelvio.
Sotto. View of the finish line at the summit of Stelvio Pass at a height of 2758 m above sea level.

1

Geelong Hospital in Australia

Vinyl floors for the new emergency department

Geelong is the Australian city that hosted the 2010 UCI Road World Championships from 29th September to 3rd October, as you can read in one of the articles that follows.

Barwon Health, one of the largest and most comprehensive regional health services in Australia, recently redeveloped the Geelong Hospital emergency department to meet the needs of a rapidly growing region.

The Geelong Hospital, which is one of the most important public hospitals located in the Victorian state, now provides a full suite of medical and surgical units and can accommodate around 400 patients at one time.

Works on the new emergency department included the demolition of the existing centre and construction of a new four level concrete framed building to accommodate the new emergency department on level 1, accommodation and administration on level 2 and a shell space for future expansion on level 3. The structure has been future-proofed to allow for another 5 levels to be added in the future.

Photos 1 and 2. The building's main façade and a view of the emergency department.

Works also involved the strip out of the existing emergency department which required significant staging to ensure the facility remained fully operational throughout construction. Mapei Australia, the Group's subsidiary operating in this country, was commissioned to provide a complete installation specification to supply quality flooring products and assist in the rapid installation of the vinyl floorings in areas totalling approximately 1600 m².

Works began with the diamond grinding of the existing slab followed by a thorough mechanical clean. A coat of TRIBLOCK P three-component epoxy-cementitious system was twice applied to the substrate to ensure protection from any moisture emitting from the concrete. A coat of MAPEPRIM SP was applied to ensure the perfect bonding of the ULTRAPLAN self-levelling and smoothing compound to the substrate, prior to the vinyl installation. Some areas required priming with quick-drying ECO PRIM T due to the time restraints required for the installation of the levelling compound.

ULTRAPLAN is an ultra-fast drying, self-levelling compound that is perfect for levelling and smoothing differences in thicknesses in substrates, preparing them to receive all types of floor coverings where a high resistance to loads and traffic is required. ULTRAPLAN is particularly suitable for hospitals and healthcare facilities due to the product's extremely low VOC emission level and its unique ultra-fast drying properties which ensure fast-track floor laying.

ULTRABOND ECO 350 was selected to bond vinyl to the main flooring areas on all levels of the emergency department. It is an acrylic polymer based vinyl adhe-

IN THE SPOTLIGHT

ULTRAPLAN

It is a ultra-fast drying self-levelling compound classified as **CT-C30-F7-A2$_{fl}$-s1** according to European Norm **EN 13813**.

It is used in interiors for levelling and smoothing differences in thicknesses from 1 to 10 mm on new or existing substrates, preparing them to receive all kinds of flooring where a high resistance to loads and traffic is required.

ULTRAPLAN is especially suitable for areas subject to wheeled chairs.

It can be used for levelling concrete slabs and cementitious screeds or TOPCEM, MAPECEM, MAPECEM PRONTO or TOPCEM PRONTO based screeds; levelling anhydrite substrates or existing concrete substrates, terrazzo, ceramic and natural stone; levelling over underfloor heating systems.

It dries without shrinkage, cracking or crazing and develops a very high compressive and flexural strength.

2

3

4

Photos 3 and 4. Vinyl floors were bonded with ULTRABOND ECO 350. In trenched areas ADESILEX G19 was used.

sive that offers unique flexibility. It is ideal for the installation of solid vinyl sheet flooring, is easy to apply, contains BioBlock® technology to inhibit the growth of mould and mildew, emits low-odour and has an extremely low emission level of VOC.

ADESILEX G19 was utilised in the installation of the vinyl flooring in trenched areas. This adhesive is extremely strong and flexible and is primarily used for the installation of rubber, PVC and needlepunch floorings. MAPEGUM WPS flexible, liquid membrane was applied to all wet areas in the cloak rooms and amenities to waterproof these areas.

The enclosed roofing area of the hospital was also part of the refurbishment. Contractors applied MAPEPRIM SP over the existing bitumen followed by an application of NIVORAPID which is a rapid setting mortar used to grade the area to waste traps. ULTRAPLAN was then applied as a smoothing and levelling compound to complete the flooring area. MAPELASTIC SMART was applied in three coats over the top of the ULTRAPLAN to act as a waterproofing membrane in this area.

