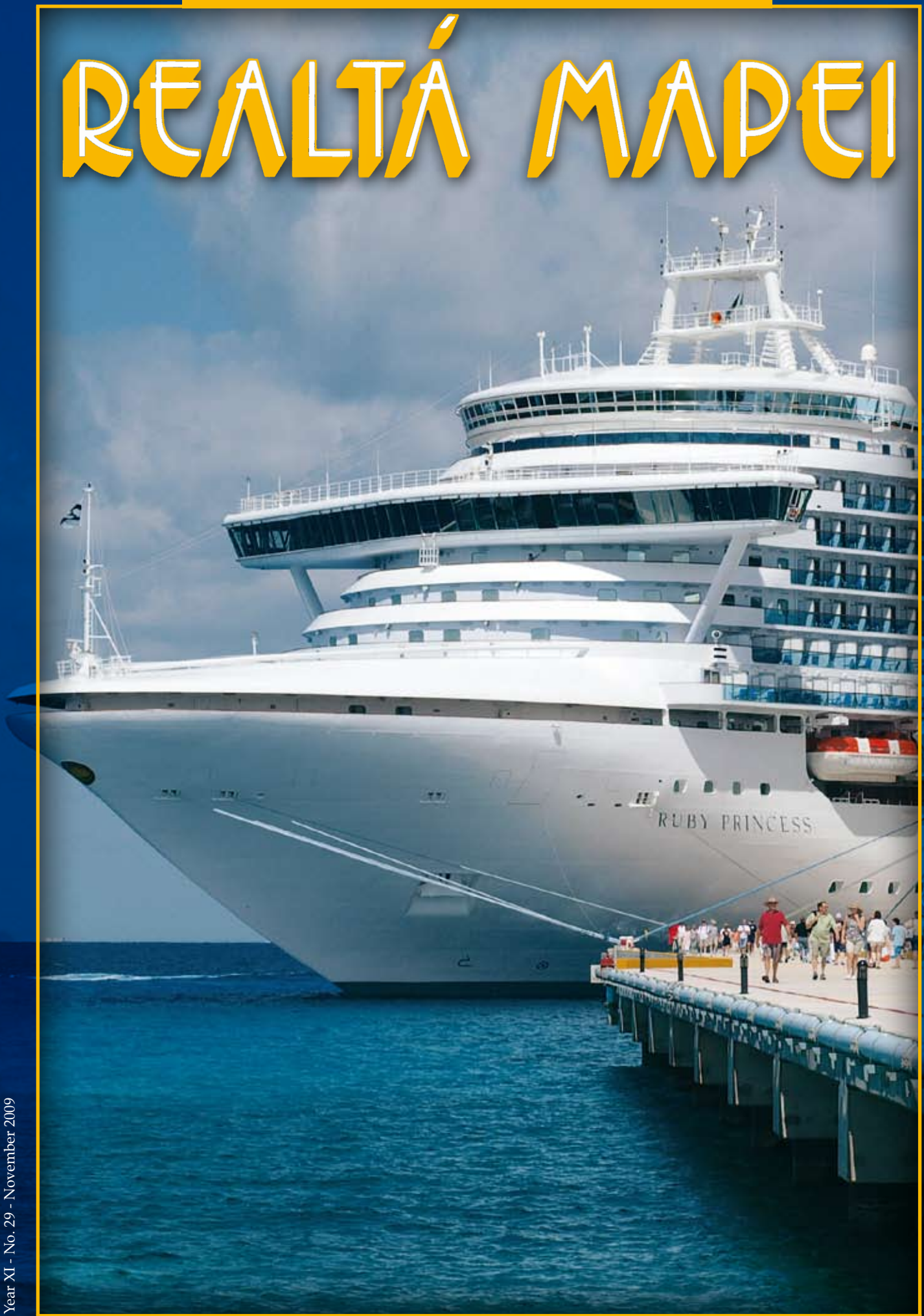
INTERNATIONAL

REALTÁ MAPEI



Year XI - No. 29 - November 2009

INVITATION

We wait for you at

16-19 January 2010

DOMOTEX

HANNOVER

from 16th to 19th January 2010
at the Mapei stand
Halle 7, Stand C46
Exhibition Grounds - Hannover

MAPEI is

GOOD for the **ENVIRONMENT**

Come and see Mapei eco-sustainable solutions for the installation of resilient, textile and wooden floors

Recycled Product Content
Mapei is heavily committed to utilizing post-industrial materials

Indoor Air Quality
Mapei's Low Dust Technology helps reduce dust up to 90% during pouring and mixing compared with traditional Mapei's cementitious adhesives

Regional Production Facilities
Mapei reduces the environmental impact of transportation

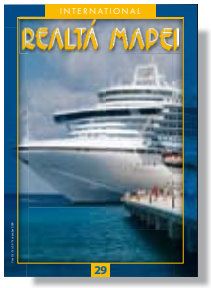
70% of Research and Development goes toward formulating eco-friendly solutions

Put MAPEI in your specifications for your next LEED*-certified project

United States Italy Canada green building council australia MEMBER EmiratesGBC

GREEN INNOVATION

Our Commitment to the Environment
More than 150 MAPEI products assist project designers and contractors create innovative LEED (Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council



Cover Story:
Mapei contributed to the construction of the Ruby Princess cruise ship by supplying products for laying marble and granite wall and floor coverings (see article at page 54)

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

CREDITS: APAC, Confindustria Ceramica, City of Chicago website/Peter J. Schultz and Walter Mitchell, Gianni Dal Magro, Dollarama, Flash Foto, Foto Sosio, Beppe Gernone, Sandro Girella, Ibermapei, Mapei Canada, Mapei Corp., Mapei France, Mapei Hellas, Mapei Kft., Mapei Sport, Mapei UK, Novita PR; Polyglass, Graziano Sezzi

GRAPHIC DESIGNER: Studio Magazine - Milan (Italy)

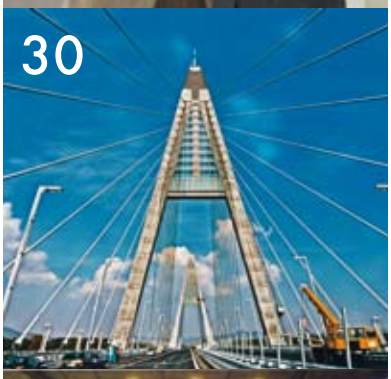
PRINTED BY: Arti Grafiche Beta - Milan

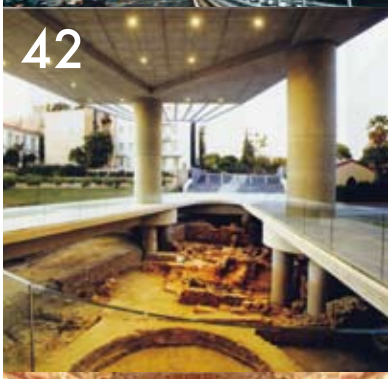
PUBLISHED BY: Mapei SpA
Via Cafiero, 22 – 20158 Milan (Italy)
Tel. +39/02/376731
Fax +39/02/37673214
website= www.mapei.com
E-mail= mapei@mapei.it

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





SUMMARY

IN THE SPOTLIGHT

DYNAMON SR3 page 33 - MAPEGRID G 220 and PLANITOP HDM page 37 - TOPCEM page 40 - KERAFLEX MAXI page 44 - ECO PRIM T and ULTRABOND ECO V4 SP page 54 - KERALASTIC T page 57.

USA: MAPEI IS GETTING EVEN BIGGER

Mapei is enhancing its manufacturing capacity by opening a new manufacturing plant in Garland, Texas

1

4th November 2008 - Garland, Texas

At a time when many American businesses are "downscaling" (in terms of business and staff), Mapei in contrast is expanding. As well as acquiring companies and brands like Polyglass and APAC, which already have offices, plants and laboratories on this continent, the Company is also increasing the amount of space devoted to boosting its manufacturing output.

For example, it extended its factory in Garland, Texas, one of the eight manufacturing plants run by Mapei Corporation, the Mapei Group's American subsidiary and, at the same time, one of the 18 Mapei Group subsidiaries in the Americas (11 in the USA, 4 in Canada, 1 in Argentina, 1 in Venezuela and 1 in Puerto Rico). The extension was designed by the architect Raffaele Greco and, among other things, involved covering the outside of the building with a ceramic coating of tiles manufactured by the Italian company Cooperativa Ceramica d'Imola using the KERABOND+ISOLASTIC adhesive system (ISOLASTIC is distributed in the American market under the name KERALASTIC). After installation, the joints between the tiles were grouted using KERACOLOR S mortar, which has also been specifically developed for the American market.


5

Even Bigger

Now that the extension has been completed, the manufacturing plant in Garland covers an area of almost 49,000 m^2, providing more space for storage and shipment purposes. The plant in Garland actually handles approximately 1,814 tonnes of products-a-week, including mortars, grouts and adhesives belonging to the special line for installing ceramics and stone material, powder products for the building line, and adhesives from the ULTRABOND ECO range for installing resilient, textile and wooden floors.

A new manufacturing line equipped with cutting-edge machinery was installed in the production area for the urethane products. Mapei Corporation will be using this additional manufacturing line to meet the growing demand in the American market for adhesives for installing wooden floors.

Even Greener

Mapei has allocated even more space for the environment or, in other words, for all those operations guaranteeing that manufacturing processes are carried out causing as little environmental impact as possible. For example, extension work involved adapting three stations previously used for shipping purposes and now employing them for collecting recyclable materials. In addition, as in the case of other Mapei manufacturing units, the plant in Garland also uses 4-10% by weight of recycled materials in the composition of its products and all packaging conforms to eco-sustainability guidelines.

Even More Training

Mapei investment in the plant at Garland also includes the construction of a new branch of the MTI (Mapei Technical Institute), which includes both an indoor area covering approximately 110 m^2, where people taking part in various technical seminars and courses organised by Mapei Corporation can attend theory lectures and practical demonstrations on using products, and also an outdoor area, where people can perform hands-on practical exercises on applications. This facility also hosts training sessions organised by outside associations, such as those presented by CFI (Certified Flooring Installers), which actually held its first certified course on certification for installing ceramics and stone materials in this facility.

Grand Re-opening… Texan Style

The group of guests and Mapei staff visited various parts of the manufactur-

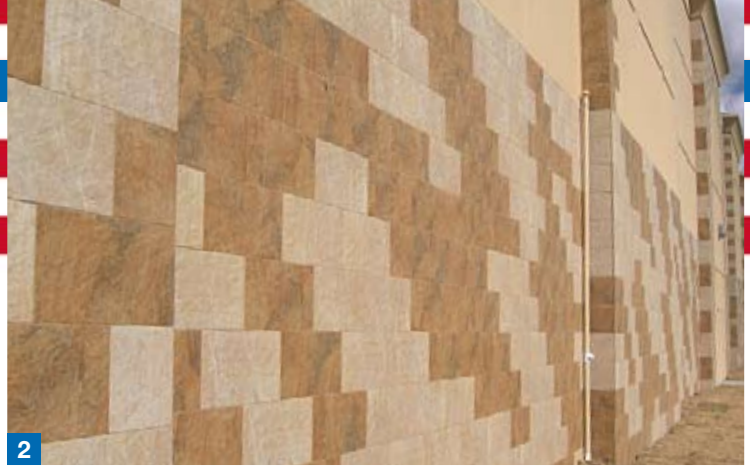


Photo 1
The Mapei manufacturing plant in Garland, Texas, after extension work (designed by the architect Raffaele Greco).

Photo 2.
The ceramic covering of the Cooperativa Ceramica d'Imola was installed on the outside surfaces of the plant using the KERABOND + ISOLASTIC system (ISOLASTIC is distributed in the Americas under the name KERALASTIC).

Photo 3.
From left: Paul Mayer, President of the Garland Chamber of Commerce; Steve Belken, Vice Director of Interceramic's operations in the USA; Giorgio Squinzi, President of the Mapei Group; Ronald Jones, Mayor of Garland; Victor Almeida, President of Interceramic; Nick di Tempora, Honorary President of Mapei Americas; Ed Ford, Manager of the Mapei plant in Garland.

Photo 4.
Giorgio Squinzi's speech.

Photo 5. The ribbon cutting ceremony carried out by Giorgio Squinzi and the Mayor of Garland, Ronald Jones, which officially reopened the newly extended plant.

Photo 6. A picture of the plant's production area.

ing unit on 4th November 2008, the day of the official reopening. At 11 o'clock in the morning the plant welcomed a large group of visitors, including customers, distributors, designers, local authorities, staff working for Mapei Corporation, colleagues and members of Mapei SpA's Board of Directors, the Group's mother company. When people arrived they were officially welcomed by the plant Manager, Ed Ford. Giorgio Squinzi, CEO of the Mapei Group, then took centre stage. Squinzi briefly described the Company's plans to boost its growth and development on the American continent and then thanked local authorities for their support.
The Mayor of Garland, Ronald Jones, officially congratulated Squinzi on the extension to the factory before cutting the tape with him to officially open the extended manufacturing plant.
After the ceremony, guests enjoyed refreshments at the Texan barbecue specially provided for the occasion

Photos 7, 8 and 9. Pictures from the Texan barbecue specially provided for guests for the occasion.

Photo 10. A picture of the visit to the MTI, where some practical demonstrations were given of how to apply the products.

before visiting the various areas of the factory, guided by members of the local staff. Everybody in attendance was shown how the area for receipt of raw material is run, as well as the departments for manufacturing powders, adhesives in liquid form and urethane materials, and also the shipping section and previously mentioned MTI. The visit highlighted the fact that Mapei Corporation is now fully equipped for handling its growth in the United States and is furbished with all the technology required for building, as is neatly summed up by one of the most frequently used slogans over the last year for corporate promotional purposes: "Technology you can build on".

People… not Just Space

Mapei has not just invested in manufacturing plants in the United States; it has also invested in human resources. It has always employed experts and highly motivated partners and staff, in order to provide customers with efficient service. For example, the extremely high standard of Mapei Corporation's human resources is testified by the presence of members of its staff in specialist associations and research institutes operating in various sectors of the building industry.

This is the case with **Jeff Leone**, Director of Strategic Marketing for Mapei Corp., who was recently appointed to be the 2009 manufacturers' representative on the managing body of the American National Tile Contractors Association (NTCA). Within this association (which helps installers develop their skills through special training programmes, technical assistance and partnerships with other industry experts), Leone mainly focuses on helping businesses with safety and standards regulations governing ceramics.

Another example comes from **Neil McMurdie**, Director of Research & Development for Mapei Americas, who was elected one of the Vice Presidents of the MMSA (Materials and Methods Standards Association) last January. MMSA provides the ANSI (American National Standards Institute) with consultancy on guidelines for installing ceramics and stone materials within the framework of American specifications. This position, which McMurdie shares with two other people, allows the MMSA to take advantage of McMurdie's experience in the chemicals industry and his firmly established contacts from positions he previously held on other standards associations. McMurdie primarily works on improving existing standards and analysis

LUIGI DI GESO

President and General Manager Mapei Americas

NEIL MCMURDIE

Director of Research & Development Mapei Americas

EPHRAIM SENBETTA

Manager of the Quality Management System Mapei Americas

JEFF LEONE

Director of Strategic Marketing Mapei Corp

CAROL HOULD

Director of National Sales Mapei Corp

methods in North America, mainly concentrating on bringing them in line with the standards issued by other international organisations (such as ISO and EN).

Likewise, **Ephraim Senbetta**, who is in charge of Mapei Americas' Quality Management System, is an accredited LEED (Leadership in Energy and Environmental Design) expert or, in other words, a professional working in the building sector who is recognized by the U.S. Green Building Council (or USGBC) as an expert with all the skills required for handling LEED certification processes for eco-sustainable and energy-saving buildings.

Senbetta, who has been a member of the American Concrete Institute, American Society for Testing and Materials and American Society for Quality, is currently the Mapei delegate to the USGBC and has recently been put in charge of the team of experts which the Mapei Corporation makes available to architects, building companies and specifications writers, in order to provide them with consultancy about how to use Mapei products to help contribute to attaining LEED certifications.

The Board of Directors of Mapei Americas is similarly composed of highly motivated and highly experienced people. This is shown, for example, by **Luigi Di Geso**'s appointment as the President and General Manager of Mapei Americas, in charge of Mapei's subsidiaries in North America, South America and the Caribbean region. Di Geso, who graduated with a degree in economics from Concordia University (Canada), joined the Company 10 years ago and has gradually taken on more and more responsibility, eventually becoming the General Manager of Mapei Canada Inc., the Group's Canadian subsidiary, and lately General Manager of Mapei Americas.

The decision to give him this extremely important position is explained by Mapei's desire to strengthen the bonds between its North American subsidiary and the rest of the Group and to further strengthen Mapei's already enviable position as leading building materials supplier on the American continent.

Di Geso's chief goal is to increase sales in the Western hemisphere by optimising production processes, promoting innovation and developing a winning team. To achieve his goal he is backed up by the Mapei Corporation team, which has already shown its great efficiency in the sectors of Research & Development, technical assistance, marketing and sales.

An example of this is Mapei Corp.'s Director of National Sales for the USA, **Carol Hould**, who joined Mapei in February 1996 as a sales rep after gaining over 10 years' experience in the flooring industry. During her 14 years working at the Company, Carol Hould has gradually been promoted first to regional sales manager, then sales director for the western area of the United States and, finally, Director of national sales, playing a key part in Mapei Corporation hitting its sales targets.

In his new role Di Geso will be able to rely on the experience of Nick Tempora, who was President and General Manager of the Mapei Group's subsidiaries in the Americas from 1983 to June 2006, before taking on the role of Honorary President, a position he still holds.

10

INTERNATIONAL ROOFING EXPO

3rd - 5th February
Las Vegas, Nevada

Mapei's subsidiary Polyglass was also on the scene at the American roofing industry's exhibition

In spite of the current difficult economic situation, the 2009 edition of the International Roofing Expo (IRE), an exhibition for various sectors of the American roofing industry (commercial, residential, etc.), may boast a series of positive results. From the 3rd to the 5th of February, 359 companies exhibited their latest products and services over a display area of almost 29,000 m² in the Mandalay Bay Convention Center in Las Vegas to a total of 7,472 visitors. The trade fair attracted roofing professionals, building and floor laying companies, real estate owners, architects, engineers and other professionals who operate in this sector from many of the single American states, Canada, Mexico, Europe and Asia. The products on show included those offered by Polyglass USA, a leading company for the production of modified bitumen roofing and waterproofing membranes, covering materials and insulating systems for the building industry, and which last year became part of the Mapei Group. For example, its stand highlighted self-adhesive solutions from the POLYSTICK range based on ADESO® technology, suitable for application on residential roofs: POLYSTICK IR-XE, POLYSTICK TU, POLYSTICK TU P, POLYSTICK TU PLUS and POLYSTICK MTS.

The spotlight was on the Kool Roof Solutions "package KEEP KOOL", which includes POLYKOOL and POLYFRESKO highly-reflective, high-performance, self-adhesive membranes also based on ADESO® technology, the use of which helps reduce global warming and the release of hazardous emissions into the atmosphere.

The penguin has been chosen as mascot for this range, to represents cool climates and how POLYGLASS membranes help to maintain a cool environment in residential and commercial buildings.

Thanks to its innovative, high-technology solutions and the synergy created since becoming part of the Mapei Group, Polyglass USA is looking forward to a more rosy future and, in spite of the difficult period for the American market, continuous reinforcement of its leadership in the modified bitumen roofing membrane sector. RM

From left to right: Amir Kahn (Polyglass USA), Natalino Zanchetta (Polyglass USA), Marco Squinzi (Mapei SpA), Nick Di Tempora (Mapei Corp.), Andy Hastings (Polyglass USA), Giorgio Squinzi (Mapei SpA) and Maurizio Leotta (Mapei SpA). The penguin in the centre of the photo is the mascot for the Polyglass "Kool Roof Solutions" range, the use of which reduces heating requirements for office buildings.

Polyglass is a company at the very top of the market for manufacturing modified bitumen roofing and waterproofing membranes, coatings and insulating systems for the building industry which became part of the Mapei Group in the autumn of 2008. The Polyglass Group includes Polyglass USA with 3 manufacturing plants (in Fernley, Hazleton and Winter Haven) and new headquarters in Florida; Polyglass (Europe) with headquarters in Ponte di Piave (Province of Treviso, Italy) and two production facilities in Italy and commercial offices in Great Britain (Polyglass GB) and in Romania (Polyglass Romania). Thanks to its 400 employees, the Polyglass Group is able to offer its clients highly innovative technology continuously developed since 1960. With the acquisition of Polyglass, Mapei has made a significant increase in its range of products available for the sector dedicated to the waterproofing of buildings.

For further information about Polyglass, please pay a visit to its website www.polyglass.com

COVERINGS 21st - 24th April Chicago, Illinois

Even in these hard times, an appointment not to be missed for those who operate in the ceramics and stone sector

In the McCormick Place centre in "green" Chicago (the leading city for the American movement for a more eco-sustainable building industry, as described in the dedicated article in this edition of *Realtà Mapei International*), 900 exhibitors from more than 50 different countries showed off their latest products for the ceramic and natural stone floor and wall covering sector over a total exhibition area of 60,000 m^2. At the end of the four days (21st to 24th of April), 22,000 visitors had visited the exhibition. The drop in the number of visitors compared with previous editions is easily explained by the far from easy moment which the ceramic and stone tiles industry is going through. We must admit however that, in spite of the general climate of uncertainty (which is partly offset by signs of hope for an imminent positive trend), the trade fair, now at its twentieth edition, is still the most important American exhibition in this sector and offered a chance to illustrate the latest trends, establish new contacts and reinforce old ones and take part in the rich programme of side events. The next edition will be held from the 19th of April to the 5th of May in Orlando (Florida, USA).