Creating the right ambience for patients in an emergency department, especially children, is extremely important just as it is as important to ensure that products used in a healthcare facility are not harmful to the installer, the staff or the people visiting and staying in these buildings. All Mapei products installed in this project comply with the requirements of the Green Building Council and contribute valuable points towards Green Star™ credits.

TECHNICAL DATA

Geelong Hospital, Emergency Department, Geelong (Australia)
Period of the Intervention: 2008-2009

Intervention by Mapei: supplying products for laying vynil floors in the new emergency department
Project: Billard Leece Partnership Pty Ltd.
Customer: Barwon Health
Contractor: Kane Construction
Laying Company: Clark Floors
Laid Materials: vinyl floors by Tarkett
Mapei Distributor: Clark Floors
Mapei Co-ordinator: Wayne Ring, Mapei Australia

MAPEI PRODUCTS

The products mentioned in the article belong to the "Products for the Installation of Resilient, Textile and Wood Floor and Wall Coverings" range. The technical data sheets are available at the web site: www.mapei.com. Almost all the Mapei products for laying floors and walls have been awarded the EMICODE EC1 ("very low emission level of volatile organic compounds") mark by GEV. Mapei leveling and smoothing compounds and pre-blended mortars for screeds conform to EN 13813 and have been awarded the CE mark in compliance with annex ZA, standard EN 13813.

Substrate Preparation

Eco Prim T (EC1): solvent-free, acrylic primer with very low emission level of volatile organic compounds (VOC) for absorbent and non absorbent substrates.

Mapegum WPS: flexible, liquid membrane for waterproofing bathrooms and internal shower booths.

Mapelastic Smart (CE EN 1504-2, coating **(C)** principles **PI, MC** and **IR):** two component, high flexibility cementitious mortar, applied by brush or with a roller, for waterproofing concrete surfaces such as foundations, retaining walls, balconies, terraces, bathrooms and swimming pools, and for protection against aggressive chemical agents.

Mapeprim SP: two-component solvent-free primer for smoothing compounds and adhesives on non-porous substrates.

Nivorapid (CE EN 13813, CT-C40-F10-$A2_{fl}$-s1, EC1 R): ultra-fast drying thixotropic cementitious levelling mortar for vertical surfaces, for thicknesses from 1 to 20 mm.

Triblock P: three-component, epoxy-cementitious primer for damp surfaces.

Ultraplan (CE EN 13813, CT-C30-F7-$A2_{fl}$-s1, EC1): ultra-fast hardening self-levelling smoothing compound for thicknesses from 1 to 10 mm.

Installation of Resilient Floorings:

Adesilex G19: single coat two-component polyurethane adhesive for the installation of resilient flooring on absorbent and non-absorbent substrates for both interiors and exteriors.

Ultrabond Eco 350 (EC1): solvent-free acrylic adhesive with high bonding strength, even after extended open time and with very low VOC emission level for the installation of rubber, PVC, vinyl, polyolefine, linoleum and carpet floorings.

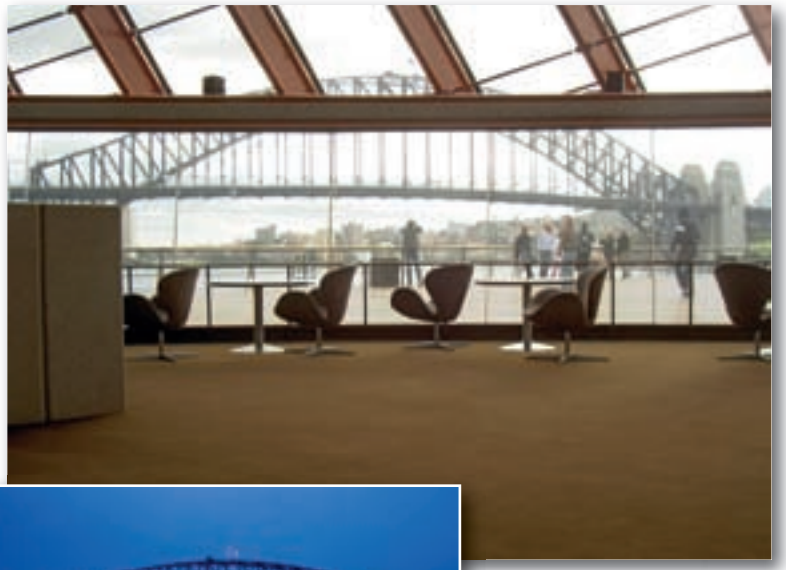
Mapei in Australia

Mapei is present in Australia with a subsidiary contributing to the most prestigious buildings

Mapei has been present in Australia for 16 years.
In 1994 the Company opened a trade office in Brisbane, where it also inaugurated the opening of a manufacturing plant in 2000 (see photo above). The plant manufactures systems for laying ceramic tiles and includes a modern Quality Control Laboratory.
In 2009 production of powders was increased, following the Company's development strategies which will lead to the start of local production of several Mapei Building Line solutions, such as MAPEFILL SP, MAPEFILL GP, MAPEGROUT T60, MAPEGROUT T40 , MAPELASTIC SMART component A, etc.
Mapei Australia Pty Ltd, Mapei Group's local subsidiary, managed to achieve significant success and a solid presence thanks to its widespread distribution network, its professional technical experts (which are also supported by Mapei SpA's technical service department), its marketing activities (such as the training sessions for customers), its participation at the most important local trade shows, and its involvement in sport sponsorships such as the 2010 UCI Road World Championships which were held in Geelong (Melbourne) and described in the following article.
By relying on its manufacturing unit in Brisbane and several interstate distribution warehouses, together with the opportunity of importing products from other plants in the Mapei Group (primarily those located in Singapore, Canada, Italy and United States), Mapei is able to ensure efficient distribution of products all over Australia. These are the reasons why the

▼ "Evolution on Gardiner" Residential Complex - Darwin
More than 30.000 m² porcelain tiles were laid with KERABOND PLUS + ISOLASTIC 50 in inside areas. On balconies, substrates were waterproofed with MAPEGUM WPS and MAPELASTIC SMART before the installation of the floorings.

▼ Brisbane International Airport
Extension works at the airport took 2 years and involved more than 30.000 m². Mapei supplied products for laying ceramic tiles, marble and natural stone slabs in the North and South Terminals. NIVORAPID, PIRMER G and ULTRAPLAN were used for preparing substrates; MAPEGUM WPS and MAPEBAND for waterproofing; KERABOND PLUS + ISOLASTIC for bonding tiles.



◀ Opera House - Sydney
Renovation works on this imposing multi-venue performing arts theatre (which is an iconic symbol for Sydney and Australia) included laying over 1000 m² of rubber and carpet floorings bonded with ULTRABOND ECO 85 and ULTRABOND ECO 200.

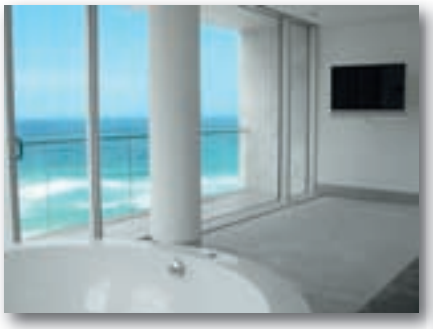
subsidiary could support the building development of the main Australian cities such as Adelaide, Brisbane, Melbourne, Perth and Sydney by supplying products and technologies for completing many prestigious building projects.
Among them it is worth mentioning the sport facilities that hosted the 2000 Sydney Olympic Games and several housing complexes, airports and public buildings. Some examples are described in these pages. Mapei Australia is currently involved in the renovation projects of the main Australian cities' airports such as those of Brisbane, Cairns, Melbourne, Adelaide and Sydney.

Stadium Australia Sydney ▶
The stadium, designed by the Hok+Lobb architectural studio, covers a 16 hectare surface.
Rubber was laid on the athletic tracks with ADESILEX G19. PLANO 3, NIVORAPID, PIANODUR R, ULTRAPLAN and PRIMER G were used for levelling and smoothing the concrete surfaces.

Queensland State Tennis Centre - Brisbane ▶
The external façades of this famous sport centre located in Tennyson (in the suburbs of Brisbane) were covered with natural stone slabs laid with ADEFLEX R and ULTRAMASTIC ECO. Joints were grouted with KERACOLOR GG.

▲ "Cotton Beach" Residential Complex - Casuarina
The apartments' floor and wall coverings were laid with Mapei products and systems on a total surface of 10.000 m². Installation was carried out with KERABOND PLUS, ISOLASTIC, TIXOBOND FINE S1; KERACOLOR FF, KERACOLOR GG and FUGA FRESCA were used to grout the joints; expansion joints were sealed with MAPESIL AC.