Mapei on Show: Demonstrations, Solutions, Technology and… Prizes!

The Mapei stand was in the pavilion dedicated to Ceramic Tiles of Italy, a collective trademark which groups together approximately 50 Italian ceramic tile manufacturers present for the occasion.

The position of the stand made it immediately visible to anybody who entered the exhibition area; but to capture the attention of the public, the practical demonstrations by technicians from Mapei Corp., the Group's American subsidiary, proved to be the key attraction. In particular, the properties and modular application of certain solutions were highlighted, such as MAPELASTIC AQUADEFENSE waterproofing membrane; ULTRAFLEX LFT mortar, ideal for bonding large-sized ceramic tiles and stone slabs; KERAPOXY IEG epoxy grout for industrial floors; ULTRACOLOR PLUS high-performance grout characterised by water-repellent DropEffect® and anti-mould BioBlock® technology; and OPTICOLOR easy-to-clean, stain-resistant grout. In keeping with the communication strategy chosen by the Company, particular attention was paid to those Mapei products (which currently boasts a total of more than 150) whose use contribute in gaining points for LEED certification (which stands for Leadership in Energy and Environmental Design) for eco-sustainable buildings according to the standards laid down by the US Green Building Council. This certification, which aims at promoting the development of "green" buildings, that is designed, built and operational by considering eco-sustainable criteria and which are self-sufficient regarding energy requirements, is having increasing success and is adopted in a number of countries, as well as already being obligatory in some countries such as Canada and the United States, for example.

During the press conference, organised by Mapei Corp. as with every edition of Coverings, the CEO of the Group Giorgio Squinzi commented on the current difficult situation in the American ceramics sector, highlighting however with a note of optimism the long-term strategic programme drawn up by the Company for the American market.

This programme includes important acquisitions, such as APAC, an American company specialised in the production of eco-sustainable adhesives for laying resilient materials (as explained in an article devoted to this subject in this issue of *Realtà Mapei International*).

Mapei stand at Coverings 2009.

CONFINDUSTRIA CERAMICA PRIZES FOR AMERICA

22nd April
Chicago, Illinois

Awarded to Mapei's work partners and projects, an important recognition for the application and distribution of Italian ceramics in the United States

CONFINDUSTRIA CERAMICA

Photos 1, 2 and 3. Some of the projects which were selected for the Ceramic Tiles of Italy Design Competition Awards 2009: the Newport Center railway hub in Jersey City (USA), the headquarters of Dollarama in Montreal (Canada) and the detached Woodvalley House in Maryland (USA) where Mapei products were used.

During Coverings 2009, a ceremony was held in Chicago to present the **Ceramic Tiles of Italy Design Competition Awards 2009** from Confindustria Ceramica (the Association of Italian Ceramic Tile and Refractory Material Manufacturers) in recognition of architectural projects which made the best use of the excellence of the Italian ceramics industry, and which stand out for their original design, the creative use of tiles and the eco-sustainability of the project.
Three awards were presented for buildings constructed using Mapei products to lay the ceramic and natural stone coverings.
In the commercial architecture section, the award went to the Cooper Carry design studio for the renovation project of the shopping areas, restaurants and passenger transit areas at

Photo 4.
Some of the representatives of the Canadian distributor Stone Tile International (in the centre from left to right: Daniel Sultan, Sylvia Benchimol, Vicky Baron and Carl Hesse) while receiving the Confindustria Ceramica North America Distributor Award standing between Aniello Musella, Director of ICE New York (on the left) and Vittorio Borelli, Chairman of the Promotional Activities Commitee of Confindustria Ceramica (on the right).


4

Ceramic Tiles of Italy

the **Newport Center i**n Jersey City, New Jersey (USA), a strategic railway hub in the United States.
During restoration work of the ceramic floors, tiles supplied by various Italian manufacturers were laid, such as those by Lea Ceramiche, Refin, Impronta Ceramiche and Ergon, all laid using Mapei products: from the primers (PRIMER G) and smoothing and levelling compounds (ULTRAPLAN EASY) used to prepare the substrates, to the adhesives (GRANIRAPID) for bonding the tiles and mortars (KERACOLOR S) to grout the joints.
A further two projects using various solutions supplied by the Company received a mention of honour: in the residential architecture section, a special mention was made for **Woodvalley House** in Maryland (USA), a detached house located in a spectacular setting with a view of rolling hills through its large French windows, and a central room with a heated floor covered with Mirage tiles laid using Mapei ULTRAFLEX 2 adhesive; in the commercial architecture section, special mention went to the restoration work at the headquarters of the Canadian company in Montreal, **Dollarama**, where Mapei products (PRIMER L, ULTRAPLAN 1, PLANICRETE AC, ULTRACONTACT, ULTRALITE MORTAR, ULTRAMASTIC ECO and KERACOLOR S) were used to prepare the substrates and to bond and grout the Caesar tiles laid on the floors and walls in various areas of the building.
The **Confindustria Ceramica North America Distributor Award** went to one of Mapei's clients, the Canadian distributor **Stone Tile International**, in recognition of its intense, consolidated activity in the distribution of Italian ceramic tiles and innovative tile-setting products for more than 15 years. In fact Stone Tile International, which currently boasts a unique range of more than 200 product categories, headquarters in Toronto and numerous showrooms and warehouses all over Canada, selects covering materials in ceramic, natural stone, glass and aluminium to satisfy all the requirements of the local clientele.
And because this distributor pays particular attention to the innovative design of products and the technological properties of installation materials, it is no coincidence that it prefers using Italian tiles and Mapei products, whose high quality certainly helped when selecting the award winner. DM


3

THE CERAMIC TILES MARKET

American producers look to the future by investing in technology and innovation

by Graziano Sezzi

Everything that has happened since last year can be traced backed to the USA, which must also be the starting point to try and find the causes.

An exercise which has involved the sharpest brains from the political-economic world, but without yet supplying a precise, convincing answer.

So wouldn't it be better to try and understand what the near future has in store for us?

There are basically two questions which we would like to try to answer:

a. when will the USA economy and construction market pick up again?

b. how high will the demand be for ceramic tiles compared with other floor and wall covering materials?

To answer the first question, we can get an idea from the forecasts of the major economical research institutes and by screening various articles written by the most prestigious, and even less prestigious, economists.

Their opinions may be summarised as follows.

The construction industry is at its lowest ever level, which means things can only get better. Exactly when, however, is where opinions tend to differ: some analysts say the upward trend will begin in 2010, others are betting on 2011 while yet another school of thought is even more pessimistic. The only optimist note worthy of mention are the August figures for the residential building sector, which saw an increase of 1.5% compared with July. And because this is the first positive news since November 2008, it is considered an extremely important sign.

One thing is certain however, the record levels of 2005-2006, with more than 2 million new homes started and completed, will not be reached. An excellent result would be a level of around 1.5 million new homes per year in 2012-2013, which represents the same volume as the average figure over the last 30 years (see Table 1).

And for now, as mentioned above, the objective of registering at least a small increase in August compared with the previous month was reached. This is a real turning point which, if confirmed in the following months, would have an immediate positive psychological effect on both constructors and buyers.

Ceramic Tiles

The issue regarding ceramic tiles is more specific.

In recent years, the use of ceramic tiles has reached a level where they represented up to 11% of the total consumption of floor materials in the United States (which dropped to 8.6% in 2008), from a starting point of less than 5% at the beginning of the 1980's: a constant growth trend which has rewarded the performance and aesthetic qualities of a product in continuous innovation (see Table 2).

Table 2

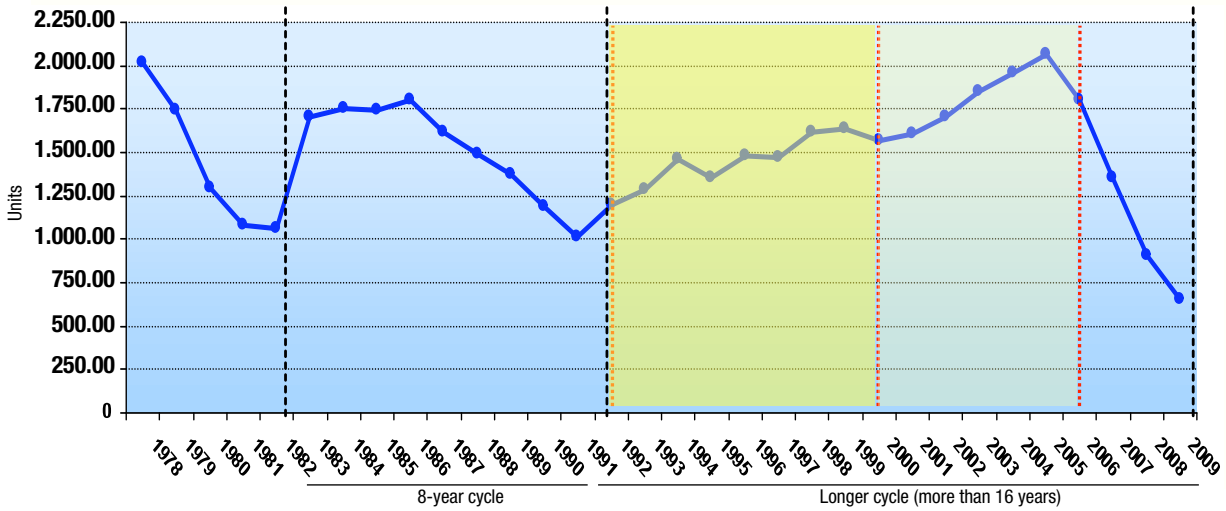
THE USA FLOOR COVERING MARKET IN 2008

	Billions of $ (wholesale)	Square feet billion*	% (sqf)
Carpets + Rugs	12.8	13.31	67.7%
Vinyl	2.1	2.91	14.8%
Ceramic tiles	**1.8**	**1.69**	**8.6%**
Parquet	1.5	0.79	4.0%
Laminates	1.0	0.77	3.9%
Rubber	0.5	0.20	1.0%
Total	19.7	19.67	100%

Source: processed data published on *Floor Covering News*
*1 m² = 10,76 square feet

Table 1

USA - Housing Starts (1978-2009)



These market quotas have been gained out on the field and are further consolidated by the results and also by the perception of market operators (designers, builders and consumers) who have had the opportunity to get to know and appreciate the quality of the material.
There is still considerable margin for growth and even if we don't use countries where ceramic tiles account for more than 50% (and in certain countries more than 80%) of floor materials as a reference, the area to cover and conquer is still very high.
Ceramic tiles are now a consolidated part of the United States consumer culture and, apart from boasting the highest levels of technical and aesthetic performances currently available, they also offer decisive advantages in terms of ecologically sustainable processes and products and a superior service life compared with alternative materials.
The drop in recent years may be reabsorbed and a return to an annual level of 250 million m^2, as in 2002-2003, is a realistic hypothesis (see Table 3)

Where Will the Ceramic Tiles Sold in the Next Few Years Be Produced?

In the last few years local production has maintained a stable quota of the consumer market, around 18-20% (see Table 4).
Some of the most well-known Italian groups (Marazzi, Panaria, Florim and GranitiFiandre) and local producers (Daltile and Crossville) have invested heavily in new technology, leading to an upgrade of goods on offer with the capacity of satisfying a more demanding market. At the same time, numerous obsolete production facilities have been closed down.
Mexico has made enormous progress.
USA companies have installed production facilities, and together with the consolidated national producers have reached an export level of 20% of the consumption in the USA (2008 – in terms of quantity).
If the production in the USA is added to the Mexican figures, and if we also include the amounts imported by USA producers from overseas, the total is slightly lower than 50% (see Table 4).
In this situation, and with the currently weak dollar, this quota is destined to rise, although it is difficult to predict a noteworthy increase in local production.
As in Europe, North America is now a single market where production is mainly carried out in the southern part of the continent. And it is no coincidence that the association of USA producers has now spread into Mexico, anticipating a true picture of what the future has in store.

How Will the Market Be Sub-divided?

As with other industries, the tendency is to head towards a more marked polarisation.
On the one hand there is demand, estimated at approximately 75% of total consumption, for base materials – and of a much higher quality compared with the past – in which the price is the determining factor.
On the other hand there is demand, estimated at approximately 25% of total consumption, for more select and specific goods which may only be satisfied by producers with a well-equipped production and commercial structure.
In this segment with a higher added value, factors such as the technical quality of the product, the brand name, the quality of service offered and the ability to dialogue with the points of sale and directly with designers will assume a more decisive role.
Other important factors will be "ecological" elements which will become increasingly perceivable and perceived, traceable to the nature of the process and the ceramic product itself, and the adoption of a code of conduct for those who operate in the sector.
In such an uncertain moment for the global economy we firmly believe that all those concepts connected to the real economy must emerge: the ability to produce, to promote and to sell.
And that the ceramics sector and ceramic products are a prime example of a "true" real economy.

Table 3

CONSUMPTION OF TILES IN THE UNITED STATES (2000-2009)
(millions of square metres)

Year	USA producers shipments	Import	Export	US consumption	Change % (6 months)
2009 (Jan-June)	19.8	59.3	2.2*	76.9	-21.0%
2008 (Jan-June)	22.6	77.0	2.3	97.3	
2008	45.0	156.6	4.7	196.9	-20.6%
2007	50.1	202.4	4.4	248.1	-19.5%
2006	58.5	253.8	4.2	308.1	1.4%
2005	61.1	246.0	3.4	303.7	3.8%
2004	64.6	231.2	3.2	292.6	11.9%
2003	57.1	207.2	2.7	261.6	6.3%
2002	60.3	189.0	3.1	246.2	16.5%
2001	54.9	159.5	3.1	211.3	-0.4%
2000	60.4	155.0	3.4	212.2	

Source: Analysis by D. Grosser and Associates, Ltd based on US Dept of Commerce data *Estimates

Table 4

CONSUMPTION OF TILES IN THE UNITED STATES ACCORDING TO COUNTRY OF ORIGIN (2005-2009) (millions of square metres)

Country of origin	2005		2006		2007		2008		Jan-August 2009	
	Millions of m^2	%	Millions of m^2	%	Millions of m^2	%	Millions of m^2	%	Millions of m^2	%
Italy	64.0	21.1	61.4	19.9	48.7	19.6	35.9	18.4	14.73	14.9
US	57.7	19.0	54.3	17.6	45.7	18.4	38.6	19.8	17.00*	17.2
Spain	33.9	11.2	32.2	10.5	20,0	8.1	11.4	5.8	4.91	5.0
Mexico	38,0	12.5	42,0	13.6	40.9	16.5	39.0	20.0	23.47	23.8
Brazil	42,0	13.8	40,0	13.0	27.7	11.2	15.2	7.8	7.13	7.2
China	20.9	6.9	32.2	10.5	32.6	13.1	28.7	14.7	16.83	17.1
Other countries	47.2	15.5	46,0	14.9	32.5	13.1	26.4	13.5	14.60	14.8
Total	303.7	303.7	100.0	100.0	248.1	100.0	195.2	100.0	98.66	100.0

Source: Analysis by D. Grosser and Associates, Ltd based on US Dept of Commerce data *Estimates

A GREEN AND BLUE CITY

Chicago, the capital of American urban eco-sustainable building, bade to host the 2016 Olympic Games

Not just because of its imposing skyscrapers, elegant late-19th century buildings, prestigious cultural events (notably on the stage), culinary innovations or the fact it was the scene of the first political pledge by the American President Barack Obama: Chicago, the third biggest city in the United States, is now famous as the capital of the urban "green" movement, which promotes eco-sustainable building for the major metropolises of the United States and rest of the world. Although in the past other cities – Seattle, San Francisco and Portland – battled for this title, Chicago is now the undisputed leader on American soil.

This is thanks to its wealth of open spaces, startling Millennium Park (a public park completed in 2004 in one of the northernmost districts of the city facing onto Lake Michigan and encompassing the biggest garden in the world built on top of a roof), its numerous cutting-edge eco-sustainable building programmes and countless garden roofs.

Great credit from this obviously goes to the city mayor, Richard Daley, famous for his love of bicycles and "green" commitment, who took control of the city in 1989 pledging to turn it into the most eco-friendly city in the United States. This has resulted in over 50,000 trees being planted, the construction of a network of cycle paths covering over 240 km, and a greater number of LEED-certified building projects (i.e. in accordance with the guidelines for "Leadership in Energy and Environmental Design" for developing high-performance eco-sustainable buildings) than in any other American city.

The latter also include the "green roof" over Chicago City Hall: a garden containing 20,000 plants was installed on top of this 11-storey building in 2000, with a view to improving air quality, reducing the skyscraper's energy consumption, lowering the temperature of the surrounding air and controlling water dispersion during storms.

The experiment was so successful that it led to an explosion of gardens (over 122 km^2) all over the city's roofs.

In 2007 Daley assembled a commission of experts belonging to public, private and non-profit organisations in order to draw up the so-called "Chicago Climate Plan", a programme of measures for reducing greenhouse gas emissions by 15 million tonnes, so that by 2010 the level of emissions will be 25% lower than in 1990. The other aim of the plan was to make Chicago a "resilient" city or, in other words, capable of withstanding high summer temperatures and more ferocious storms in case of any significant climate change (this latter prospect is now considered likely due to the increase in the number of inhabitants in American cities and the ensuing increase in energy consumption and waste generation).

Now that research connected with the project has highlighted the fact that 70% of emissions come from buildings and infrastructures, a real boost

Photo 1.
As soon as you landed at the airport in the months preceding the final election, you could feel the local people's pride over Chicago's candidature to host the 2016 Olympic Games.

Photo 2.
The Cloud Gate, a gigantic sculpture by the artist Anish Kapoor, stands right in the middle of Millennium Park.

Photo 3.
Views of the city of Chicago. Right, Millennium Park: one of the city's biggest public parks facing onto Lake Michigan and encompassing the biggest garden in the world built on top of a roof and over 10 hectares of green spaces.

City of Chicago Internet site/Walter Mitchell

has been given – and will be given to an even greater extent in future – to the construction of eco-sustainable buildings and efficient maintenance operations for them. The use of alternative energy sources, such as wind and solar power, and research into efficient waste recycling methods are also being carefully studied and encouraged by experts on these matters.
Chicago does not only want to become the "most eco-sustainable" metropolis in the United States, it also wants to provide a model for a "green city", which could actually be replicated in other areas and in other countries.
This is one of the trump cards on which Chicago was counting as it bade to be the host city of the 2016 Olympic Games. The bid was supported by Mayor Daley and other city dignitaries, such as Pat Ryan, the founder and retired executive chairman of Aon Corporation (America's leading company in the reassurance, management consultancy, risk management and human resources sectors) and chairman of the commission for Chicago's bid for the 2016 Olympic Games and who, moreover, last spring visited Milan and met with the City Mayor, Letizia Moratti, a number of Italian authorities in the field of sports and some members of the Board of Directors of Mapei SpA. The city folk of Chicago hoped that its "green" primacy would help the city to get to the top of the list of candidates on final selection day on 2nd October this year, when Rio de Janeiro was finally elected.
Whereas in the past certain cities hosting the Olympics elected to call them "the Green Games", Chicago on the other hand was proposing the "Blue and Green Games" in clear reference to the colour of Lake Michigan, clean air and the wealth of inner-city parks. The city planned to use 100% renewable energy for all operations connected with the games, also reducing the amount of waste usually sent off to rubbish dumps by 85% and only using vehicles with low emissions of carbon dioxide for moving around the organising committee for the Games.
Since the local city folk were extremely hopeful of this important tender being awarded to Chicago, numerous redevelopment, modernisation, extension and construction projects for all kinds of structures and infrastructures (sports, accommodation, transport, etc.) had been designed. There was planned to be a budget of 40 million US dollars for works connected with these projects, including the construction of a new temporary Olympic Stadium (subsequently to be replaced by a multipurpose arena with seating room for 10,000) and an athletes' village overlooking Lake Michigan. In any case, Chicago's candidature offered the city and its inhabitants numerous benefits, quite aside from more strictly sporting facilities.
Mapei, which has been supplying innovative chemical products for building to the sites of the most important sports (first and foremost the Olympics) and cultural events for years now, was involved in this explosion of energy and activity in the city. It helped construct the numerous buildings which already stand out on the city skyline and which are described over the following pages.

City of Chicago Internet site/Peter J. Schultz

400 EAST RANDOLPH: SWIMMING IN THE SKY

A challenging renovation for a swimming pool on the roof of a Chicago skyscraper

Built in 1963, 400 East Randolph is the location of the oldest and most established building in the Lake Shore East neighborhood of Chicago.
The apartment building was later converted to condominiums in 1973. The 40-story skyscraper, designed by Reinheimer and Associates, has stunning views of Lake Michigan.
One of 400 East Randolph's most enticing amenities is the natatorium on the seventh floor.
A steel-and-glass dome encloses the pool, spa and deck. Outside the dome, a well-landscaped patio is surrounded


1


2

Photo 1.
Outside view of the 400 East Randolph skyscraper.

Photo 2.
The natatorium on the seventh floor features a steel-and-glass dome enclosing the pool, spa and deck.

Photo 3.
The swimming pool surfaces were waterproofed with MAPELASTIC.

Photo 4.
Tiles were bonded in the pool with the KERABOND+ISOLASTIC mortar system (ISOLASTIC is distributed in the American market with the name of KERALASTIC).
Tile joints were grouted with KERAPOXY epoxy grout.

Photo 5.
ADESILEX P10 was used to install colored mosaic tiles on the walls in the spa area.


3

by private cabanas belonging to some of the condominiums owners.
On the inside, the pool is large enough for residents to swim laps before they enjoy the bubbling waters of the spa. The pool is situated over a garage that occupies parts of the floors below; and it was here that a problem arose when, after many years of service, the pool began to leak.
DTI (Dave's Tile of Illinois) was selected as the contractor to repair and refurbish the pool. Lynn Smith of Habitat Condo Management met with Brian Castro and Gary Knutson of DTI to discuss possible solutions.
The result is a waterproof pool tiled in mosaic and iridescent glass with a cool white-tiled deck and mosaic tiles in soothing hues of green and blue moving toward and up the sides of the elevated spa.
After all the old tiles and fixtures in the pool were removed, the DTI crew began by smoothing the entire surface and then applying MAPELASTIC flexible cementitious membrane for concrete waterproofing protection.
For all surfaces in the pool, the installers set Daltile's Keystone mosaic tiles combined with a 1%, 2%, and 3% mix of various hues of Daltile Sonterra glass tile.
To insure maximum flexibility and high bonding strength for the tiles in the pool, which was subject to extra movement due to the garage located beneath it, the team set the tiles with the KERABOND+ISOLASTIC mortar system (ISOLASTIC is distributed in the American market with the name of KERALASTIC). All surfaces in the pool were grouted with KERAPOXY epoxy grout to protect against stains and provide chemical resistance.
The 7.5x7.5 cm white tiles that cover most of the deck were set with KERABOND+ISOLASTIC, and the same mortar system was used for the Keystone mosaic tiles for horizontal surfaces of the deck. ADESILEX P10 was used to set the colored mosaic tiles that form the sides of the three tiers leading to the spa. DTI installers also used ADESILEX P10 to enhance the sparkle of the Sonterra glass tile wall near the entrance to the natatorium.
All deck and wall surfaces were grouted with ULTRACOLOR grout.
The condominiums at 400 East Randolph are home to 955 owners and their families, and the pool is in constant use.
During the day, the energy and bustle of the surrounding high-rises and office buildings are visible through the steel-and-glass dome, but the noise does not penetrate the restful interior. At night, the dome is lit by lights that change colors, providing an additional attraction to the ambiance.
The natatorium is indeed a gem sparkling in the urban landscape, and Mapei contributed in polishing it to a new luster.

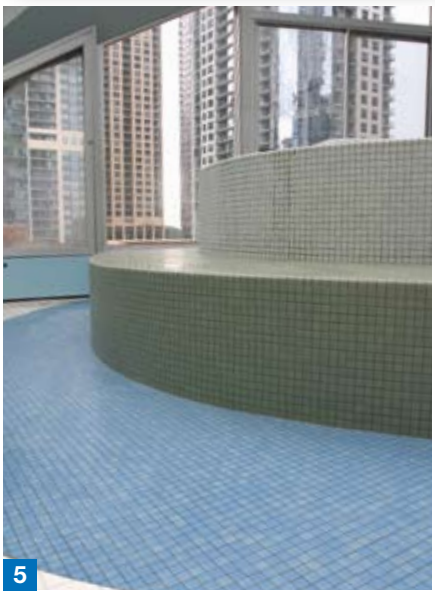
Mapei Products: *the products mentioned in this article (**Mapelastic CRS, Kerabond+Isolastic** - Isolastic is distributed in the American market with the name of Keralastic -, **Adesilex P10, Kerapoxy, Ultracolor**) are manufactured and distributed in the American market by Mapei Corp. (USA). For further information please see the web site www.mapei.com.*

TECHNICAL DATA

400 East Randolph, Chicago (USA)
Designer: Reinheimer & Associates
Year of Construction: 1963

Period of Intervention: 2007-2008
Intervention by Mapei: supplying products for waterproofing; for laying mosaic tiles in the swimming pool; for laying ceramic tiles on the pool deck, on the walls near the entrance of the spa area and on the sides of the tiers leading to the spa; for grouting joints in the same areas.
Designer: Rada
Client: 400 East Randolph, Chicago
Works Director: Mike Thomassen
Contractor: George Sollit Construction
Laying Company: DTI (Dave's Tile of Illinois)
Materials Laid: mosaic and ceramic tiles by Daltile
Mapei Distributor: MidAmerica Tile
Mapei Co-ordinator: Steve Cameron, Mapei Corp. (USA)


4


5

SMART HOME

The Chicago Museum of Science and Industry Exhibits an Eco-sustainable Building

Photo 1.
Outside view of the Smart Home.

The Chicago Museum of Science and Industry recently opened a new "green" exhibit for guests interested in the latest innovations in reusable resources, smart energy consumption, and clean, healthy living environments in a contemporary setting. Conceived by Michelle Kaufmann Designs, the leading designer of sustainable, green homes in the USA, the "Smart Home: Green + Wired" exhibit celebrates exciting new directions in sustainable living and environmentally friendly technologies for the 21st century.

Building an Eco-sustainable Home

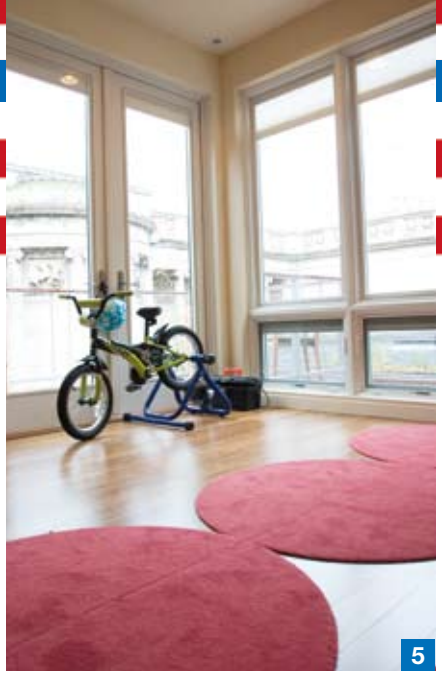
The 230 m² mkSolaire home – located on a park on the east side of the museum – was constructed in two parts. The modular three-story house was built in a factory by All-American Homes of Middlebury, Indiana (USA). After the pre-fabricated components were transported to the museum site, Norcon, Inc., the general contractor for the Smart Home, assembled the three levels with the use of a crane and then completed the interior work and exterior green landscaping.

At the request of Daltile Corporation, Mapei was introduced to this project to participate in the donation of a flooring system utilizing the Company's systems for laying ceramic tiles and wooden floors.

After waterproofing the substrates with MAPELASTIC 315 two-component, flexible cementitious membrane, the tile floors in the bathrooms were installed at the plant in Indiana using the KERABOND+ISOLASTIC mortar system (ISOLASTIC is distributed in the American market with the name of KERALASTIC) and OPTICOLOR improved, water-cleanable, reactive resin grout for grouting the joints. The Blazestone 5 x 5 cm wall tiles in the powder room on the first floor were made entirely from post-industrial and post-consumer glass, as were the Blazestone Subway 9 x 19 cm shower tiles in the master bath. The floor tiles in the master bath – from Terra Green Ceramics – were made with 55% recycled glass content and qualify for LEED certification points. LEED is a certification system aimed at developing high-performance "green" buildings or, in other words, structures designed, built (or restructured) to operate in an eco-sustainable and energy efficient way. The system is officially adopted in Canada and the USA and becoming increasingly popular worldwide. The shower and floor tiles in the second bathroom were handmade from recycled glass, paper and low-carbon cement. The Jurastone Beige limestone tiles used for the flooring

Photo 2 and 3.
In the bathrooms ceramic tiles were bonded with the KERABOND+ISOLASTIC system (ISOLASTIC is distributed in the American market with the name of KERALASTIC) and the tile joints were grouted with OPTICOLOR.

Photo 4.
Limestone tiles were installed on the flooring throughout the ground level with the KERABOND+ISOLASTIC system (ISOLASTIC is distributed in the American market with the name of KERALASTIC) and the tile joints were grouted with ULTRACOLOR.



5

throughout the ground level were set with the KERABOND+ISOLASTIC mortar system to stand up to the heavy traffic from the thousands of visitors who tour the Smart Home. The tiles were grouted with n. 94 Straw ULTRACOLOR grout. On the second and third levels, the wood flooring was set with ULTRABOND 990 solvent-free, one-component urethane wood-flooring adhesive. Synergy prefinished strand bamboo flooring from Teragren was used for the bedroom and hallways because bamboo is a highly renewable material. It grows quickly – about 27 m in just one year. ULTRABOND 990 was chosen for this installation because the bamboo had to be bonded to the steel base of the pre-fabricated modules.

Perhaps motivated by the Smart Home, other museums and organizations around the United States are planning and incorporating "green living" displays into their exhibits; but none have so far created a real, working home complete with green landscaping surrounding the home. The Smart Home includes a green roof, a "lawn" of native plants and perennials with a porous paver system forming the walkways, and a unique vegetable garden that makes use of growing boxes to provide vegetables and herbs during three seasons of the year.

The museum's curators had originally planned to display the "Smart Home: Green + Wired" exhibit from May 2008 through January 2009, but the immense interest in "Chicago's greenest home" has inspired them to extend the exhibit for an additional year.

During the 2009 edition of Coverings trade fair, Mapei Corp., the US subsidiary of the Mapei Group, provided attendees with a special folder from the museum, which highlighted this innovative building project.

6

Photos 5 and 6.
On the second and third levels, the wood and bamboo flooring were bonded using ULTRABOND 990 adhesive.

Mapei Products: *the products mentioned in this article* ***(Mapelastic 315, Kerabond/Isolastic*** *- Isolastic is distributed in the American market with the name of Keralastic - ,* ***Opticolor, Ultracolor, Ultrabond 990)*** *are manufactured and distributed in the American market by Mapei Corp. (USA). For further information please see the web site www.mapei.com.*

TECHNICAL DATA

Smart Home, Chicago Museum of Science and Industry, Chicago (USA)
Designer: Michelle Kaufmann Designs
Period of Construction: 2007-2008

Intervention by Mapei: supplying products for laying recycled material tiles, for grouting tile joints, for laying wooden and bamboo floorings
Client: Chicago Museum of Science and Industry
Works Director: Brandon Rogalski of Norcon, Inc.
Contractors: American Homes of Middlebury, Indiana; Norcon Inc.
Laying Company: Trostrud Tile & Mosaic Inc.
Materials Laid: recycled materials tiles, wooden and bamboo flooring
Mapei Distributor: Daltile
Mapei Co-ordinator: Steve Cameron, Mapei Corp. (USA)

4

MARRIOT DOWNTOWN HOTEL

The renovation of a prestigious hotel in Chicago called for close cooperation between designers and floor-layers

There are 1192 rooms in the 46-story Marriott Downtown Hotel in Chicago.
Bulley & Andrews, General Contractors, were recently called on to renovate the lobby and mezzanine level of this Marriott flagship hotel. The technicians from Bulley & Andrews were presented with an intricate and complicated job when it came to the replacement of the old marble floor in the lobby. Working with DTI (Dave's Tile of Illinois), they reviewed the architect's plans for renovation. The renderings called for a series of concentric ellipses to be executed in natural stone, marble and granite. Before the first tile could be laid, they surveyed the lobby area and mapped the ellipses to the spaces.
Over 70% of the 464 m² of the original marble was removed along with its mud bed setting. This work was performed in 12-15 small phases because the hotel was open during the renovation and the first floor was busy with people at all times. In addition, there were uneven floors throughout the huge lobby, which added to the difficulties. However, the DTI crew was able to quickly level an area with MAPECEM 100 so that carpet could be laid evenly with the tile. After levelling, the crew treated the whole surface with PRIMER L and ULTRAPLAN EASY self-levelling compound.
The bar at one end of the lobby serves as the origin of the ellipses. A large vertical element rises from the center of the bar in the form of a torch, which is lit with changing colors. The primary color is red, and this hue is repeated in the Celador red granite ellipse surrounding the bar. All the primary colors are reflected in elliptical patterns in the carpet encircling the red granite. DTI installers installed this granite with ULTRACONTACT and grouted the joints with ULTRACOLOR.
The red granite and the carpet were banded with Black Absolute Granite provided by Terrazzo & Marble Supply of Chicago (T&M). The ellipse enclosing the carpet is filled with Maras marble from Stone Design. This is a type of marble commonly called "Connecticut Pink" from the location where it was first quarried. The fourth ellipse is composed of T&M's "Golden Sail" – a natural stone. These tiles were precisely cut to fit into the ellipse according to the map developed by the designers. The stone was also bonded with ULTRACONTACT and the joints grouted with ULTRACOLOR.
On the mezzanine level, the Marriott hosts guests at a casual dining restaurant. For the walls in this restaurant, the architect, VOA, specified a red and a white textured tile set in large blocks of color, following the research that suggests these two color combinations make people want to eat.
These tiles were supplied by American International. Two years earlier Mapei representative Heather Yario had introduced DTI to ULTRALITE light-weight cementitious mortar, and the installers used it to set the wall tiles in the restaurant. The tiles were then grouted with KERACOLOR U premixed, polymer-modified grout, with anti-mould protection ensured by BioBlock® technology. The Marriott and their designers decided to highlight special areas with mosaic glass tile from Virginia Tile. In a range of colors from yellow to

Photo 1.
White and red ceramic tiles were laid on the walls of the restaurant area. ULTRALITE light-weight mortar was used for the bonding and KERACOLOR U cementitious mortar for grouting the tile joints.

Photo 2.
After removing the original marble, the floor substrates in the lobby area were levelled with ULTRAPLAN EASY self-levelling compound.

Photos 3 and 4.
Red granite slabs were laid on the floor next to the bar with ULTRACONTACT; joints were grouted with ULTRACOLOR.
The same products were used for installing the natural stone slabs on the remaining sections of the ellipses and for grouting the joints.


2


3


4

Mapei Products: *the products mentioned in this article* ***(Mapelastic 315, Mapecem 100, Primer L, Ultraplan Easy, Ultracontact, Adesilex P10, Ultralite, Ultracontact, Keracolor U, Ultracolor)*** *are manufactured and distributed in the American market by Mapei Corp. (USA). For further information please see the web site www.mapei.com.*

SCHEDA TECNICA

Marriott Downtown Hotel, Chicago (USA)
Year of Construction: 1978

Year of Intervention: 2008
Intervention by Mapei: supplying products for laying screeds, levelling substrates in the lobby, for waterproofing the bathroom surfaces, for laying and grouting ceramic tiles and granite slabs on floorings and walls in the lobby, restaurant area and restrooms near the meeting rooms
Designer: VOA Associates
Client: Marriott Hotels
Works Director: Andy Johnson (Bulley &Andrews)
Contractor: Bulley & Andrews
Laying Company: DTI (Dave's Tile of Illinois)
Laid Materials: ceramic tiles and natural stone slabs
Mapei Distributor: MidAmerica Tile
Mapei Co-ordinator: Heather Yario, Mapei Corp. (USA)

gold to orange, the DTI team installed the glass tile on the entrance wall to the restaurant, the front of the concierge desk, a fireplace facing in the lounge and the front of all the serving stations in the restaurant.
A Starbucks shop located near the check-in counters also carries out a glass-tile theme, though the tiles are 5x5 cm rather than the mosaics used in other areas.
For these jobs, the installers used ADESILEX P10 mortar to enhance the colors in the glass tile and then grouted with KERACOLOR U.
The public restrooms near the meeting rooms were set with 30.5 x30.5 cm ceramic tiles.
In this area DTI installers waterproofed the bathrooms with MAPELASTIC 315, then bonded the tile on the walls with ULTRALITE MORTAR and those on the floor with ULTRACONTACT. The joints of the wall tiles were grouted with KERACOLOR U, and the floor joints were grouted with ULTRACOLOR. The Marriott Downtown on Magnificent Mile was a fast-track construction project that put significant pressure on DTI and Bulley & Andrews to perform the installation in a very short time. Work began in the restaurant in November 2007, and the project was completed by March 2008.
All the installations in the lobby were finished in just 11 weeks. This project showed what experienced floor-layers and professional products for installation can accomplish together. DM

TRUMP INTERNATIONAL HOTEL AND TOWER

Designed by Skidmore, Owings & Merrill, a skyscraper stands out in the Chicago skyline

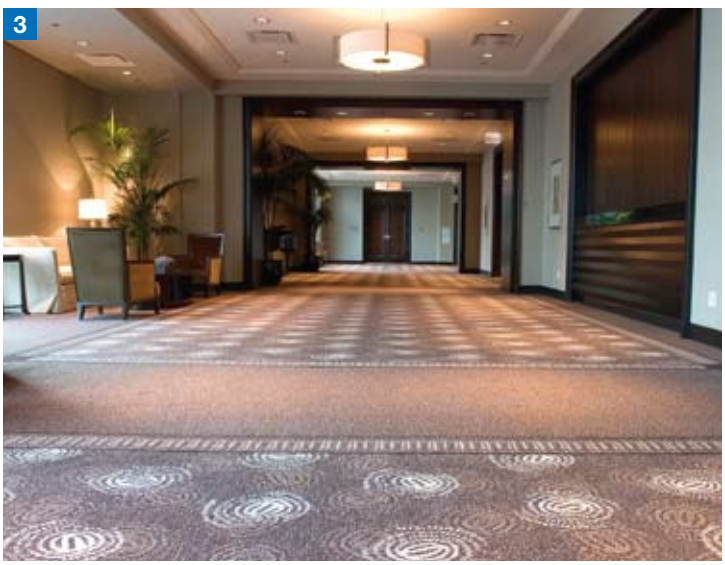

1

Skyscrapers can be overwhelming, and the Trump Tower in Chicago is no exception. Not the largest skyscraper in the world and not even the largest in Chicago (the Sears Tower has that honor), the Trump is nevertheless an unforgettably impressive building of glass, concrete and steel that has carved out its own unique niche in the Chicago skyline. The building is now complete, and the hotel is open and thriving. Apartment owners have also begun to move into the residential tower. Architects from Skidmore, Owings & Merrill, in concert with general contractors Bovis Lend Lease (for the core and shell erection) and McHugh Construction (for interior work), kept Chicago sub contractors hopping as the Trump Tower went up floor by floor. From the construction elevator on the 49th floor during a visit to the jobsite, the most noticeable objects were rows of pallets holding bags of Mapei's NOVOPLAN 2 cementitious self-leveling compound used to level and smooth the concrete substrate before laying the floor and wall coverings. MAPECEM QUICKPATCH concrete patch was used to repair concrete surfaces in the hallways when needed.

Bathrooms throughout the guest suites in the hotel and various apartments in the residential tower were waterproofed with MAPELASTIC HPG flexible waterproofing and crack-isolation membrane.

The tile installers from Stone Installation and Maintenance, Inc. (SIMI) set the large-format stone floor tiles in the bathrooms and granite slabs in the kitchens with ULTRACONTACT polymer-modified mortar and used ULTRALITE MORTAR lightweight, high performance, multipurpose mortar for the stone tiles on the walls. The SIMI crew grouted the floors with KERACOLOR S high performance, premixed, polymer-modified sanded Portland-cement tile grout and the walls with KERACOLOR U cementitious grout. To accommodate the heavy traffic on the large format tiles in the hotel lobby and residential lobby, SIMI installers used the KERABOND+ISOLASTIC mortar system (the latter is distributed in the American market with the name of KERALASTIC) and grouted the tile joints with KERACOLOR S.

The floors in the residential apartments are covered with engineered wood planks. To improve quietness and pri-


3


4

Photo 1.
Outside view of the Trump International Hotel and Tower.

Photo 2.
Marble slabs were laid in several areas of this hotel using the KERABOND+ISOLASTIC system (ISOLASTIC is distributed in the American market with the name of KERALASTIC).

Photo 3.
In the pre-meeting areas carpet flooring was bonded with ULTRABOND ECO 185.

Photo 4.
KERAPOXY 410 epoxy mortar was used to install the porcelain tiles in the pool; the joints were grouted with KERAPOXY grout.

Photo 5.
In the bathrooms ULTRACONTACT was used to bond ceramic tiles in the floors; tile joints were grouted with KERACOLOR S.

Photo 6.
ULTRACONTACT was also used to install granite slabs on the kitchen floors; for laying natural stone slabs on the walls ULTRALITE MORTAR was chosen and joints were grouted with KERACOLOR U.

vacy, the wood floor contractor crew installed about 70,000 m² of sound-proofing membrane, using Mapei's ULTRABOND 980 for a professional bond. In the pre-meeting function rooms, the carpet seems to stretch out forever.

The installers employed a double glue down technique, using ULTRABOND ECO 185 fast-setting adhesive to bond the pad to the floor and ULTRABOND ECO 220 adhesive to bond the carpet to the pad. Wall base was installed with ULTRABOND ECO 575 fast-setting, acrylic-based adhesive. On the 14th floor mezzanine, guests to the hotel can enjoy a luxurious spa. One of the striking features of the spa is the lap pool. This installation presented a special challenge because of its location above occupied areas on the floors below.

The contractors for the pool, J&M Tile, were faced with installing tile over the metal base of the pool. First, the metal shell was installed, then completely filled to ensure that there were no leaks in the framework. Next, the team used KERAPOXY 410 epoxy mortar to install the porcelain tiles in the pool. The joints were grouted with KERAPOXY grout.

One of the most exciting venues in the hotel is the restaurant on the sixteenth floor, aptly named "Sixteen". The large marble slabs in the residential lobby were installed with KERABOND+ISOLASTIC and the joints were grouted with KERACOLOR S. In the lobby elevator areas, the tile was assembled into intricate patterns to give a signature look to the Trump Tower. KERABOND+ISOLASTIC and KERACOLOR S were also used in these areas.

Work on this grand a scale gives contractors and products suppliers, such as Mapei, the opportunity to show their skills and workmanship in many ways; and that quality can be seen wherever guests and residents look in the Trump International Hotel and Tower.