Queensland Gallery of Modern Art - Brisbane ▶
The building hosting the biggest modern art gallery in Australia covers a total surface of 25600 m² on five levels. When laying wooden floors, PLANO 3 and ULTRAPLAN were used to prepare substrates and ULTRABOND P990 for bonding timber flooring on a 7000 m² surface.



▲ Jade Apartments - Brisbane
These luxurious apartments in the Surfers Paradise district of the Gold Coast feature natural stone floorings laid with KERABOND PLUS and ISOLASTIC. Joints were grouted with KERACOLOR FF and ULTRACOLOR PLUS.

1

So far, so near

The 2010 UCI Road Cycling World Championships in Melbourne and Geelong

by Aldo Sassi, Mapei Sport

Can you remember what it looks like in Bormio on Mapei Day (see the article that follows) and along the endless winding asphalt road rising up to the Stelvio Pass marked by two blue lines of Mapei banners? Well add 40,000 people behind those banners and set everything on gently rolling hills, where it is not cows but kangaroos we can see and marmots are replaced by koala bears... That was what it looked like in Geelong (State of Victoria, Australia), which hosted the 2010 UCI Road Cycling World Championships, where Mapei was the Major Partner.

A sponsorship deal which is deeply meaningful: a corporate philosophy based along extremely coherent and well-structured lines and a timescale set to allow its projects to develop fully, in this case a specialist image (once again, and as ever, associated with cycling but only of the very highest standards) and policy of internationalisation (Geelong is actually located at a point diametrically opposite on the Earth's globe to the Mapei headquarters in Milan, Italy). It does not really

Photo 1. A picture of the finish of the men's elite race.
Photo 2. The "Eyes on the World" photography exhibition sponsored by Mapei.
Photo 3. Mapei Australia managed the hospitality zone for customers and friends.

2

3

4

Photo 4.
The finish of the men's under 23 race won by the Australian Michael Matthews.
Photo 5.
The podium of the women's elite race won by the Italian Giorgia Bronzini.

matter that this year it was not an athlete with a Mapei background who won (except for Cancellara, who, as predicted, dominated the time trial), but nevertheless apart from the sponsorship deal, these world championships certainly had a very Mapei flavour for everybody (Australians and others) and marked Paolo Bettini's road race debut as the new head coach of the Italian cycling team after taking over from Franco Ballerini, a man who represented Mapei and Italy with great dignity and whose memory is very much alive in this part of the world.

Mapei's Presence

After being the Main Sponsor of previous 2010 UCI Road Cycling World Championships (Varese 2008 and Mendrisio 2009), once again Mapei was the Major Partner of the UCI Road Cycling World Championships, which took place in Melbourne and Geelong from 29th September to 3rd October 2010.

The Australian race was the sixth time it had been held outside Europe and the first time in the southern hemisphere of the world, attracting a television audience estimated at around 400 million viewers, who, over the five-day event, watched six different races: three road races and three time trials for professionals, elite women and under-23 cyclists.

Mapei's relationship with Australia is also being strengthened thanks to the Group's growth in this area of the world (see the previous article). In 2000 Mapei Australia (the Group's local subsidiary) supplied the products for constructing the sports facilities for the Sydney Olympics, in accordance with a long tradition which has seen Mapei involved in the construction of both indoor and outdoor sports facilities for hosting the Olympic Games in various different nations.

Mapei is at the same time a truly global company. Its presence was certainly felt at these World Championships, so far away and yet, based on what we have said, so near. Banners along the entire race route, posters at strategic points in the city and along the course, the backdrops of the main stage and behind the winner's podium: the Mapei trademark really was globally visible and almost every image of the event which appeared on television screens and other means of communication highlighted this. And of course, alongside this so-to-speak "passive" presence, Mapei was also actively involved through various different projects at particularly striking locations.

The hospitality zone, which was managed with great skill and elegance by Mapei Australia and hosted over 1000 friends and customers over the five days of the event, was the control centre where the world of Mapei gathered to enjoy the event together.

The "Mapei Zone", located along the oceanfront and right opposite the bend leading to the slightly uphill finishing straight, was located in the Sailors Restaurant building.

Guests got the chance to watch the race from the spacious balconies or numerous plasma television screens inside.

A perfect location right in the heart of the event and just a few steps away from the tensile structure set up by the Australian Institute of Sport, which hosted an area specially located by Mapei Sport (which is based in Castellanza - Province of Varese, Italy).