Mapei Products: *the products mentioned in this article* ***(Novoplan 2, Mapecem Quickpatch, Mapelastic HPG, Ultralite Mortar, Ultracontact, Kerabond+Isolastic*** *(Isolastic is distributed in the American market with the name of Keralastic),* ***Keracolor S, Keracolor U, Kerapoxy, Kerapoxy 410, Ultrabond 980, Ultrabond Eco 185, Ultrabond Eco 220, Ultrabond Eco 575)*** *are manufactured and distributed in the American market by Mapei Corp. (USA). For further information please see the web site www.mapei.com.*

TECHNICAL DATA

Trump International Hotel and Tower, Chicago (USA)
Designer: Skidmore, Owings & Merrill
Period of Construction: first working phase in 2007-2008; work was completed in 2009.

Period of Intervention: 2008-2009
Intervention by Mapei: supplying products for waterproofing substrates in the bathrooms; laying ceramic tiles and natural stone slabs in the bathrooms, kitchens, lobby and lap pool; grouting joints in the same areas; laying wooden floors in the residential apartments; laying textile floors in the pre-meeting rooms
Client: Trump Enterprises
Works Director: Bill Shrimpl
Contractors: McHugh Construction and Bovis Lend Lease
Laying Companies: SIMI, Anderson Interiors, Flooring Resources
Laid Materials: ceramic tiles, natural stone slabs, parquet, textile coverings
Mapei Distributor: Datile Corporation
Mapei Co-ordinator: Steve Cameron, Mapei Corp. (USA)

REMEDIATING CONTAMINATED LAND: CURRENT LEGISLATION AND STANDARDS

Clear guidelines are starting to be laid down in Italy, to increase the competitiveness of the economic and productive system, by aiming at requalification of the territory and the environment

More and more often, the problem of the environment is becoming the main theme when discussing development, both at a national level and a global level. It is used as a parameter to measure overall policy, and as a keystone when programming for the future, which can be no other than "sustainable". With this outlook in mind, problems regarding the ground, and protection of the ground, are becoming an increasingly important topic in political debates and in new legislation all over the world.
Organisations and private companies, such as Mapei for example, are coherent with this trend and invest considerable resources into Research & Development, to create products and technologies which are more eco-sustainable and to find concrete solutions to problems concerning safeguarding the environment.

HPSS technology (High Performance Solidification and Stabilization), the result of an original Mapei research programme, developed specifically for the remediation of contaminated land, is just such an example. Some of the following pages in this edition of *Realtà Mapei International* are dedicated to the innovative system. This article, on the other hand, will present a general picture of the standards and reference laws which currently act as a guideline when approaching this topic.

The Soil and Contaminated Sites: a Definition at a European Level

The new "European Soil Charter" states clearly what is meant by this term, and defines its three main functions: its ecological function, as an archive for natural history and functions related to activities carried out by man.
It declares that the soil is a complex natural resource of fundamental importance for life itself, so essential and obvious that it is often overlooked when considering the components of the environment. From an environmental point of view, the soil is defined as an interface, forming a medium for interaction between rocks, water, air and mankind.
The "European Soil Charter" is divided into 12 articles, and was approved by the European Council in 1972, while a revised edition of the Charter was adopted in 2003, entitled "European Charter for the Protection and Sustainable Management of the Soil". This declaration inspired "The Environmental Challenge", a document published recently which summarises the state of the Italian environment. It was presented by the Italian Minister for the Environment, Territory and Sea Stefania Prestigiacomo, during a summit meeting between the Ministers for the Environment of the G8 nations,

held in Syracuse from the 22nd to the 24th of April. In the part dedicated to the "Management of Natural Resources and Layout of the Territory", in the section entitled "Use of the Soil", there is a chapter dedicated to "Remediation of Contaminated Sites". This is the most recent istitutional document regarding the topic. It summarises current Italian legislation to act as a guideline for this issue, and sets out some of the most important aspects regarding the future development of this sector.

Firstly, the term "contaminated site" refers to those areas in which, following activities either still ongoing or carried out in the past by man, an alteration in the quality characteristics of the soil and surface and underground water has been ascertained, with concentrations higher than those imposed by current legislation.

"Legislation in this sector – states the document presented by the Italian Minister in Syracuse – aims at eradicating the bad habits of the past by disciplining and re-directing our industrial culture, with the aim of re-qualifying the territory and environment through the elaboration of various new sustainable models, which allow for the management and exploitation of sites after remediation". The first such systematic intervention was set out in the Italian decree N° 22/97 which, on the basis of the concept of "who pollutes pays", established general criteria for the remediation and safety measures to adopt for contaminated sites.

The following executive decree (D.M. N° 471/1999) gave a guideline regarding the technical aspects of remediation work, with particular reference to criteria for identifying contaminated sites of national interest, acceptable levels of contamination of the ground, procedures to carry out analyses, general guidelines regarding safety procedures, remediation and environmental restoration of polluted sites, and also the structure and presentation of their relative projects.

With Ministerial Decree N° 468/01, the first 14 Italian sites of national interest (SIN) requiring remediating were identified. A list of priorities was drawn up, along with criteria for singling out who would benefit from such activities, how to finance the projects and a guide to how operations would be monitored and controlled. Apart from identifying further sites of national interest, law N° 179/02, linked to the 2002 Italian financial bill, introduced new legislation regarding the start up of projects in areas requiring remediating.

Italian decree N° 266/05 included two sites of national interest, and at the same time promoted the implementation of procedures to be negotiated between all parties involved, to be applied particularly in the case of sites of high interest to the general public which are to be converted.

Legislation regarding contaminated sites was modified through decree N° 152/06, and at a later date through decree 4/2008. This decree, which has the objective of eliminating (or reducing) the sources of pollution, indicates the main principles and where and how remediating operations may be carried out, and criteria regarding how to carry out operations for the restoration work with full respect for the European Union principles and rules.

According to some estimates, the SINs identified up until now account for approximately 3% of the entire Italian territory. The most important industrial areas on the peninsula are included in the list of SINs. The list mentions the petrochemical industrial areas in the port of Marghera, Brindisi, Taranto, Priolo and Gela; the urban and industrial areas of Trieste, Piombinio, La Spezia, Brescia, Mantova and the eastern part of Naples; and the areas used as waste tips.

Remediating Activities

The presence of organic and inorganic pollutants in the ground, sub-soil, surface and underground water and sediments, at concentration levels which, in many cases, are millions of times higher than the accepted legal limits, means that remediation of these areas requires the use of a series of complex processing techniques carried out in sequence. At the moment, authorised and/or ongoing remediation projects in Italy follow the procedures according to ministerial decree (D.M.) N° 471/99, except in those cases where, whoever proposes to carry out the activities makes a request to re-modulate the remediation activities according to decree N° 152/0. The projects presented after the publication of the decree must adhere to the procedures outlined in this particular document. Regarding the SINs already identified, ten years after passing the first law, the percentage of areas cleared and/or reclaimed is still rather low, and the progress of remediation activities over the country as a whole is quite patchy. The introduction of article 252-bis within decree N° 4/08, which contemplates public financing and various incentives through the Italian Ministry for Economic Development to speed up, as much as possible, procedures for the reutilisation of polluted areas by the private sector, may increase the rate of remediation activities and restoration of contaminated sites for industrial use.

Another efficient instrument – according to "The Environmental Challenge" – to guarantee coordination of the various activities of those involved in remediation activities and to establish simpler bureaucratic procedures, are the so-called "Programme Agreements", already authorised for a number of SINs. The resolution issued by CIPE (the Inter-ministerial Commission for Economic Programming) on the 21st of December 2007, concerning the implementation of a single regional, national and community policy, defined in the 2007-2013 QSN (National Strategic Programme), established a PSS (Special Strategic Project) called the "Special National Programme for the Economic and Industrial Restoration of Polluted Industrial Sites", later approved through the CIPE resolution N° 61 dated the 2nd of April, 2008. The overall aim of the programme is to increase the competitiveness of the economic and productive system, and its capacity to attract potential investors, by working on the economic and environmental quality and efficiency of polluted industrial sites, through a series of restoration activities on the sites, so they may be used again for industrial activities. The various regions in Italy have taken part in the programme by drawing up a list of sites requiring assessment, and which are suitable for remediation and re-industrialisation. Approximately 3 billion Euros have been assigned to this programme, waiting to be scheduled. Development of Italy cannot take place if one is not determined to tackle the problems in this sector. There are sufficient laws available, and it would seem that there is no lack of will to go in the right direction. There are also up-to-date technology and instruments for use in the field, such as those developed by Mapei, are ready. Just such an example is HPSS technology, developed by the Company to recycle contaminated material. The future and progress of Italy, once again, depends entirely on its citizens. And Mapei, as usual, is ready to play its part.

MAPEI WINS THE 2008 "OSCAR MASI" AWARD

Mapei's HPSS technology (High Performance Solidification/ Stabilization) wins an industrial innovation award

The 25th edition of the award for industrial innovation, instituted in 1984 in memory of Professor Oscar Masi, was presented in Rome on the 11th of May 2009 during the AIRI (Italian Association of Independent Research Institutes) Day by Sandro Taglienti, the director of the Department of Advanced Physical Technologies and New Materials from Enea (Italian National Agency for New Technology, Energy and Environment), to Marco Squinzi, head of Mapei Group's Research & Development.
Mapei was awarded this prestigious award in recognition for its HPSS technology (High Performance Solidification/Stabilization). Developed in the Group's Corporate Research Center in collaboration with the company In.T.Ec. (Ingegnerie e Tecnologie Ecologiche S.r.l.) from Mestre (in the province of Venice, Italy), it exploits Mapei's know-how and experience in cement chemistry and the technology of cementitious systems, which have led to the Company achieving a leading position in the sector of products for the building industry.

The Oscar Masi award, presented to Mapei Group's Head of Research & Development Marco Squinzi.

As illustrated in the following pages, this is an integrated, industrial process applied "on site" for the treatment of contaminated land and sediments, with the capacity of removing volatile and semi-volatile contaminants and stabilising the heavy metals present in the ground in a cementitious matrix, according to the principles of high-performance concrete. This results in the transformation of contaminated land and sediments into a durable granular material with good mechanical properties which, once liberated of the contaminants, may be recycled for a wide variety of applications (filling, back-filling, non-structural concrete, etc.).
There are a number of advantages with the HPSS system: firstly, lower costs compared with other treatment processes and disposal of materials in waste-disposal landfills.
The system is modular and flexible, and may be adapted according to the site and the objectives of where reclaiming operations are to be carried out. Furthermore, since no emissions are produced, it has a low impact on the environment.
"We are both honoured and proud to receive this important award, as recognition of Mapei's continuous commitment to the development of new, sustainable technologies and products and our service to the environment in which we live" declared Marco Squinzi during the award ceremony. "As of recently, the problem of brown-field sites (land requiring reclaiming) is now also being approached in Italy. We are convinced that our HPSS technology will prove to be an important instru-

Above: the team which developed HPSS technology.
From left to right: Elisabetta Tromellini, member of the Board of Mapintec; Roberto Pellay, Managing Director of Mapintec; Marco Squinzi; Giorgio Ferrari, Head of the HPSS development team; Alberto Brocchi, Mapei Research technician; Amilcare Collina, Responsible for public relations between Mapei and the scientific community and President of Mapintec.

ment for making numerous sites safe all over the country, and will make an important contribution to reclaiming abandoned industrial areas and protecting the environment, both in our country and on an international scale".
A more detailed technical description is available on the following pages, which illustrates how HPSS technology works and the advantages of this industrial process, which produces decontaminated, stabilised granules from the by-product of excavation work.

MAPINTEC

A new company is formed

A new company called MAPINTEC (MAteriali, Processi INdustriali, Tecnologie ECosostenibili, "Eco-sustainable Materials, Industrial Processes and Tecnologies") was recently formed, a joint venture between Mapei and In.T.Ec. (Ingegnerie e Tecnologie Ecologiche Srl), dedicated to the development of business based on the new technology. MAPINTEC itself will not take part in reclamation activities, but will issue licences to use the technology, invest in the construction of treatment plants rented out to companies which carry out reclamation activities and guarantee the supply of Mapei additives required to run the plants. MAPINTEC will also invest a significant part of their turnover into research and development, so that the technology may be even further improved. In Italy alone, there are a large number of potential, diversified areas where the technology may be applied:

- reclaiming small to medium-sized sites, from a few hundred cubic metres up to several thousand cubic metres, such as the reclamation project – mentioned in the next article – on the island of Murano, disused industrial sites to be reconverted for other uses, yards and fuel distribution sites, etc. In such cases, local authorities must authorise and approve land reclamation projects;
- reclamation of larger sites, from several thousand cubic metres up to several hundred thousand cubic metres, such as dockyards, large industrial complexes, etc. In most of these cases, defined as areas of national interest, the Italian Ministry for the Environment, Territory and Sea must authorise and approve reclamation projects.

AMILCARE COLLINA

President of Mapintec.

VERONICA SQUINZI

Member of Mapintec Board of Directors.

The size of the Italian market in question for this technology is, therefore, very large, with an estimate of several million cubic metres requiring treatment. Similar problems are also faced on an international scale. This potential market will be further analysed and discussed at a later date.
The headquarters of In.T.Ec. is in Mestre, close to Venice. It is part of the AcquaTeam Group, made up of 4 companies which, since 1970, carry out research and use the best available technology to protect the environment. It is recognised as one of the leading companies for the design and construction of waste collection and recycling plants for civil and industrial wastewaters and waste products. The company also controls a recycling platform and chemical analysis laboratory, and has a number of ships and boats which are authorised to transport waste material in the Venice lagoon. What is more, In.T.Ec. has increased its range of on-site reclamation services for contaminated areas, with an ever-attentive eye into research and waste management, and is one of the most up-to-date companies operating in this sector. The company uses the innovative HPSS (High Performance Solidification/Stabilization) process, covered by a joint In.T.Ec.-Mapei SpA patent, for the treatment and reclaiming of contaminated land and sediments. The final result is the transformation of the sediment/earth into a new decontaminated, stabilised material in granular form with good mechanical properties. This technology may also be used to make coloured aggregates for floors and urban design (decorative flower beds, paths, etc.), starting from the uncontaminated earth and by-products from excavation work, as described in the following articles.

HPSS TECHNOLOGY

An industrial process used for the production of stabilised, de-contaminated granules from sediments and excavation material

*by Amilcare Collina**

The Technology

HPSS technology (High Performance Solidification and Stabilization) is the result of an original Mapei research project based on the Company's wide experience and knowhow about the effect of super-plasticising additives on various hydraulic binders. A two steps process was developed in the Company's Research & Development Laboratories for treating earth and sediments (sludge, excavation waste, etc.) contaminated by heavy metals and/or organic products; the first step being the granulation in a rotating disk, and the second one being the distillation of the granules in a stream of superheated steam under vacuum to eliminate organic contaminants.

The final result is the transformation of the sediment/earth into a new decontaminated, stabilised granular material with good mechanical strength, which complies with the legal limits for the release of the contaminating substances present into the environment.

The use of Mapei super-plasticising additives is the key point of the process, in that it allows the granules to reach certain mechanical characteristics to make them suitable for a variety of applications, and eliminates the organic contaminants through an emission-free process.

In.T.Ec. (which was discussed on the previous page), a company working in partnership with Mapei to develop the technology, turned the process developed in the laboratory into an industrial process, and constructed the first industrial-scale treatment plant on the island of Murano (in the Venice lagoon), to treat the ground contaminated by heavy metals from a glassworks.

The contaminated ground to be disposed of – classified as hazardous waste before being treated – requires both transport costs and costs for disposal in waste sites, while with this process it is transformed on site into a new, usable material with a certain value.

Reclaiming of the first lot of 6,000 m^3 of ground on the Murano island was completed successfully. The granules were used as a filler material and to form screeds on the same site. Reclaiming operations of the second lot are ongoing since 2008, and the operation will be completed by the end of 2009. The technology is covered by two patents registered in Italy, and two patents at a European level have been applied for, all jointly owned by Mapei and In.T.Ec.

Innovative Factors

This technology offers a concrete possibility to transform contaminated excavation by-products (earth/sediments) into a new material with a certain value. According to current Italian legislation, contaminated sediments and ground may not be reused without a suitable treatment process foreseen within an approved reclaiming project. The only solution currently adopted is to dispose of such materials in waste tips in Italy or abroad.

HPSS technology, on the other hand, reduces the volume of material disposed of in waste tips, which are also becoming more and more expensive. It also allows contaminated by-products from excavation work to be transformed into material in granular form with good mechanical characteristics, which do not give off hazardous contaminants and which may be used in various applications, such as:

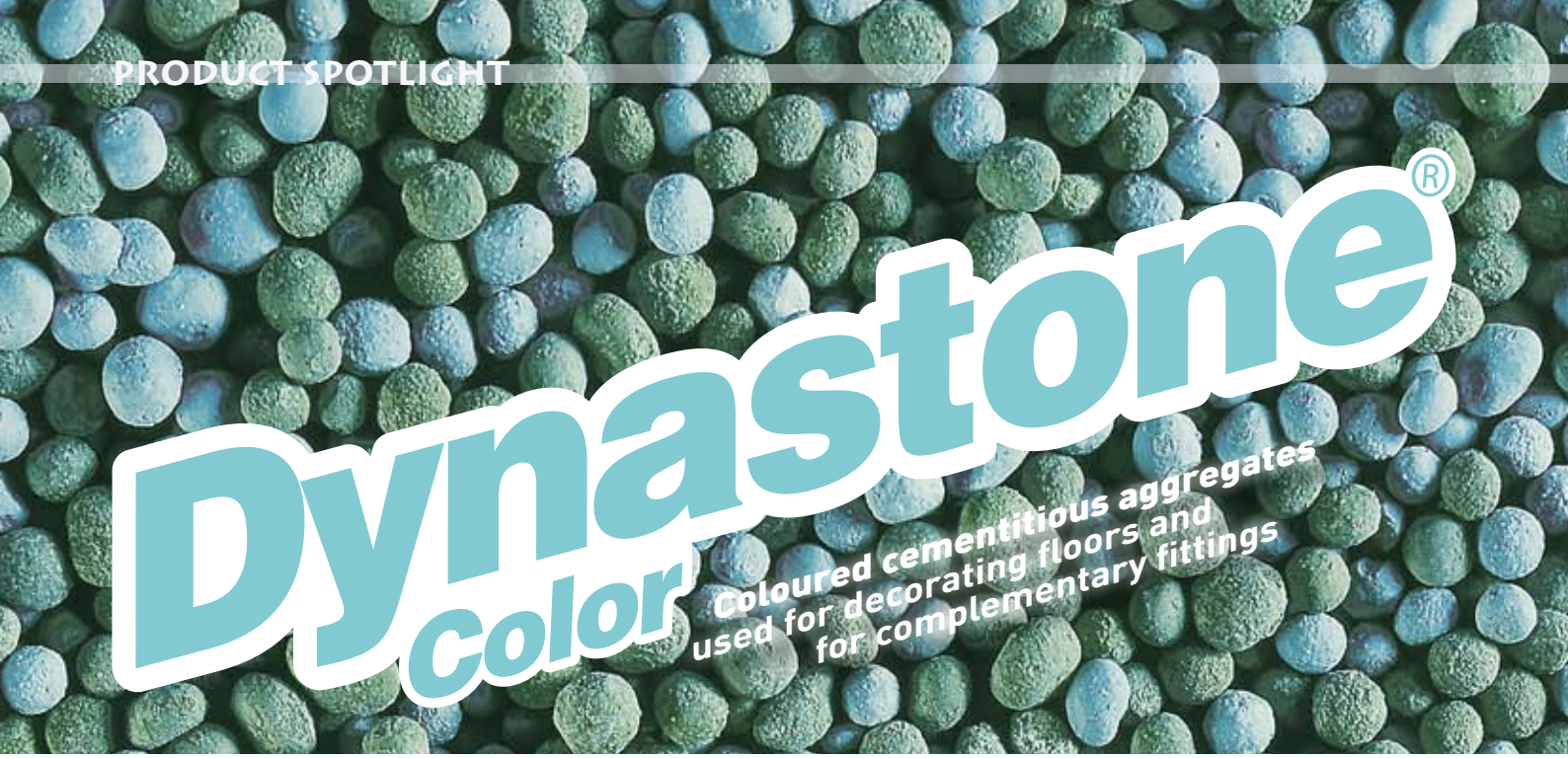
- Filler material for reclaiming excavated land.
- Aggregates for screeds, as a replacement for aggregates from mines and quarries.
- Decorative stones – obtained by incorporating coloured pigments in the granules – introduced on the market by Mapei with the brand name DYNASTONE COLOR.
- Aggregates to make concrete (after qualification tests to obtain the required CE classification for this kind of application).

The inertisation, decontamination and stabilisation plant is installed where reclaiming operations are to be carried out, thus avoiding having to transport contaminated materials off the site. This helps reduce treatment costs down to a very competitive level. The HPSS treatment process is emission free. The use of super-heated steam allows organic pollutants to be removed at temperatures which are not excessively high, and to condense them into small volumes of water. The liquid effluent, which is then sent to a conventional treatment plant for waste water, is the only by product from the plant.

To conclude, the technology has the following unique characteristics:

- Flexibility: various types of sediment/ground may be treated, by modulating the formulation of the additives and the treatment process according to the specific characteristics of each site.
- Efficiency: reduces energy consumption and treatment times.
- Effectiveness: decontamination targets defined by current standards regarding numerous types of contaminants may be reached.
- Potential: large quantities of ground/sediments may be treated in a short time (up to 10 tonnes/hour) with one single plant.
- Modularity: the most suitable type of plant, according to the scheduled process and reclaiming times, may be installed on site.
- Sustainability of the product: with the same waste material, a product for a wide variety of applications and of a certain value may be obtained.
- Sustainability of the production process: the only by-product of the treatment plant is a small volume of water characterised by a level of COD compatible with a conventional wastewater treatment plant.

** Prof. Amilcare Collina is responsible for public relations between Mapei and the scientific community in Italy and at an international level.*



DYNASTONE COLOR granular aggregates are produced by means of an exclusive industrial process developed in Mapei's Research & Development Laboratories. As described in the previous article on the HPSS technology, they can be used to transform contaminated soil into decorative stones. The use of nano-structural, acrylic super-plasticisers from the DYNAMON range allows to obtain a final product with mechanical properties similar to those of natural stone. Together with this innovative aesthetic characteristics, new development and design solutions may be developed.

Use DYNASTONE COLOR to create:

- Polished floors, such as Venetian terrazzo floors, in homes, offices, shops, schools, showrooms, museums, theatres, etc. With these applications, DYNASTONE COLOR aggregates are used by mixing them together with the ULTRATOP self-levelling system, at a ratio of 1:1 in weight.
- Pre-cast elements and washed or polished concrete panels. In this case, the DYNASTONE COLOR aggregates are mixed with cement and fine sand at a ratio of approximately 1:1 in weight, and cast in formwork as a first layer.
- Pedestrian areas and flowerbeds. In this case, the DYNASTONE COLOR aggregates are sprinkled on loosely and distributed according to the pattern required.

An example of a polished Venetian terrazzo floor, created by mixing the DYNASTONE COLOR aggregates with ULTRATOP self-levelling mortar.


1 - Preparation of the product


2 - Addition of ULTRATOP


3 - Addition of DYNASTONE COLOR


4 - Product ready for laying


5 - Laying the product on the substrate


6 - Laying the product with gauge rake


7 - Polishing the product after drying


8 - Finished floor

Colours

DYNASTONE COLOR aggregates are available in 7 different colors. When creating polished floors, such as Venetian terrazzo floors, the various coloured aggregates may be combined together with ULTRATOP self-levelling mortar which has a high resistance to abrasion and is available in a wide range of colours, to allow an infinite variety of coloured finishes.

Shape

Rounded shape with no sharp edges, graded between 4 and 15 mm.

Compatibility

Excellent compatibility with the ULTRATOP self-levelling system and high chemical affinity with binders normally used in the manufacture of concrete elements.

Strength

High compressive and abrasion strength.

Bonding

Better bonding with the binder matrix compared to natural stone.

DYNASTONE COLOR and ULTRATOP to create polished floors, such as Venetian terrazzo

Products required:

- PRIMER G or MAPEPRIM SP (according to the type of substrate)
- ULTRATOP
- DYNASTONE COLOR
- KERASEAL

Particularly Recommended as Flooring for:

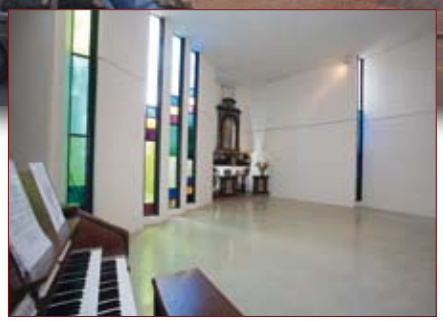
- Apartments, in all rooms
- Offices, in all areas
- Shops, in the sales areas
- Showrooms, in all areas
- Restaurants, in all areas
- Schools, in all common areas
- Museums and theatres, in areas used by the public
- Shopping centers, in pedestrian areas.

Performances and Advantages:

Applied manually at an average thickness of 15-20 mm.
May be dry polished approximately 2 days after applying the ULTRATOP and DYNASTONE COLOR mix.
The dry polishing treatment brings out the rounded shape of the DYNASTONE COLOR aggregates and highlights the product's perfect physical-chemical compatibility with ULTRATOP.
The polishing treatment guarantees perfectly flat, smooth and reflective surfaces, with an appearance similar to Venetian terrazzo floors.
If different colors of DYNASTONE COLOR are used, unique, innovative and original floor coverings may be created.
After the finishing treatment with KERASEAL, we recommend waxing the floor to make successive cleaning and maintenance operations simpler.

DYNASTONE AT WORK

DYNASTONE COLOR colored cementitious aggregates are produced by means of an exclusive industrial process developed in Mapei's Research & Development Laboratories, which is explained in the previous articles. They are used for building decorative floorings and complementary fittings with mechanical properties similar to those of natural stone. Their rounded shape with no sharp edges and wide range of colors allow an infinite variety of colored finishes. In this page one finds some examples of important projects that have been completed by using these aggregates.



▲ S. Ambrogio Ad Nemus Church – Passirano di Rho (Province of Milan, Italy)
A mixture prepared with ULTRATOP self-levelling mortar (white shade) and DYNASTONE COLOR (green and light-blue shades) was used to install the new floors of this church. The finishing treatment was made with KERASEAL which ensured a bright and semi-satin look to the surfaces and long lasting protection from efflorescence and stains, making maintenance easier.

▲ City of Venice Harbor Affairs Headquarters - Venice (Italy)
About 1200 m^2 of floorings were completed using a mixture made of ULTRATOP and DYNASTONE COLOR, both in the white version. Following the common application procedure, KERASEAL protective sealer was used for the final painting treatment.

Phoenician Punic Museum ▶ Pantelleria (Italy)
The flooring substrate was prepared using PRIMER SN and QUARTZ 1.2. Then a mixture made of ULTRATOP self-leveling mortar and DYNASTONE COLOR was applied. After leveling about 465 m^2 of floorings, the surface was treated with KERASEAL protective sealer.

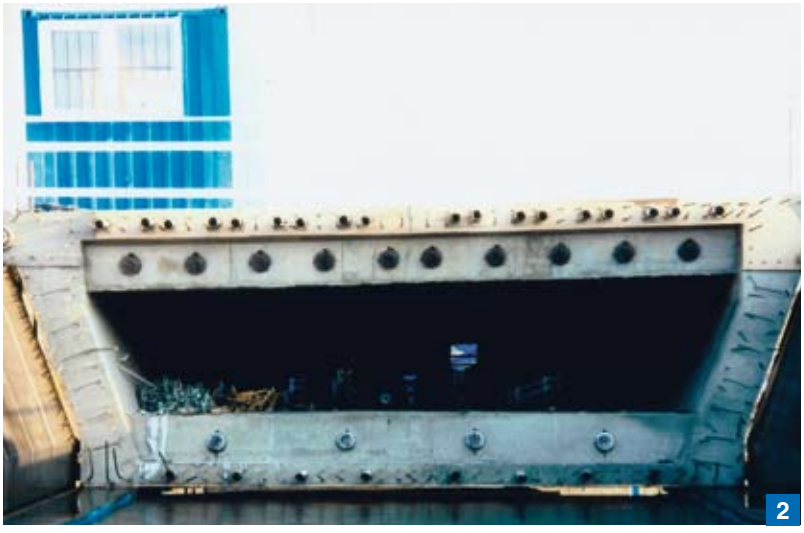
THE MEGYERI BRIDGE

Mapei technology for the concrete used for the biggest bridge on the Danube in Hungary

A bridge which, to be more precise, joins 5 single bridges, and which now has a different name from when it was originally constructed.

The story of the Megyeri Bridge over the Danube, previously called the North Bridge and along which runs the MØ Budapest ring-road, is an unusual one. This bridge is heavily used by traffic, and crosses the Danube between Buda and Pest, the western and eastern areas respectively of the Hungarian capital.

The bridge, suspended on cables anchored to two pillars in reinforced concrete, was officially opened to traf-



2

3

fic at the end of September 2008. And back in 2006, the Hungarian Ministry for Transport promoted an on-line poll to collect ideas for the name of the new road bridge, and the name chosen was Megyeri hìd, or "Megyeri Bridge".
The largest bridge over the Hungarian stretch of the Danube is 1,862 metres long and includes 5 separate bridges: a 600 metre-long steel bridge built using diagonal cables; a second steel bridge 332 metres long, which crosses the Danube from the Island of Szentendre (or Saint Andrew) in the middle of the river; the third bridge is 560 metres long and runs above the flood plain of the island, joining a further two reinforced concrete bridges on the right bank and left bank of the river (each one approximately 200 metres long).

Technology Used to Construct the Concrete Pillars

One of the biggest challenges when constructing the bridge on the busy MØ ring-road was to build the main structure of the bridge over the wide branch of the river. The 600 metre-long steel structure is suspended by diagonal cables anchored to 100 metre-high reinforced concrete pylons. The mix of reinforced concrete used to construct the bridge was designed and tested by two plants of Holcim and two plants of TBG local ready-mix concrete companies.
At the start of the work, admixtures manufactured by one of Mapei's competitors were used.
However, over time and with the onset of winter, the concrete was not solidifying quickly enough to meet the tight construction schedule of the concrete incremental bridges. The problem was solved by using Mapei's DYNAMON SR3 superplasticizer based on modified acrylic polymer for ready-mixed concrete, characterised by its low water/cement ratio, extremely high mechanical strength and long slump retention. DYNAMON SR3 was also used at a later date for the pylon for the stay bridge and for the joists of the incremental bridges. Repairs to the concrete were carried out using MAPEFER 1K one-component, corrosion-inhibiting cementitious mortar, used to protect reinforcing rods and promote bonding of mortar for repairing concrete, and MAPEGROUT THIXOTROPIC fibre-reinforced, shrinkage-compensated mortar for repairing concrete. MAPEFINISH two-component cementitious mortar was then used to smooth the concrete surfaces.

High Quality Also for the Smaller Bridges

On top of the reinforced concrete structure of the incremental bridges – for the painted surfaces, and especially on the sides and bottom of the joists of the incremental bridges - ELASTOCOLOR PRIMER solvent-based, fixing primer with high-penetration properties for porous substrates and ELASTOCOLOR PAINT flexible, decora-

Photo 1.
The spectacular reinforced concrete antenna and junction stays on the main arm of the Megyeri Bridge over the Danube.

Photos 2 and 3.
DYNAMON SR3 admixture was used for the joists of the incremental bridges.

Photo 4.
MAPECOAT BS1 was used to protect and waterproof the junction bridges.

5

tive acrylic resin-based paint in water dispersion for concrete were applied, for high resistance against corrosion and aggressive atmospheric agents.
The following products were applied on the smaller junction bridges: MAPELASTIC BV3 two-component flexible mortar for protecting and waterproofing concrete surfaces (a product specially developed for the Hungarian market, with similar characteristics to MAPELASTIC); MAPEFLOOR H 02 two-component, multi-purpose epoxy resin (developed for the Hungarian market, similar to PRIMER SN without fillers) and MAPECOAT BS 1 two-component, flexible, epoxy-polyurethane resin-based dressing material resistant to abrasion, used to protect and waterproof concrete.
Very high quality standards were required for the concrete, and amongst all the companies which tendered for the job, the mixes designed by Holcim using the Mapei superplasticizer, DYNAMON SR3 were those chosen, and precisely because they met the required quality standards. Mapei, therefore, is quite rightly proud to have been involved in this important project in Hungary, in an area which is vitally important for the European road transport network.

IN THE SPOTLIGHT

DYNAMON SR3

DYNAMON SR3 is an admixture based on a modified acrylic polymer designed specifically for the ready mix concrete industry, belonging to the revolutionary Mapei DYNAMON SR system. The DYNAMON SR3 system is based on DPP (Designed Performance Polymer) technology. Concretes manufactured with DYNAMON SR3 have a high level of workability (consistency class **S4** or **S5**, according to **EN 206-1**), and are consequently easy to apply when fresh. At the same time they offer excellent mechanical performances when hardened. DYNAMON SR3 is particularly suitable for ready mix concrete and wherever there is the need for a strong water reduction, along with relatively high mechanical strengths at early age with different consistency classes and with long slump retention. This product has been awarded the **CE mark** in compliance with **EN 934-2** standard.

Mapei Products: *the products mentioned in this article belong to the "Building Speciality Line" and "Admixtures for Concrete" ranges. The technical data sheets are available at the web site: www.mapei.com. Mapei plasticizers and superplasticizers for mortars and concrete have been awarded the CE mark in compliance with EN 934-2 and 934-4 standards. Mapei products and systems for maintenance of buildings and for the repair of concrete have been awarded the CE mark in compliance with EN 1504 standards.*
***Dynamon SR3 (CE EN 934-2,** coating **(c)**, principles **PI, MC** and **IR):** superplasticiser based on modified acrylic polymer for concrete with low water/cement ratio, high mechanical strengths and long slump retention.*
***Elastocolor Paint (CE EN 1504-2):** protective and decorative elastic paint for concrete and renders based on acrylic resins in water dispersion.*
***Elastocolor Primer:** solvent-based fixing primer with high penetration properties for porous substrates and curing agent for repair mortars.*
***Mapecoat BS 1:** two-component, flexible, abrasion-resistant, epoxy-polyurethane resin-based dressing material for protecting and waterproofing concrete structures.*
***Mapefer 1K (CE EN 1504-7):** one component corrosion-inhibiting cementitious mortar for the protection of reinforcing rods.*
***Mapelastic BV3:** two component, flexible cementitious mortar for protecting and waterproofing concrete surfaces, balconies, terraces, bathrooms and swimming pools. N.B. This product has been specially developed for the Hungarian market where it is distributed by Mapei Kft., the local subsidiary of the Mapei Group.*
***Mapefinish (CE EN 1504-2,** coating **(c)** principles **PI, MC** and **IR; EN 1504-3** class **R2):** two-component cementitious mortar for finishing concrete surfaces.*
***Mapefloor H 02:** multi-purpose, two-component epoxy resin. N.B. This product has been specially developed for the Hungarian market where it is distributed by Mapei Kft., the local subsidiary of the Mapei Group.*
***Mapegrout Thixotropic (CE EN 1504- 3, class R4):** shrinkage-compensated fibre-reinforced thixotropic mortar for the repair of concrete.*

Photo 5.
The Megyeri Bridge on the MØ Budapest ring-road is a complex structure which connects 5 different bridges into a single bridge. This photo illustrates the bridge which crosses the wide branch of the river, with a connection to one of the smaller bridges in the background.

Photo 6.
A panoramic view of the main arm of the Megyeri Bridge which crosses the Danube.

TECHNICAL DATA

Megyeri Bridge on the MØ, Szentendre-Szigetmonostor, Budapest (Hungary)
Designer: Unitef-Céh Kkt.
Period of Construction: 2006-2008

Intervention by Mapei: supplying products for building several elements of the reinforced concrete structure and for protecting the incremental and junction bridges
Client: Nemzeti Infrakstruktura Fejleszto Zrt.
Works Director: Laszlo Windisch, Hídépíto Zrt.
Contractors: Hídépíto Zrt. and Strabag
Mapei Co-ordinator: Szautner Csaba, Mapei Kft (Hungary)

VILLA FLORIDA CIVIC CENTRE

A Spanish building with a long, fascinating background has been completely restored and given a new lease of life

After being abandoned for a number of years, the palace of Villa Florida, located in the upper part of Barcelona, has been restored and renovated to create a new civic centre.

The building was previously the home of a nursery school. Designed by the architect Pedro de Azemar it represented a remarkable example of Catalonian modernism. This particular architectonic style developed in Barcelona between 1880 and 1930, and was Spain's answer to European Art Nouveau, but with certain special characteristics. Even though this style spread as an architectural style with a considerable following throughout Europe, modernism is still tightly connected to its place of origin, Catalonia. Modernism was contrary to the unattractive style of industrial architecture typical of the first half of the 19th century, and developed new concepts in architecture inspired by nature.

More than one hundred architects were responsible for the modernist Catalonian buildings, the most noteworthy of which were Antonio Gaudí, Lluís Domènech i Montaner and Josep Puig i Cadafalch.

Around twenty years ago, Villa Florida went through a phase of total abandon, worsened by various arson attacks and acts of vandalism. Finally, the Barcelona city council decided to convert the building into an area open to the general public, and promoted a contest to find the best ideas, with victory going to Alberto Aguirre.

Not only did the winning project propose to readapt the building into a civic function centre, it also set out three main objectives: restore the structure in a modernist style, respect the project devised by Pedro de Azemar in 1904 and renovate the part of the building which could be still identified as part of the ancient residential and agricultural construction, whose origins date back to the middle of the 16th century. It was on this land that Villa Florida had been built, and later seriously damaged during the Spanish Civil War (1936-1939). Halfway through the restoration project, while the demolition and cleaning phases were still under way, the ancient remains which indicated the birth of the building were unearthed, obliging the designers to change the original project and highlight the building's slow transformation during the successive five centuries of its history.

As a finishing touch, the project wished to eliminate all the additions which had been made over the years, and replace them with a single, more modern structure, complementary to the ancient part of the building. This new rectangular shaped building was completely dressed in corten steel sheets, which also help to create a ventilated façade. Corten steel (composed of 60% steel and 40% iron) is a material which changes colour over the years, until it has a completely "rusty" finish. After rejecting other metallic materials, such as aluminium or lacquered aluminium,

1

Photo 1.
The state of deterioration and abandonment in which Villa Florida was to be found prior to the restoration work.

Photo 2.
Cleaning and rebuilding phases of the facades of the building.

Photo 3.
Mapei renders, mortars and coatings, along with the highly-skilled workmanship, gave Villa Florida a high quality finish.

Photo 4.
The façade after repair.

this material was chosen for its close compatibility with the colour of the render chosen for Villa Florida.

A Difficult Restructuring Project Requires High-quality Products

Because of the complex nature of restructuring an ancient building, such as in the case of Villa Florida, designers and building companies decided to consult the Mapei Technical Service Department when choosing the most suitable products to use. With this project, after a series of surveys of the building, the department recommended a number of solutions from the MAPE-ANTIQUE range, products particularly suitable for the restoration of masonry deteriorated by capillary rising damp.

A specific range which includes dedicated products which are applied on the walls for consolidating brick, stone and tuff walls in ancient buildings.

The products in the MAPE-ANTIQUE range contain no cement, and stand out from other products on the market because, apart from having very similar physical and mechanical characteristics to the materials used in the original project, they also offer high resistance against physical and chemical attack by aggressive agents, such as sulphates, chlorides and nitrates already present in the walls, or carried into the walls by rising damp.

The macro-porous structure of these products allows the water contained in the walls to evaporate off, thus guaranteeing that damp structures dry off quickly without forming efflorescence on the surface. With traditional render, if the speed at which the water evaporates off is particularly high, salts may form crystals inside the render and in the wall and generate pressure which has the capacity of seriously damaging the render. With the

Photo 5. A detail view of the temporary support used for the vaulted roof to avoid it collapsing.

Photo 6. A detail view of the operation to repair and seal the cracks.

Photo 7. Application of the layer of PLANITOP HDM mortar strengthened with MAPEGRID G 220 mesh on the outer face of the vaulted roofs.

Photo 8. The vaulted roof after strengthening and restoration.

products in the MAPE-ANTIQUE range, on the other hand, this phenomenon does not occur because the content of free lime is completely absent after only a few days. The use of products from the MAPE-ANTIQUE range on site offers a number of advantages: similar mechanical strength to traditional hydraulic lime-based systems; similar workability to traditional aerated lime-based systems; high vapour permeability; high resistance to sulphates, thanks to the fast chemical reaction between the lime and the Eco-Pozzolan (a very light-coloured, inorganic, synthetic pozzolanic material, which is particularly rich in amorphous silica with a highly-reactive, large surface area) which consumes all the free lime extremely quickly; no alkali-aggregate reaction; negligible conductivity, due to the low level of free lime which also eliminates the formation of efflorescence; may be tinted on site with coloured pigments or oxides. The Mapei Technical Service Department recommended the works director to repair all the facades which were particularly deteriorated with MAPE-ANTIQUE RINZAFFO and MAPE-ANTIQUE MC. To apply the products correctly, it was first necessary to remove all the portions in poor condition. The surfaces were then thoroughly and carefully cleaned with water to remove surface efflorescence and to eliminate the soluble salts present in the walls, and only after carefully preparing the substrate, a "salt-resistant" layer of MAPE-ANTIQUE RINZAFFO was applied, a product specially developed for restoring ancient buildings in stone, tuff and bricks. Within two hours, once the MAPE-ANTIQUE RINZAFFO had hardened, the surfaces were smoothed over with MAPE-ANTIQUE MC, a light-coloured dehumidifying mortar.

Consolidation of the Vaulted Roofs

During demolition of the west wing of the building, three circular brickwork vaulted roofs were uncovered, which up until that moment had been hidden beneath thick layers of mortar, and on which rested a terrace which had been added at a later date. The roofs were very poorly conserved, with deep cracks over their entire surface and in the arches which joined the three roofs together.

The original intervention planned – a strengthening system comprising a reinforced concrete structure resting on the outer face of the roofs – was considered to be too risky and was advised against, to avoid overloading the already weak structure which was on the point of collapsing.

Because of this risk, the Mapei Technical Service Department proposed a less drastic solution to the designer, with a minimum load on the structure and a lower impact on the final work, recommending the use of the Mapei reinforced structural strengthening system for masonry, using MAPEGRID G 220 alkali-resistant fibreglass mesh and PLANITOP HDM two-component mortar.

The consolidation operation of the vaulted roofs began by first removing the old terrace on top of the roofs. To make sure that the strengthening system bonded well, special care and attention was paid when preparing the substrate on which it was to be applied: the surface had to be perfectly clean and free of dust and residues of oil, and solid with no loose parts.

After preparing the surface as described above, a metal trowel was used to apply a first layer (approximately 3-4

IN THE SPOTLIGHT

MAPEGRID G 220 + PLANITOP HDM

MAPEGRID G 220 is an alkali-resistant, special mesh made up of primed glass fibres which, thanks to its special woven pattern, increases ductility and distributes stresses more evenly in reinforced masonry work.

It is used in conjunction with PLANITOP HDM (two-component, high-ductility cementitious mortar which have been awarded the **CE** mark in compliance with the standard **EN 1504-3**) for structural strengthening of masonry work. The system adheres perfectly to the support so strongly that localised stresses provoke failure of the support itself, rather than of the support/strengthening system interface.