But that was not all. As the Major Partner Mapei was also involved

5

6

in Graham Watson's photography exhibition entitled "Eyes on the World", which was held at the National Wool Museum in Geelong during the Road Cycling World Championships. The exhibition cast a virtual eye through a photographer's lens at over 30 years of sport, tracing the careers of many great names in international cycling, such as Miguel Indurain, Lance Armstrong, Johan Museeuw, Oscar Freire and Paolo Bettini.

The Race Route

The novelty about the 2010 World Championships was the fact that the first 85 km took a flat route from Federation Square in Melbourne – the city's cultural and business centre – to the 15.9 km inner-city racing circuit in Geelong, which had to be repeated 11 times. The surrounding landscape was truly striking offering a variety of different views: very modern cities, boundless countryside and wilderness areas, such as the You Yangs Regional Park (which in aboriginal means "big mountain in the middle of a plain"), extending out to the ocean.

After reaching the Geelong seafront and after covering an ocean-front stretch of road, the racers had to tackle Moorabool Street, where the finishing line was located. This slightly uphill road has a steep section near the end. It eventually turns right around a tight bend towards Barrabool Road, a flat section where the main bunch was able to keep up a very quick pace. The loop then continued into Barwon Boulevard and Challambra Crescent, Geelong's residential district and the trickiest point on the course.

This climb has an average gradient of 8% and even reaches a steepness of 13%. It stretches for about a kilometre.

At the end of the climb, the cyclists came to Scenic Road, an extremely wide downhill street stretching for 2.5 km. Having completed the descent there was another key stretch between Queens Park Road and Aphrasia Street. This is a short but extremely steep climb. Having completed the downhill section the route returned to the seafront in the direction of Moorabool Street before setting off on another lap.

Photos 6 e 7.
The finish and winners' podium of the men's elite race won by the Norwegian Thor Hushovd.

The Races

The host nation topped the medals table, thanks to the gold medal won by Michael Matthews (under 23 road race), silver won by Luke Durbridge (under 23 time trial) and Alan Davis's bronze (elite road race), ahead of Great Britain, which also won a gold thanks to Emma Pooley (women's time trial) and a silver medal through David Miller (elite time trial). Nevertheless, it was actually Germany which won most medals here in Australia with two silvers and two bronzes.

Once again it was the ladies who brought home the medals for Italy. This time it was Giorgia Bronzini who won a gold medal in the women's road race. The Italian cyclist rounded off some great teamwork (everybody kept together until the final lap), with Cantele and Guderzo (the world champion in Mendrisio). The sprint over the final 50 metres was the stuff of cycling legends.

Giorgia Bronzini managed to hold off the Dutch cyclist Vos and German rider Johannson to win an extraordinary goal medal, just a bike's length ahead of her rivals. An uphill sprint over the toughest part of the short climb at a gradient of 6%, which was greeted with great enthusiasm by all the Italian fans.

The Italian men's team captained by Paolo Bettini did not have the

7

8

same success and had to settle for Filippo Pozzato's fourth place.
The Norwegian cyclist, Thor Hushovd, became the new world road race champion. He hid away in the pack for the entire race but managed to find a great sprint finish at the end, thanks to an incredible show of muscular power, beating Matti Brescel and the home rider Allan Davis to the line. As in the case with the under 23 race, the Italian team worked really well from the start to the finish, but did not quite manage to win through Pozzato. "I tried my best, the team raced really well, just as Bettini expected us to. I got cramp on the final lap, then I tried to mark Hushovd. The finish was perfect for me, but I even had cramp in my ears – so the Italian team captain explained - I'm sorry because the team raced well, just the way Franco Ballerini taught us to. We did not get the win, but we will certainly try again. I really wanted to win these world championships for Ballerini and I'm sorry for Paolo Bettini too, who really believed in us".
This is what Bettini had to say: "I would give my lads 98/100. They did almost everything I asked of them. Nibaldi went on a breakaway. We really controlled the race. We just missed out on the sprint finish with Pozzato, who just failed to get onto the winner's podium".
The great old man of Italian cycling, the former Italian national team head coach Alfredo Martini, did not blame Bettini, on the contrary he gave him full marks. "Overall, no team raced better than Italy, it's a pity that Pozzato started his sprint finish a bit too far back". Regrets for Italy and satisfaction for Australia, whose cycling scene is continuing to grow thanks also to the contribution made by the Mapei Sport centre. In any case, this only confirms that the spirit underscoring Mapei's operations in the world of both sport and work is a winning formula. Simple and universal values which can be applied all over the world, just as much in Australia as in Italy: hard work, commitment and passion, and an awareness that winning is always the result of conscientious planning and constant team work.