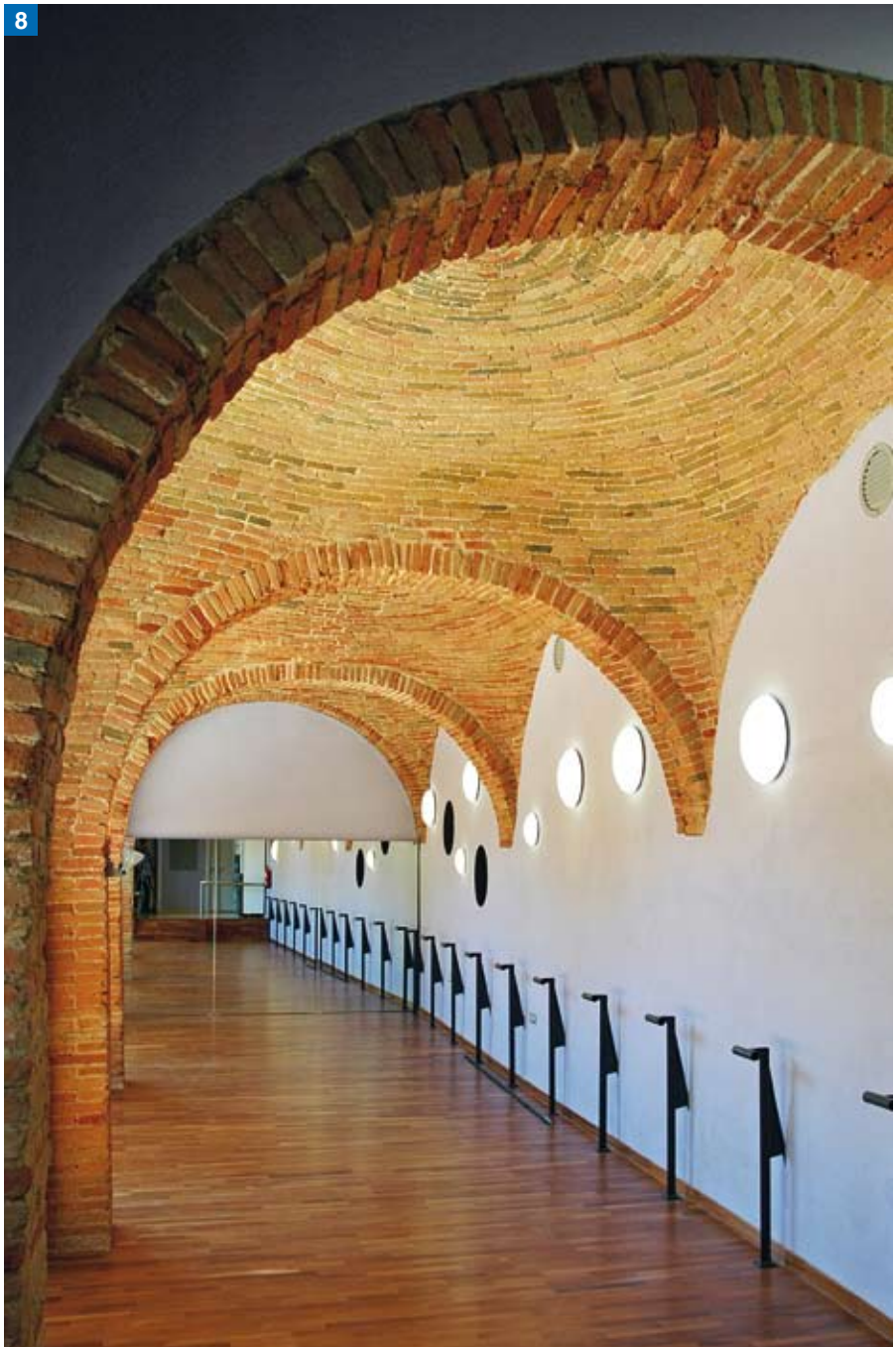
It ensures excellent tensile strength, resistance to atmospheric agents and high dimensional stability; it is long-lasting and resistant against chemical attack; it does not rust; it is light and easy to handle, to cut and adapt to the conformation of the support.

mm thick) of PLANITOP HDM two-component, high-ductility mortar specially developed for stone, brick and tuff masonry. While the product was still fresh, MAPEGRID G 220 fibreglass mesh was placed on the surface, and was then carefully pressed into the mortar with a flat trowel so that it bonded perfectly with the mortar.
MAPEGRID G 220 is a special alkali-resistant mesh made up of primed glass fibres which, thanks to its special woven pattern, guarantees that the masonry is more ductile. The "package" created as described above has the capacity of distributing the stresses more evenly over the whole surface of the strengthened elements if the structure moves. A second uniform layer approximately 2-3 mm thick of PLANITOP HDM was then applied, so that the mesh was completely covered. The operation was completed by smoothing over the surface with a flat trowel while it was still fresh.

Faithful to the Original

Restoration of the building had to be faithful to the original materials, the typical decorative finish of Catalonian modernism and the original colours and construction details. The slate tiles were replaced with another shape of slate tiles in an anthracite colour. The stone ashlars which decorated the Northern façade were removed, numbered, restored and then put back into their original position. The wrought-iron railings and parapets below and around the windows, a typical feature in that era, and the decorative mosaic and splashes of colour below the balconies were all removed and restored, or rebuilt where necessary.

8



Mapei Products: *the products mentioned in this article belong to the "Building Speciality Line" range. The technical data sheets are available at the web site www.mapei.com. Mapei products for the restoration of masonry buildings and for the repair of concrete structures have been awarded the CE mark in compliance with European standards EN 1504. Mapei products for internal and external screeds have been awarded the CE mark in compliance with European standard EN 998-1.*

Mape-Antique MC (CE EN 998-1): *pre-packed, cement-free, Eco-Pozzolan-based, light coloured dehumidifying mortar for the restoration of damp stone, brick and tuff masonry.*

Mape-Antique Rinzaffo: *cement-free pre-packed, Eco-Pozzolan-based, light-coloured "salt-resistant" mortar or scratch-coat to be applied before creating dehumidifying renders with Mape-Antique MC, Mape-Antique CC and Mape-Antique LC on stone, tuff and brick substrates.*

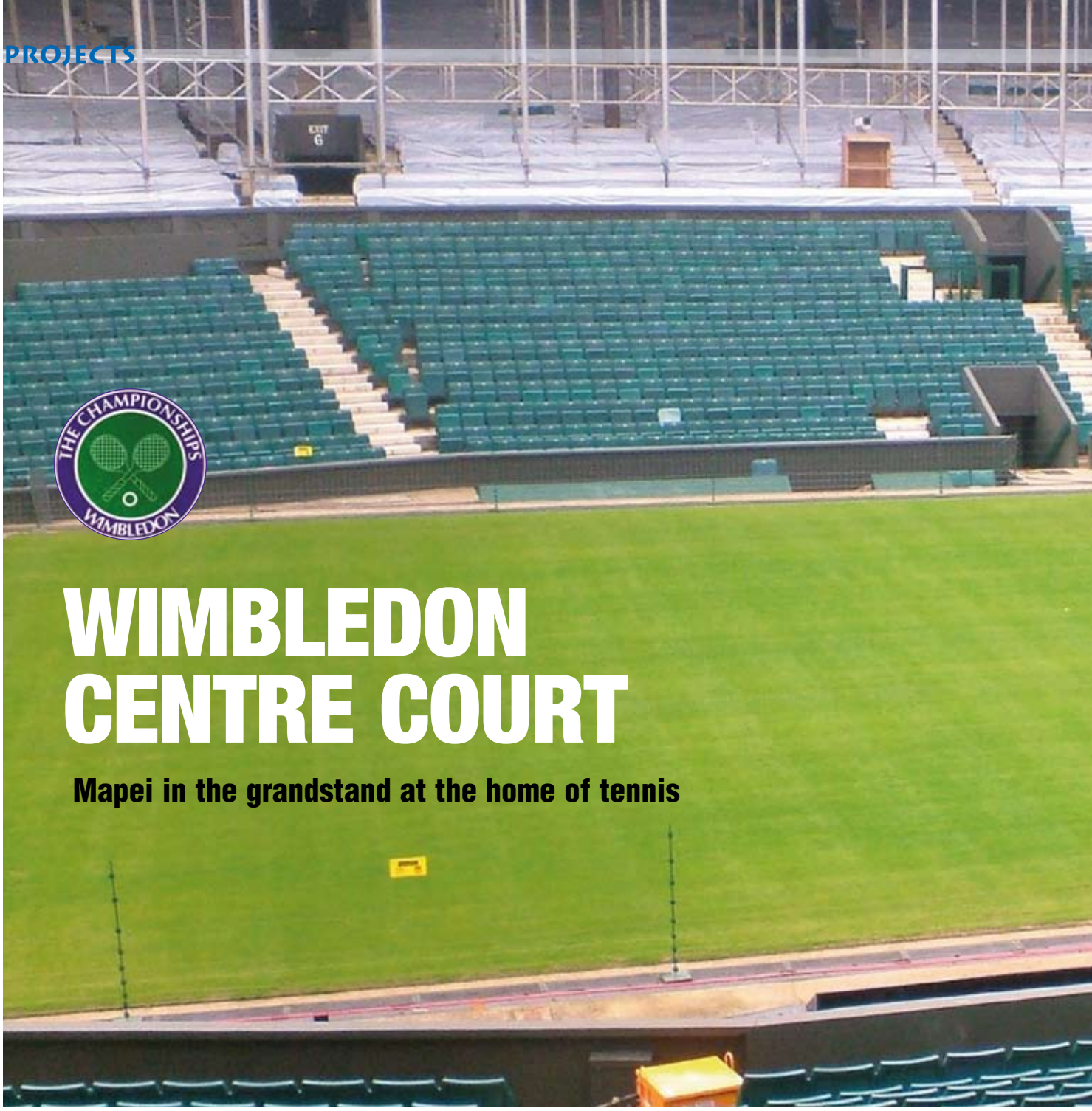
Mapegrid G 220: *primed alkali-resistant fibreglass mesh for "reinforced" structural strengthening of stone, brick and tuff substrates.*

Planitop HDM (CE EN 1504-2, *coating* ***(c),*** *principles* ***PI, MC*** *and* ***IR; CE EN 1504-3,*** *class* ***R2):*** *two-component, high-ductility mortar, for thicknesses of at maximum 6 mm, used for "reinforced" strengthening of masonry structures in conjunction with Mapegrid G 220 and for smoothing and levelling surfaces in concrete, stone, brickwork and tuff.*

TECHNICAL DATA

Villa Florida Civic Centre, Barcelona (Spain)
Designer: Pedro de Azemar
Period of Construction: 1904; between 1936 and 1939, the building was partially rebuilt after being damaged during the Spanish Civil War

Period of Intervention: 2006-2007
Intervention by Mapei: supplying products for the restoration of the facades and consolidation of the structure of the three circular vaulted roofs
Designer and Works Director: Alberto Aguirre Arquitectos
Client: Barcelona Municipal Council
Main Contractor: Contratas y Obras
Laying Company: Jam, Vilanova del Vallés (Barcelona)
Mapei Co-ordinator: Diego Rubio, Ibermapei (Spain)



WIMBLEDON CENTRE COURT

Mapei in the grandstand at the home of tennis

Wimbledon is arguably the most recognised name in world tennis – the leafy suburb of London where the oldest and most prestigious tennis event is competed for. The Championships are the third tournament of the annual Grand Slam, which also includes the Australian Open, the French Open and the U.S. Open. Mapei is proud to have played a leading role in the rebuilding of the hospitality areas and terraces for visitors to centre court.

While the famous Championships have been held here every summer (excluding the war years) since 1922 and the rest of the courts are used for other matches and Club fixtures, Centre Court is preserved purely for the Championships themselves. Indeed, playing on this 'hallowed' surface is forbidden even to members of The All England Lawn Tennis Club (the historic body which owns the complex and organises the tournament). Access to the court is only for the Head Groundman and his team who keep the court in pristine condition.

So when the Championships were over for another year in July 2007, Mapei, being world leader in adhesives for ceramic tiles and one of the most well known companies of its kind in the sporting world, took an active part in the modernisation of the areas of the Centre Court used by the public.

From Screed Laying to Tiling

As often happens, the schedule to carry out the work was very tight. Therefore, substrates made using rapid-drying screeds had to be laid for the successive installation of the terraces in the VIP area. Tiling Contractors Wilson & Wylie Contracts appointed CSC Screeding to undertake the substrate preparation, and install more than 2,000 m^2 of TOPCEM – a special hydraulic binder for normal-setting, fast-drying, controlled-shrinkage screeds – on top of the old waterproof membrane in the terraced area overlooking the Centre Court, which is subject to heavy pedestrian traffic: over 500,000 spectators came to watch the famous Championships this year.

TOPCEM screed was also installed in the area of the Centre Court open to

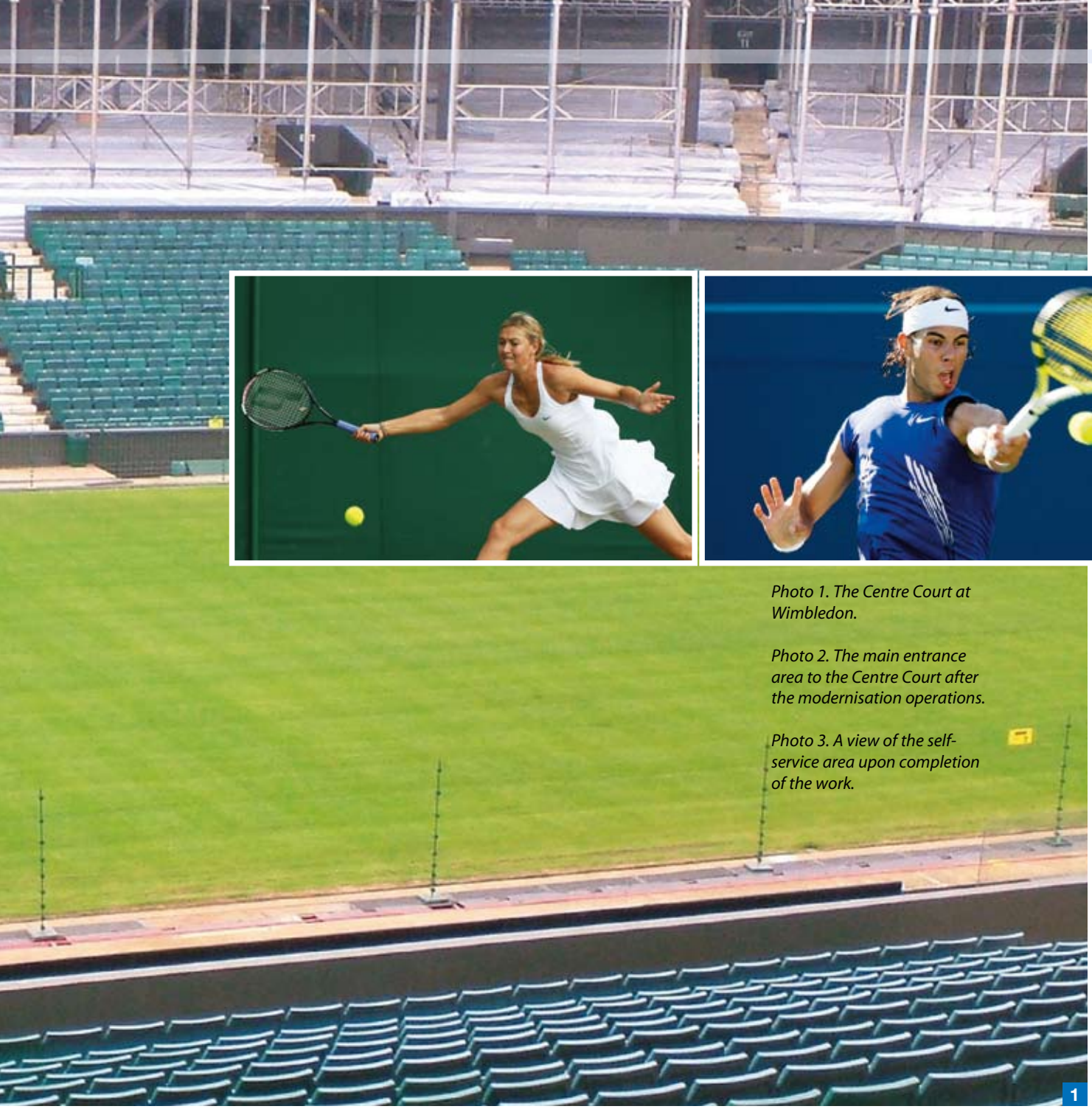


Photo 1. The Centre Court at Wimbledon.

Photo 2. The main entrance area to the Centre Court after the modernisation operations.

Photo 3. A view of the self-service area upon completion of the work.

1

2

3

4

5

6

IN THE SPOTLIGHT

TOPCEM

It is a special hydraulic binder which, when mixed with graded aggregates and water, can produce mortars that can harden in approximately 24 hours, and dry in approximately 4 days.
It is used for the formation of bonded, unbonded and floating screeds on both existing and new concrete prior to the installation of wood, PVC, linoleum, ceramic tiles, natural stone, carpet or any other flooring where rapid drying is required for short installation times. It is suitable for indoor and outdoor use.

Photo 4. Casting the screeds in the external areas, made using TOPCEM.

Photo 5. Detail of the entrance area to the lifts; the tile joints were grouted with ULTRACOLOR PLUS (medium grey).

Photo 6. One of the access stairs where tiles supplied by Domus Tiles were laid on the risers and treads using the KERAQUICK+LATEX PLUS flexible cementitious system.

Photo 7. The external terrace after laying the tiles with KERAQUICK+LATEX PLUS.

the general public.
Award winners* Wilson & Wylie Contracts then used a wide selection of Mapei products to install Domus Minerali bush hammered tiles and finely-polished tiles, to the hospitality areas, external terraces, internal restaurants, kitchen areas, bar areas and the most prestigious 'Debentures' entrances, where reserved seats bearing the owners name are located. They were also used to cover the risers and the treads of the steps.
In total 3500 m^2 of tiles were installed using an initial layer of ULTRAPLAN ECO ultra fast hardening, self-levelling and smoothing compound. This was followed by KERAQUICK high-performance, rapid-setting, deformable cementitious adhesive, for ceramic tiles and stone material. In the white color KERAQUICK was mixed with LATEX PLUS elasticising latex to increase the flexibility of the cementitious adhesive system. The covering material was finished off by grouting the tiled areas with ULTRACOLOR PLUS (medium grey) high-performance, anti-efflorescence, fast-setting and drying mortar, water-repellent with DropEffect® and anti-mould with BioBlock® technology.
At Wimbledon, Mapei has demonstrated its commitment and interest in the world of sport, dedicating its wide experience to the spectators by providing technologically advanced products beneath the tiled surfaces to support the overall aesthetic finishes to the new terraces and visitor areas.
We would also like use this occasion to remind our readers that Mapei is also actively involved in the supply of technology and solutions for the construction, modernisation and extension of the sports complexes and infrastructures which will play host to the athletes, the events and the spectators at the 2012 London Olympic Games.
**Wilson & Wylie Contracts were presented with the 2009 TTA (The Tile Association) Award for 'Best Use of Tile in a Large Construction Contract' for Wimbledon.*


7

TECHNICAL DATA

Centre Court, Wimbledon, London, UK
Year of Construction: 1922

Period of Intervention: July – August 2007
Intervention by Mapei: supplying products for the preparation of the substrate and for laying ceramic tiles in the hospitality areas (public areas), steps and external terraces.
Client: The All England Lawn Tennis Club, London
Main Contractor: Galliford Try
Tiling Contractor: Wilson & Wylie Contracts
Screeding Contractor: CSC Screeding
Laid Materials: Domus Minerali bush hammered tiles and finely polished tiles supplied by Domus Tiles
Mapei Co-ordinator: Alan Pepper (Mapei UK)

Mapei Products: *the products mentioned in this article belong to the "Products for Ceramic Tiles and Stone Materials".*
The technical data sheets are available at the web site: www.mapei.com.
Mapei's adhesives and grouts conform to EN 12004 and EN 13888 standards.
Mapei adhesives have been awarded the CE mark in compliance with Annex ZA, standard EN 12004. Almost all the Mapei products for laying floors and walls are also GEV-certified. Mapei pre-blended mortars for screeds and smoothing and levelling compounds conform to standard EN 13813 and have been awarded the CE mark in compliance with Annex ZA, standard EN 13813.
***Keraquick (C2FTS1, EC1,** becomes **S2** when mixed with **Latex Plus):** high performance, deformable, rapid-setting cementitious adhesive with no vertical slip for moisture stable ceramic tiles and stone material.*
***Latex Plus:** latex admixture inducing elasticity to be mixed with Keraquick.*
***Topcem:** special hydraulic binder for normal-setting, fast drying (4 days) and controlled shrinkage screeds.*
***Ultracolor Plus (CG2, EC1):** fast-setting and drying, high performance, anti-efflorescence, water-repellent mortar grout for joints from 2 to 20 mm. With DropEffect® and anti-mould with BioBlock® technology.*
***Ultraplan Eco (EC1, CT C25-F7 $A2_{fl}$, CE EN 13813):** ultra-fast hardening self-levelling smoothing compound, with very low emission of VOC for thicknesses from 1 to 10 mm.*

1

2

THE NEW ACROPOLIS MUSEUM

A new building was inaugurated in Athens this year to house archaeological finds in the Acropolis

Since the eighteenth century, archaeological finds dating from the Archaic age to the Roman age have been collected in the Acropolis Museum in Athens. Because of the wealth of pieces and the need to display them better, construction work started in 2003 on a new, larger exposition area, again located at the foot of the Acropolis. In June 2007, the old museum was closed so that the collection could be moved and relocated in the larger, more modern museum which was inaugurated in 2009.