Mapei and Sports

Mapei has very close ties with sport in general and cycling in particular. Bonds which really come to the fore in global sports events of the very highest level.
Alongside the great results in terms of brand visibility and communication, the Australian World Championships provided a further opportunity to show the real relationship between Mapei and sport and how deeply entrenched they are. This is partly thanks to Mapei Sport, the sport science centre set up in 1996 to provide athletes from the Mapei Professional Cycling Team (which dominated the international cycling scene for a decade) and other satellite teams with scientific support based on a very ethical approach. Now famous in the world of sport as somewhere athletes competing in all sports can turn to, in order to lay the foundations for their successes, the centre is concrete proof of how Mapei has never adopted a passive attitude to sport and its leading stars, but has always aimed at achieving very definite goals and really making its mark. These World Championships in Australia triangulated perfectly as, on one hand, the entire Company was involved in supporting the event as a whole and, on the other, they demonstrated the behind-the-scenes and out-on-the-field commitment of the Mapei Sport.
The Mapei research centre for sport has, for some time now, enjoyed a very special relationship with the Australian National cycling team and high-performance programs at the Australian Institute of Sport (AIS), and it has also played a key role in the development of lots of Australian cyclists, including Cadel Evans and Michael Rogers.
The latter began the Mapei program in 2001-2002 as young "hopefuls" and they still turn to the Mapei Sport centre for their assessment tests and training schedules.

Photos 8. Hospitality area in Geelong: Aldo Sassi for the last time on the professional scene.

Photos 9 and 10. The space Mapei Sport set up inside the Australian Institute of Sport.

9

10

Aldo Sassi in the Mapei Sport Centre

Ciao Aldo, strong and courageous right till the end

"He was the embodiment of the concept of clean sport, which has also always been by dream since 1996", said Giorgio Squinzi, President of the Mapei Group, "and he remained lucid and active right up till the end: he even asked Ivan Basso to bring his jersey to his grave….".

MILAN 12 DECEMBER 2010

He was a firm believer in human relationships, in the power of dialogue and friendship. He was a firm believer in a model of clean sport, which is what he fought for right up till the end, becoming a reference point for cycling with a human touch. Aldo Sassi left us during the night on the 12th of December, struck down in his prime by an incurable illness, as he was warmly surrounded by his family at home in Valmorea (in the Province of Como, Italy).

And he leaves behind a powerful yet demanding testimony: "You can win without doping". This is a conviction which his entire career was built on, and which left an indelible impression on the world of cycling in the last 15 years, and on sport as a whole. An opinion which was fully shared by Giorgio Squinzi, the President of the Mapei Group.