The project for the construction of the new Acropolis Museum – inaugurated on the 20th of June 2009 – included a new structure covering an area of approximately 1400 m^2 to provide a permanent display for important archaeological finds, and which could host more than 3 million visitors a year.

The designers of the museum were the Swiss architect Bernard Tschumi, assisted by his Greek colleague Michalis Fotiades, and represented a difficult and demanding challenge in that it is located close to a masterpiece such as the Acropolis (the building is only 300 metres from the Parthenon), because of its relationship with the new city and the problem of the archaeological digs. At the same time, such a spectacular scenario and the celebrated "Attica light" were also a source of inspiration for the designers. "We have built a museum in the same way in which – we believe – the ancient Greeks would have built it today", stated Tschumi, and this reflects in the panorama, one of a kind in the world, which visitors admire when they reach the museum.

A Museum Opposite the Acropolis

The museum is formed by three main elements: a base, a central part (both in the form of a trapezoid) and an upper part (in a rectangular shape). The geometry of the new museum takes into account the archaeological digs below, while the higher part is positioned in an almost mirror position with respect to the Parthenon, which dominates the front of the museum.

Inside the base of the museum – supported by 94 cement pillars and suspended over the digs in the ancient city which may be viewed through the transparent floor – there is the main entrance hall, areas for temporary exhibitions, an auditorium and various service areas. A large part of the floors on the first floor were made using panes of special glass. A solution which allows the visitors to "amble" along the streets of Athens from the classic period.

A ramp leads to the exhibition galleries in the central body, characterised by a space with twin heights (for a total of 10 metres), supported by imposing columns.

The light and transparency have shown to be the feature points of the project: the external perimeter surfaces are in glass so that most of the inside is lit by natural light, with a spectacular view of the nearby Acropolis.

The use of various types of glass and screened skylights allows the intense, natural light to filter in while, at the

Photo 1.
The external floors in the entrance area were covered with grey and white marble laid using KERAFLEX MAXI, while their joints were grouted with ULTRACOLOR PLUS.

Photo 2.
The glass facades which surround the upper floor of the new Acropolis Museum, through which visitors may admire the Parthenon.

Photo 3.
The photo allows the three levels on which the new museum has been built to be "perceived": the lower two are a trapezoidal shape while the top level is rectangular.

4

5

same time, protecting the gallery from the heat and excessive sunrays, especially during the summer.

Laying in Ancient Attica

Mapei products also contributed in the construction of this prestigious building.

MAPETHERM AR1 one component, cementitious adhesive made from cement, selected sand, synthetic res-

Photo 4.
A partial view of the suspended entrance to the museum and a spectacular view of some of the 94 pillars below.

Photo 5.
A detail view of the transparent panes of glass on the floor which allow visitors to view the digs below.

Photos 6 and 7.
ADESILEX P9 was used to install the porcelain floor covering on the stairs on the first and second floors, which were then grouted with ULTRACOLOR PLUS.

Photo 8.
MAPETHERM AR1 cementitious adhesive was used to bond and smooth over the insulating panels.

Photo 9.
KERABOND was used to bond the ceramic tiles in all the service areas and offices.

IN THE SPOTLIGHT

KERAFLEX MAXI

It is an improved **(2)** slip resistant **(T)** cementitious **(C)** adhesive with extended open time **(E)** classified as **C2TES1**. It features high bonding strength, low viscosity, therefore it is easily workable. It is highly thixotropic and recommended for interior and exterior bonding of ceramic tiles of every type and size and stone materials (provided that they are not sensitive to moisture) on conventional substrates such as cementitious screeds and underfloor heating installations; cementitious renders or lime and cement-based mortar; gypsum board as long as firmly fixed.
It is ideal for installations on uneven substrates and renders, without having to level the flooring beforehand.
N.B. The product has been superseded by KERAFLEX MAXI S1.


6


7


8


9

ins and special additives was used to bond and smooth over the 1700 m² of insulating panels laid in the area which houses the machine room.
KERAFLEX MAXI high-performance, cementitious adhesive with no vertical slip and extended open times was used to lay the external floors made using large slabs of white and grey marble in the entrance area and in the inside foyer on the ground floor (for a total surface of 1600 m²).
ADESILEX P9 cementitious adhesive was chosen to install the porcelain floor covering in the rooms on the first and second floors (for a total of 1500 m²), while KERABOND cementitious adhesive was used to lay the ceramic tiles used on the floors in the office, the cloakrooms and the despatch areas and the walls and floors in the bathrooms.
ULTRACOLOR PLUS fast drying and setting, anti-efflorescence grout, with DropEffect® and anti-mould with BioBlock® technology, was used to grout all the joints.
MAPESIL AC solvent-free, silicon sealant available in 26 different colours was used, on the other hand, to seal the expansion joints.
Two thousand five hundred years after their original construction, the magnificent examples of the artistic skills of the ancient Greeks have "moved house" from their sacred rock to a new site which, quite rightly, may be considered their new home, and Mapei may proudly declare to have contributed in its construction.

TECHNICAL DATA

Acropolis Museum, Athens (Greece)
Designers: Bernard Tschumi and Michalis Fotiades
Year of Construction: 2003-2009

Period of Intervention: 2007-2008
Intervention by Mapei: supplying products for installing marble slabs on the entrance floors; for installing porcelain tile and ceramic floorings in inside service areas and offices; for grouting these floorings' tile joints; for bonding thermal insulation sheets in electromechanical rooms.
Client: Hellenic Republic, Ministry of Culture Protocol & Cultural Heritage
Works Director: Ioakeim Pringipakis, Aktor
Laying Company: Aktor (Athens)
Laid Materials: marble, ceramic tiles and porcelain tiles
Mapei Distributor: Alto, Koropi (Athens)
Mapei Co-ordinators: Ioannis Koropoulis, Mapei Hellas (Greece); Fabio Fenech, Mapei SpA (Italy)

Mapei Products: *the products mentioned in this 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 and grouts conform to EN 12004 and EN 13888 standards. Mapei adhesives have been awarded the CE mark in compliance with Annex ZA, standard EN 12004. Almost all the Mapei products for laying floors and walls are also GEV-certified.*
Adesilex P9 (C2TE, EC1 R): *high performance cementitious adhesive with no vertical slip and extended open time for ceramic tiles.*
Kerabond (C1, EC1 R): *cementitious adhesive for ceramic tiles.*
Keraflex Maxi (C2TES1): *high performance cementitious adhesive, with no vertical slip and with extended open time for ceramic tiles and stone material. N.B. The product has been superseded by Keraflex Maxi S1.*
Mapetherm AR1: *one-component cementitious based adhesive and smoothing compound for insulation systems.*
Mapesil AC: *solvent-free, acetic cross-linking, one-component mildew-resistant silicone sealant.*
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.*

The founding of the MAPEI Canadian subsidiary is linked to the 1976 Olympic Games held in Montreal, Canada. The Company will once again be a leading player at the forthcoming Vancouver Winter Olympics, scheduled from February 12th - 28th, 2010

The Mapei manufacturing plant in Vancouver and the recent extension works on it.

MAPEI CANADA FOR THE OLYMPICS

Mapei's presence in Canada has become a reality consolidated over time and is the first conquest outside of Italian soil; hence the first step towards internationalization. The opening of the first Canadian manufacturing plant in Laval (Quebec) dates back to 1978, but the Company had already been active in the Canadian market for a few years as Mapei products have been successfully used in the construction of various sports facilities and infrastructures in Montreal, the city which hosted the Olympic Games in 1976. This experience is currently being repeated, for the impending 21st Winter Olympic Games, which will be taking place in Vancouver from the 12th to the 28th of February 2010.

The success achieved in 1976 was immediate; business grew constantly and Mapei's Canadian facilities provided a bridgehead for successfully breaking into the American market. Consequently, the Mapei Corporation was founded in Phoenix (Arizona) in 1983; followed by a plant in Chicago a few years later and now with new headquarters in Deerfield Beach (Florida).

Throughout the years, the Laval plant has had the opportunity to expand and in addition to the offices and manufacturing plant, set up a Technical Service department and an R&D laboratory. Here, the first adhesives from the ECO range with a low emission level of volatile organic compounds (VOC) were developed. Over the years, other manufacturing plants were added and in 1995 a plant was built in Maskinongé (Quebec) that specializes in the manufacturing of re-dispersible powders, which are also marketed by the Company's subsidiary Vinavil and redistributed to all Mapei plants in America.

In 2001, the Company purchased Chembond Ltd. which is based in Brampton (Toronto, Ontario). The plant manufactures, amongst other products: adhesives, admixtures and cementitious mortars. Although Mapei had already been operating in New Westminster (British Columbia) since 1989, a facility that manufactures systems for ceramic and natural stone installations was opened in Delta (Vancouver) in 2002. They also began manufacturing powders for repairing concrete. Nowadays, the Company's operations in the western hemisphere

Giorgio Squinzi, the CEO of the Mapei Group (right); Nick Di Tempora, the Honorary President of Mapei Americas (centre page), and Luigi Di Geso, the General Manager of Mapei Canada Inc. and new President and General Manager of Mapei Americas, during the 25th Anniversary celebrations of the Company's operations in Canada.

Vancouver 2010 Olympic Village

Lots of Mapei products for preparing the screeds and installing large-size natural stone and ceramics were used both inside and outside the new residential facilities of the Olympic Village.

▲ Percy Norman Aquatic Centre
This facility, which will host the curling events, has been totally renovated ready to accommodate all the people watching the competitions. Most of the work involved adapting the concrete walls of the centre's main pool; waterproofing the showers, swimming pools and locker rooms; laying the ceramic wall and floor coverings.

▲ Vancouver Olympic Convention Centre West
This building will become the main media centre at the Olympics. Mapei products were used to repair the concrete and to even out the levels of the various areas and numerous entrance steps.

WORK IN PROGRESS

of the world are managed by Mapei Americas, which includes 6 subsidiaries and 18 manufacturing plants in Canada, the United States, the Caribbean and Central and South America. The head offices of Mapei Americas, which manages all its operations, have been located in Deerfield Beach since 2000. It is interesting to note that, Luigi Di Geso, President and General Manager of Mapei Americas, who is in charge of Mapei's subsidiaries in North America, South America and the Caribbean area, is in fact Canadian. A graduate in Economics from the University of Concordia, Di Geso joined the Company 10 years ago and gradually took on increasingly more important managerial roles before becoming the general manager of Mapei Canada Inc. Di Geso will be mentored in his new role by Nick Di Tempora, who alongside Giorgio Squinzi, was one of the men responsible for Mapei's growth in the Canadian and American markets.
Di Tempora was the President and General Manager of the Mapei Group's subsidiaries in the Americas from 1983 to June 2006, later taking on the role of honorary president, a position he still holds today.

Mapei Canada at the 2010 Winter Olympics
Mapei's tradition to contribute its highly technological products for the construction and restructuring of sports facilities and connected infrastructures is at its highest level particularly when sporting occurrences become truly global events - such as the Olympics. Mapei continues to play a key role, notably in supplying products for swimming pools and athletics tracks.
As was the case for the 2006 winter Olympics in Turin and the summer Olympic Games in Beijing in 2008 (where Mapei provided a notable contribution through its products for the creation of facilities which have helped change the face of the cities and are still used by the local citizens), "Olympic building work" is now in full swing in Vancouver. All the facilities where the events will take place are currently being constructed or modernized.
Plenty of attention has been paid to the issue of reusing these facilities at the end of the games. This prospect was also praised by the executive member of the CIO (International Olympic Committee), Gerhard Heiberg, during his official visit to Canada, when addressing the Chamber of Commerce in Richmond (a town belonging to the metropolitan borough of Vancouver).
Mapei products and systems are currently being used on numerous different building sites, such as the Olympic Village, Richmond Speed Skating Oval, Vancouver Olympic Committee Headquarters, the Vancouver Olympic Convention Centre West and the Percy Norman Aquatic Centre. These pages show some significant pictures of building work currently underway and later on, at the end of the Olympic Games, we will be presenting a full dossier describing the works carried out and results achieved. The Olympic Games always bring Mapei good luck and, 34 years after the Montreal Olympic Games, Mapei Americas is now the leading manufacturer of materials for the building industry and flooring industry in the Americas. Great sporting moments and the Mapei Company will once again be among the leading players at another great international media event. Mapei will be in Vancouver. In fact..... it already is!

Richmond Speed Skating Oval
A striking picture of the skating rink renovated using Mapei's latest products for preparing the substrates, waterproofing the surfaces and installing the ceramic tiles.

ALL PURPOSE ADHESIVE COMPANY

With the acquisition of APAC, the Mapei Group strengthens its presence in the United States in the sector dedicated to products for installing resilient and textile floor coverings

Once again, the growth of Mapei makes headline news: after announcing the acquisition of Polyglass (manufacturer of waterproofing membranes for the building industry) at the Saie trade fair in October 2008, the Company officially announced last February that APAC (All Purpose Adhesive Company), a company which produces technologically-advanced adhesives for installing carpets and resilient floor coverings, has now officially become part of the Group. This makes Mapei the world leader in the sector of products for installing resilient and textile floor and wall coverings.

Another Member of the Family

During a press conference Giorgio Squinzi, CEO of the Mapei Group, declared that *"APAC is now a fully-fledged member of the family. This acquisition is in line with our long-term strategy for organic growth in all markets, plus important acquisitions whenever possible, such as in this case. With APAC, in fact, we have acquired an industry brand renowned for its excellence and reliability, which offers innovative technology, high quality and high performance levels. What we have particularly in common is the attention paid to crucial themes, such as innovation and sustainable development. Used to thinking big, even in difficult moments such as with the current economic situation, we firmly believe that it is fundamental that we continue carrying out daring, forward-looking investments in our areas of strength"*.

A Strategic Geographical Position

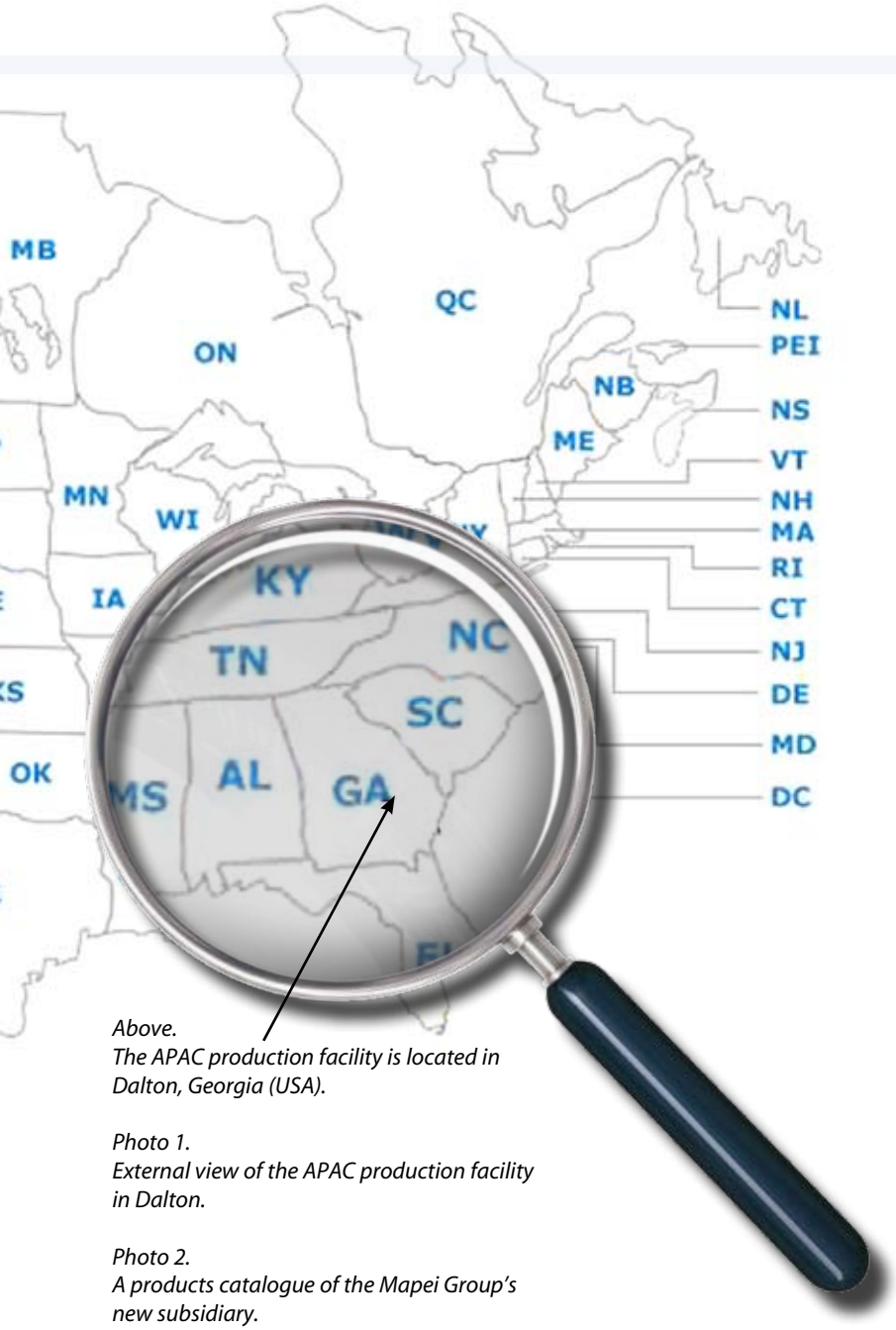
With the 15,000 m² APAC facility and a new Research & Development laboratory located in Dalton, Georgia (USA), in the heart of the carpet-producing belt, Mapei reinforces its know-how and position in this particular segment of the market by expanding its production facilities.

But this is only the most recent target of a long process of penetration and growth on the American continent,

APAC

www.apacadhesives.com

1



Above.
The APAC production facility is located in Dalton, Georgia (USA).

Photo 1.
External view of the APAC production facility in Dalton.

Photo 2.
A products catalogue of the Mapei Group's new subsidiary.

Photo 3.
A few of the products from the APAC range for installing resilient floor coverings.

which started in 1978 with the opening of a production facility in Canada. In fact, with the acquisition of this operation, the Mapei Group now has 18 production facilities in the Americas (11 in the USA, 4 in Canada, 1 in Argentina, 1 in Venezuela and 1 in Puerto Rico) plus 6 subsidiaries on the same continent.

A Common "Green Commitment"
Research, technological innovation and eco-sustainability: these are the key words of the new subsidiary, in line with Mapei's green philosophy.
In fact, all APAC products have earned the "Green Label Plus" symbol of the Carpet and Rug Institute, and comply with the stringent standards for volatile organic compounds (VOC) laid down by FCAMC (the US Floor Covering Adhesives Manufacturers Committee).

As further proof of its commitment to environmental sustainability, APAC has also introduced "ECOlogical", a specially-created symbol which distinguishes an entire range of eco-sustainable products that comply with the specifications of the US Green Building Council, to help designers and building companies create projects with LEED certification (Leadership in Energy and Environmental Design).
The Mapei and APAC ranges of products will now complement and complete each other to offer a wide range of solutions for installing any kind of floor coverings (resilient, carpet ceramic tiles, marble and wood). As further confirmation of the growth trend of the Group, we would also like to take this occasion to remind our readers that Mapei recently extended its production facility in Garland, Texas which is presented in more detail in another article of this edition of *Realtà Mapei International*.

2

3 Resilient flooring adhesives

VG521
VinylGrip
Vinyl Sheet Goods

ECOlogical

VG551
VinylGrip
ECOlogical Premium
Vinyl Sheet Goods

ECOlogical

564
White Universal
Resilient Flooring Adhesive

ECOlogical

590
ECOlogical Universal
Perimeter Flooring

PRODUCT SPOTLIGHT

Eco Prim® PU 1K

Application

One-component, solvent-free, moisture curing polyurethane primer with very low emission of volatile organic compounds.

- **For consolidating and waterproofing cementitious screeds**
- **Its properties help prevent residual moisture in screed before bonding wood**
- Practical, easy-to-apply using either a brush or a roller
- Fluid, excellent penetration ability
- Hypo-allergenic
- Low environmental impact
- Convenient

GEV-EMICODE EC 1 very low emission

GEV EMICODE

www.mapei.com

MAPEI®

ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING

In a holiday centre for children, in the heart of Upper Savoy in France, the rubber and PVC floors were laid using Mapei products

LA MAZERIE

In France a "mazerie" is a furnace used to smelt iron.
It is also the name of a holiday centre in South-West France. A chalet crouching on the Aravis Massif, strategically located between Mont Blanc, Lake Annecy and Switzerland, in the Rhône Alps.
Built on the south face of the Massif at an altitude of 1,300 metres, the Mazerie dominates the Chinaillon Valley in the borough of Grand Bornard.
This large, typically Savoy chalet is four storeys high, and belongs to the General Council of the French department of Haute Marne. During the holiday season, the structure hosts approximately fifty children and their guides each school year. In holiday times the centre opens its doors to groups, families and colonies which may take advantage of the natural richness of the territory and the numerous tourist attractions in the region.

Innovative Products for New Coloured Floors

In 2007, the General Council of Haute Marne financed a project to replace all the floors in the building.
The French construction company, Devarennes, was awarded the contract to lay the rubber and PVC floor coverings in the corridors, offices, refectory, on the stairs and in the despatch areas.
Mapei contributed to the project by supplying products to prepare the substrates and to bond the covering materials for a total floor area of 500 m^2.
ECO PRIM T solvent-free acrylic primer was applied on the cement substrate used for the floors, to promote bonding of the smoothing and levelling compound which was applied later. Because this product has an extremely low emission level of volatile organic compounds (VOC), ECO PRIM T has been classified as EMICODE EC1, awarded by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), the association which checks emission levels of products used for floors, adhesives and various materials used in the building industry, and of which Mapei is a member.