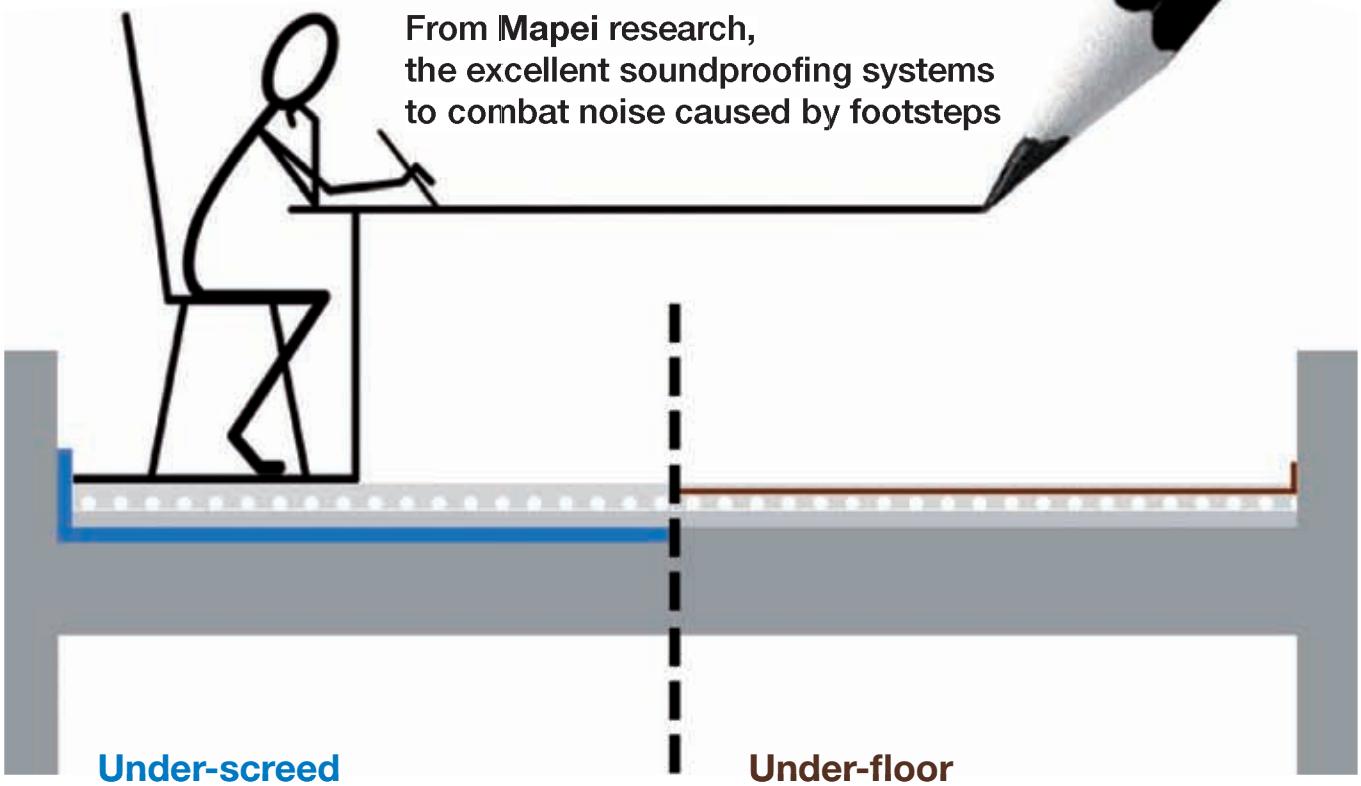
Aldo Sassi's career started in the 1980's – he was in Mexico in 1984 for Francesco Moser's successful attempt at the one-hour record – and went on to train entire generations of cyclists. In the 1990's he became trainer for the Mapei Professional Cycling Team, and led them to success with champions of the calibre of Johan Musseeuw, Franco Ballerini, Paolo Bettini, and Oscar Freire. In 1996 he founded the Mapei Sport Research and Study Centre, turning it into a laboratory of excellence for ideas and projects unlike any other in the world, and which was the base camp for preparing the victories of champions such as Cadel Evans at the Mendrisio UCI Road Cycling World Championships and Ivan Basso at the Giro d'Italia.

And it was in the activities at the Mapei Sport Centre that he dedicated the remaining few months of his life, in defiance of the life expectancy statistics, and even accepting challenges which most people thought impossible.

"He was the embodiment of the concept of clean sport, which has also always been by dream since 1996", said Giorgio Squinzi "and he remained lucid and active right up till the end: he even asked Ivan Basso to bring his jersey to his grave….".

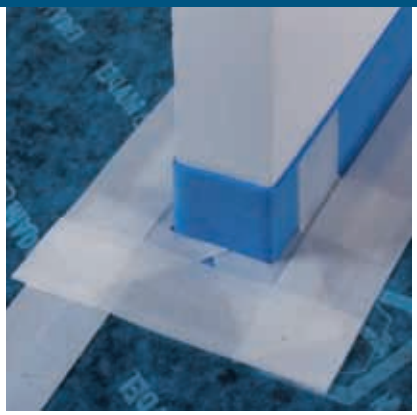
Whatever he did, he did it with passion. Passion which not even the suffering was able to extinguish. And that's exactly how we will remember him: strong and courageous right till the end….

Systems for soundproofing buildings against noise caused by footsteps



Under-screed
Ideal for new work

Mapesilent®



A modular system including special panels, sheets and insulating accessories **installed directly in contact with the floor slab before installing the screed**

Under-floor
Ideal for renovation work

Mapesonic CR

Soundproofing mat in roll form applied **before laying** ceramic, stone, resilient and wooden floors

REGULATION SOUNDPROOFING FOR THE BUILDING INDUSTRY.