1


2

Photo 1.
The floor in the refectory before laying the rubber floor covering.

Photo 2.
The rubber floor in the refectory laid using ULTRABOND ECO V4 SP, bathed in the natural light which filters through the large windows.

Photo 3.
The television room, with its rubber floor, bonded with ULTRABOND ECO V4 SP.

Photo 4.
The highly coloured rubber floor laid in the refectory using ULTRABOND ECO V4 SP.


4

This product, therefore, is a particularly suitable solution for living areas, which respects the environments and the health of floor layers.
The substrates were smoothed over using MAPESOL 3, a product distributed on the French market by Mapei France, the local subsidiary of the Mapei Group. The technical characteristics of this product are the equivalent of PLANO 3, which is distributed in the whole European market and especially suitable for the preparation of substrates before the installation of ceramic tiles.
This high-performance, self-levelling smoothing compound is certified CSTB P3 according to French standards, awarded by CSTB (Centre Scientifique et Technique du Bâtiment), the Scientific and Technical Centre for the French building industry, and is suitable for making and restoring floors subject to pedestrian and wheelchair traffic. This product is fast-setting, and its use guarantees that covering materials are bonded after 24-48 hours, and

IN THE SPOTLIGHT

ECO PRIM T

This is a solvent-free acrylic resins-based primer in water dispersion with very low emission of volatile organic compounds (VOC). It has excellent bonding, flexibility, water and ageing resistant characteristics. It is used to improve adhesion of levelling compounds on all absorbent and non absorbent surfaces. ECO PRIM T is not flammable and shows a very low emission of volatile organic compounds (VOC), so it is absolutely harmless to the health of the installer and the end-user. It can be stored with no particular precautions. It gained the **EMICODE EC1** certification awarded by **GEV**.

ULTRABOND ECO V4 SP

This is a solvent-free, synthetic-polymer based single-coat adhesive in water dispersion, formulated in a ready-to use light beige paste. It features an especially extended open time which can be therefore used for bonding resilient wall and floor coverings (provided they are dimensionally stable), even on non-absorbent surfaces.
It is easy to spread and has an excellent initial grab. After hardening, ULTRABOND ECO V4 SP film is flexible and strong and can take heavy traffic and wheeled chairs.
It gained the **EMICODE EC1** certification awarded by **GEV**.

3

WHAT IS EMICODE EC1 CERTIFICATION?

EMICODE is a highly reliable, quantifiable classification system, which may be measured and registered, and regards the emission of volatile organic compounds (VOC) from the materials used for laying and in the building industry. It was developed by GEV "Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.", the association which checks emission levels of VOC in products used for laying floors, adhesives and products used in the building industry, and of which Mapei is a member. Amongst the categories defined by GEV (EMICODE EC1, EC2 and EC3), EMICODE EC1 indicates a "very low emission level of volatile organic compounds" from products which bear this symbol. Also, the letter R (which means "reguliert" or controlled) indicates the risks for floor layers which may derive from the use of reactive resin-based products (cement, polyurethane, silane cross-linking systems, epoxy, polyester, acrylic, etc.).

that the surface may be ready to light foot traffic after 6 hours.
It is applied at a thickness of between 3 and 10 mm, and thanks to its technical characteristics, the use of MAPESOL 3 guarantees a perfectly smooth finish.
The owners of the Mazerie holiday centre chose brightly-coloured Norament rubber floor covering produced by Freudenberg for the floors in the corridors, offices and refectory. The basis for choosing this kind of floor covering was certainly made after assessing the numerous advantages offered by a rubber floor, such as its high strength and easy maintenance of its surface.
Also, thanks to the orange-peel effect on the surface, this kind of floor covering is non-slip, even if there is rainwater or melted snow on the surface. In the refectory, the rubber floors were laid in artistic patterns: coloured triangles and stripes were created here and there along the surface, together with flashes of red, blue, green and grey to create a warm, modern finish. These covering materials, as with the PVC on the stairs, were laid on the substrate using ULTRABOND ECO V4 SP all-purpose acrylic adhesive in water dispersion, particularly suitable for bonding PVC, polyolefin, rubber, cork and textiles. This fast-setting product guarantees that the floors may be stepped on just 3 days after laying the floor, thus allowing floors subject to intense pedestrian and wheelchair traffic to be created. ULTRABOND ECO V4 SP is solvent-free and certified EMICODE EC1 (very low emission level of volatile organic compounds), which proved to be a great advantage for the floor layers.
The result of the work carried out were extremely satisfying: the coloured floors, bathed in natural light filtering through the large windows, give a modern touch to the chalet. A result which is also due to the merit of Mapei.

This article was taken from "Mapei & Vous", n° 25, the in-house magazine published by Mapei France, the French subsidiary of the Mapei Group, which we would like to thank.

Mapei Products: *the products mentioned in this article belong to the "Products for the Installation of Resilient, Textile and Wood Floor and Wall Coverings" range. The technical data sheets are available on the web site: www.mapei.com. Mapei products from the Eco line bear the EMICODE EC1 "very low emission level of volatile organic compound", awarded by GEV.*
Eco Prim T (EC1): *solvent-free, acrylic primer with very low emission of volatile organic compounds (VOC) for absorbent and non absorbent substrates.*
Mapesol 3: *high-performance self-levelling smoothing compound for thickness from 3 to 10 mm. It is classified as CSTB P3 according to the French standard UPEC, set by CSTB (Centre Scientifique et Technique du Bâtiment), the French Scientific and Technical Centre for Building. N.B. This product is distributed on the French market by Mapei France, the local subsidiary of the Mapei Group, and is intended for the preparation of substrates before laying resilient floor. The counterpart of Mapesol 3 is Plano 3, especially suitable for the installation of ceramic tiles and available in the whole Europe.*
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.*

TECHNICAL DATA

Centre de Vacances La Mazerie, Grand Bornard (France)
Designer: DDJS 52 (Direction Départementale de la Jeunesse et des Sports du 52 – Haute Marne) and CCHM (Centre Culturel Haut Marnais)
Year of Construction: 1980

Period of the Intervention: 2007
Intervention by Mapei: supplying products for preparing the floor substrates; for bonding rubber floorings in the corridors, offices and in the refectory; for laying PVC floorings on the stairs.
Client: Conseil Général de la Haute Marne
Laying Company: Devarennes (Chaumont, France)
Laid Materials: rubber floorings (Norament by Freudenberg) and PVC floorings
Co-ordinators Mapei: Jean-Jacques Richard (Mapei France).

RUBY PRINCESS

Marble and granite for Princess Cruises' new flagship liner

A luxurious floating palace and a jewel of elegance and innovation. This is Ruby Princess, the new flagship liner of the Princess Cruises fleet, a company which carries more than one million passengers every year towards an incredible range of destinations all around the globe. The new liner, built in the Fincantieri shipbuilding yards in Monfalcone (Gorizia, Italy), carried out its maiden voyage to the Caribbean in 2008.
A dream cruise for this liner: gross tonnage 116,000 tonnes, 289.6 metres long and 36 metres wide with 18 passenger bridges.
Ruby Princess hosts more than 4,600 people (3,500 passengers and 1,100 crew members) and reaches a top speed of 22.1 knots. And in the usual family tradition, the liner offers luxurious comfort and an impeccable onboard service.
As with its sister liners (Crown and Emerald) the Ruby Princess also has a large foyer similar to a large piazza overlooked by various bars and restaurants.
The elegance of this ship combines perfectly with some of the latest novelties in entertainment: four swimming pools and 6 Jacuzzis, the grand Princess Theatre, Gatsby's Casino, the

Photo 1. The Ruby Princess in the Fincantieri shipbuilding yards in Monfalcone (Gorizia, Italy).

Photo 2. Once the marble and granite had been laid, the joints were grouted with ULTRACOLOR PLUS mortar.

Photo 3. The marble inlay work in the floor in the foyer and corridors on the various floors were bonded using GRANIRAPID.

Photo 4. A decorative rosette with marble and mosaic inlays immediately after laying with GRANIRAPID adhesive.

Lotus Spa and fitness centre, a jogging track and a giant open-air "Movie Under the Stars" cinema screen which shows sporting events, concerts and the latest releases from the cinema world. And there is even a wedding chapel: so it's not just a coincidence that the successful television series "The Love Boat" was set on one of the company's liners.

A Successful Working Partnership
In such an elegant, fascinating context nothing but luxurious covering materials could have been used, such as

5

Photo 5. In the sumptuous foyer, similar to an enormous piazza overlooked by bars and restaurants, the marble and granite floors were laid using GRANIRAPID while the granite covering on the lightweight aluminium panels for the columns and stairways were bonded using KERALASTIC T.

Foto 6. The marble and granite floors in the corridors leading to the cabins were also laid using GRANIRAPID.

marble and granite. The task of laying these precious covering materials on the floors and in the swimming pools was entrusted to Marmi Vrech Srl from Cervignano del Friuli (Udine, Italy).
The company, considered leader in this sector, was founded by Giocondo Vrech, and is a craftsman stonemason's specialised in marble and granite and the fitting out of civil and naval environments.
A faithful customer of Mapei for more than ten years, the Friuli company selected products made by the leading company in the adhesives for ceramics and stone sector for this high-class liner. More than 30 types of marble and 15 types of granite were laid on board, covering a total of 4,950 m^2 of surfaces and floors, of which 1,235 m^2 alone were laid with granite tessera in the bathrooms and around the swimming pools.
The granite and marble were laid using GRANIRAPID high-performance, deformable, fast-setting and hydration two-component cementitious adhesive for ceramic tiles and stone materials.
Granite was also laid on the lightweight aluminium panels, in this case using KERALASTIC T high-performance, two-component, thixotropic polyurethane adhesive for ceramic tiles and stone.
The final touch to the coverings was the grouting of the joints with ULTRACOLOR PLUS high-performance, anti-efflorescence, fast setting and drying polymer-modified mortar, water-repellent with DropEffect® and anti-mould with BioBlock® technology for joints from 2 to 20 mm wide.
The working partnership between Marmi Vrech and Mapei is yet another success story: work progressed without a hitch and, once again, the floorlayers were perfectly at ease with the Mapei products. In this particular case it is only too fair to say, therefore, that with Mapei shipbuilders will always find everything shipshape and Bristol fashion!

TECHNICAL DATA

Ruby Princess liner, built at Fincantieri shipyards in Monfalcone (Gorizia, Italy)
Designer: arch. Giacomo Mortola from Studio Gem (Genoa) and arch. Teresa Anderson from Princess Cruises
Year of Construction: 2008

Year of the Intervention: 2008
Intervention by Mapei: supplying products and technical assistance for laying marble and granite coverings
Designers: arch. Giacomo Mortola and arch. Teresa Anderson
Clients: Vitrani (TS), Zago (TV), Ancv (VE), IVN (PD)
Works Directors: Riccardo Vrech and Giuseppe Stellato
Laying Company: Marmi Vrech srl – Cervignano del Friuli (Udine, Italy)
Mapei Distributor: Marmi Vrech srl
Mapei Co-ordinators: Ivan Carlon and Paolo Alberti, Mapei SpA (Italy)

IN THE SPOTLIGHT

KERALASTIC T

This an improved **(2)** reaction resin and slip resistant **(T)** adhesive **(R)** classified as class **R2T** according to **EN 12004**. It is suitable for indoor and outdoor wall and floor bonding of ceramic tiles, stone material and mosaics of all types on screeds, renders, concrete, asphalt, wood, metal, PVC, reinforced polyester, asbestos-cement, gypsum, gypsum board, gypsum panels, etc.
On mixing the two parts together, the result is a paste with the following properties:
- easy workability
- excellent durability and resistant to ageing
- perfect adhesion on all surfaces used in building
- hardens by chemical reaction without shrinkage (until it becomes highly resistant)
- high deformability.

It can be applied vertically without slump and without letting even heavy or large tiles slip. It is especially recommended for bonding ceramic tiles, stone material and mosaics in showers and on sheets used for prefabricated bathrooms, on wooden work surfaces or kitchens, on balconies, external terraces, flat roofs subject to foot traffic or domes. It is ideal for bonding natural stones and reconstructed stone (marble of every type, slate, etc.) also subject to movement and size variation due to the absorption of water (class C of size stability according to Mapei standards).

Mapei Products: *the products mentioned in this 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 EN 12004, Annex ZA. Mapei grouts for ceramics and stone materials conform to EN 13888. Almost all the Mapei products for laying floors and walls are also GEV-certified.*
Granirapid (C2FS1, EC1, CE EN 12004): *high performance, deformable, fast- setting and hydration, two-component cementitious adhesive for ceramic tiles and stone material.*
Keralastic T (R2T, CE EN 12004): *high performance two-component polyurethane adhesive with no vertical slip for ceramic tiles and stone material.*
Ultracolor Plus (CG2, EC1): *fast-setting and drying, high performance, anti-efflorescence, grout for joints from 2 to 20 mm, water repellent with DropEffect® and anti-mould with BioBlock® technology.*

THE PETRUZZELLI THEATRE

The rebirth

Music, culture and an imposing restoration project using advanced technology: respect for age-old traditions yet with an eye on the future

Photo: Beppe Gennone (Bari, Italy)

The Petruzzelli Theatre in Bari, one of the most prestigious and renowned theatres in the world, has risen from the ashes, and once again Mapei has left its mark. After closing to the public due to the fire that destroyed it on the 27th of October 1991, the theatre was finally re-opened with a double ceremony: the event on the 4th of October was devoted to local and institutional authorities, while that on the 5th of October was dedicated to Bari citizens and the workers. The season of the Petruzzelli theatre will instead begin on December, the 6th, (the day devoted to Saint Nicholas, the patron saint of Bari), by staging *Turandot* by Puccini. And here too, as with the Teatro alla Scala in Milan and an infinite range of sites ranging from small to large, Mapei shows its enormous passion for the restoration of both ancient and modern symbols of cultural heritage and of the territories they represent, patrimony of the entire international community. A passion which means care, dedication and commitment of Mapei personnel: from the research and fine tuning of special products to the constant presence of highly-qualified technicians in the field to offer a solution, in real time, to any kind of questions and requirements. A "hands-on" approach, a work method which transforms Mapei from just another supplier of materials to "partner", a reliable interface who can supply an answer to any kind of queries and doubts.

The Petruzzelli Theatre was built in the early 1900's and is one of the first examples of modern architecture in Italy. In fact, the theatre was designed and constructed by mixing together traditional materials and technology with the most modern elements of the time, such as steel: with the vertical structure made using tuff, load-bearing pillars in steel, vaulted ceiling slabs (right up to the dress circle), girder floors and brick and tuff ceiling vaults. And lastly, the structure for the large domed roof and the trabeation for the proscenium made from steel were the latest word in "construction techniques" and an absolute first.

Mapei and the Rebuilding Project

Right from the day of the disaster, in spite of the immediate state of shock, people started to talk about rebuilding the theatre. Debates and public meetings were held, all those involved were literally buzzing with ideas, design proposals and offers and Mapei's heart beat in unison. Mapei followed the development of the site right from the very start through its local technical and commercial departments. They worked alongside the construction companies involved in the restoration work and offered the most innovative technical solutions to solve the problems when they arose at various stages. The restoration work included three main phases:

- firstly, the whole building was consolidated;
- followed by construction of the walls and restoration of the magnificent foyer;
- and lastly, the finishing operations.

Consolidation and Construction of the Walls

After removing all the rubble, the first emergency to overcome was the rebuilding of the structures which had been totally destroyed or whose functionality were irredeemably compromised.

The new beams were made by casting a concrete mix designed by Mapei's laboratories using STABILCEM SCC cementitious binder for dimensionally-stable self-compacting concrete mixtures. The old structure had been partially damaged and repaired using mortar from the MAPEGROUT range of shrinkage-resistant fibre-reinforced cementitious mortars. This type of mortar was used to repair concrete after treating the old reinforcement rods with MAPEFER


1


2


3

Photo 1. *More than 6.000 m² of internal and external heated and normal screeds were laid using TOPCEM and TOPCEM PRONTO.*

Photos 2 e 3. *In the foyer, after laying MAPETEX SEL anti-fracture fabric, terrazzo tiles were laid using KERAQUICK+LATEX PLUS.*

Photo 4. *Rebuilding and structural strengthening work was accomplished with mortars from the MAPEGROUT range.*

Photo 5. *Hexagonal terrazzo tile floor was laid in the gallery, boxes and corridors using KERAFLEX MAXI S1.*

Photo 6. *The marble in the bathrooms was laid using white ELASTORAPID.*

two-component corrosion-inhibiting cementitious mortar. The newly-built part of the structure was then joined to the repaired older structure by using enormous quantities of EPORIP two-component epoxy based adhesive for cold joints, EPOJET super-fluid epoxy resin used for monolithic repairs of cracked structures and for bonding and structural strengthening and ADESILEX PG1 thixotropic epoxy adhesive for structural bonding, used particularly with the beton plaque technique.

Restoration of the Foyer

Mapei was called in for its technical expertise to offer a solution for laying the new floor and for the restoration of the old floor in the foyer.

After carrying out a number of surveys on site with technicians from the works management team and the consortium of building companies, two different types of floor slabs were identified: the new floor with a reinforced concrete screed and the old floor with no screed and the upper surface of the steel beams. There was very little margin available on either floor which made it impossible to install an unbonded screed thick enough for service use. The solution opted for was the application of EPORIP before installing a screed made from TOPCEM PRONTO pre-packed, ready-to-use, normal-setting, controlled-shrinkage mortar for fast-drying screeds.

The next step was to install the MAPETEX SYSTEM made up of non-woven fabric and an adhesive strip to create an anti-fracture layer. This layer was bonded in place with KERAQUICK+LATEX PLUS. KERAQUICK is a cementitious adhesive with no vertical slip classified as C2FTS2 according to EN 12004 standard when mixed with LATEX PLUS latex admixture. KERAQUICK+LATEX PLUS was also used to bond the terrazzo tile floor.

Finishing Operations

Finishing operations often lead to a wide array of problems. For a building contractor, therefore, it is imperative to have a reliable technical partner that guarantees not only expertise and professionalism, but which also has a solid support structure which can solve problems quickly and efficiently sustained by a solid background in research: and who better than Mapei can offer such credentials!

An enormous challenge had been set for everybody: a race against time in the pursuit of excellence. A long period of consultation between the technical teams started: consultant groups, works directors, the Superintendent for Fine Arts & Heritage, the Theatre Commission, Bari City Council and the Delegated Commissioner. Each choice was made after lengthy discussions, with the aim of finding solutions which considered both technical and architectural implications and functional requirements according to final use. Mapei was consulted and required to assess the solutions and to transform ideas into their corresponding technological systems.

During the planning stage Mapei often intervened to give indications to help and guide the technical groups. Once the preliminary phase had been completed, the work on the finishing operations were intensified during the final year of restoration work. The site was a hive of activities carried on according to a tight schedule with no room for breaks or indecision.

The support offered by Mapei's corporate and local Technical Assistance Department proved to be invaluable during this phase: every problem was tackled and solved quickly, with particular care and attention for the timely acquisition of all the materials required. Time-wasting was forbidden. Synergic operations were developed and communications became vital in making the mechanism work perfectly.

The supply of Mapei technology started with the laying of approximately 6.000

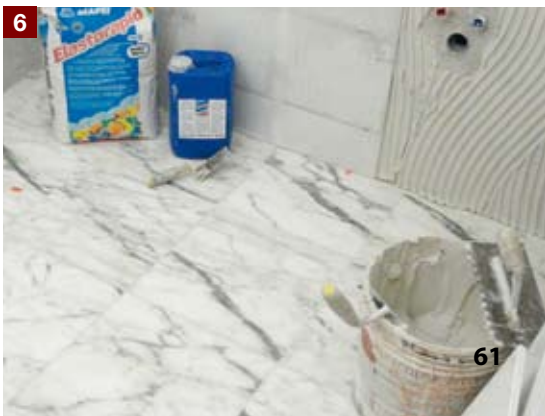


Photo 7. *The pre-finished Iroko parquet in the stalls area was laid with ULTRABOND P990 1K.*

Photo 8. *After laying the parquet, installation of the stalls seats could begin.*

Photo 9. *The stalls after the renovation work.*

Photo 10. *Adriana Spazzoli, Marketing and Communication Director for the Mapei Group, visits the site and meets Nicola Scarci who followed the laying of the fabrics.*

Photo 11. *Inside the theatre and in the club rooms where SILANCOLOR PAINT, SILEXCOLOR MARMORINO and COLORITE PERFORMANCE were used as the final coatings.*

Photo 12. *The Mapei experts Fiorella Rodio, Paolo Sala and Luca Carcagnì with the site manager Giuseppe Festa during a site visit.*

Photos 13 and 14. *Preparation and laying of the textile coverings in the boxes using ADESILEX MT 32 adhesive.*

Photo 15. *An interesting reflection of the royal box.*

m^2 of internal and external screeds made from TOPCEM normal-setting, fast-drying hydraulic binder and TOPCEM PRONTO mortar applied on both the floor slabs installed after the fire and in the areas where the old floor and substrate had been removed.

The most suitable, specific adhesive was selected for each type of floor and/or covering material:

• The agglomerate marble in the bathrooms, boxes and dressing rooms was laid using white ELASTORAPID highly deformable, two-component, fast-setting, improved cementitious adhesive with no vertical slip and extended open time (classified as C2FTES2 according to EN 12004 standard).

• The system selected to lay the large-size slabs of recomposed marble on the stairways, landings and stage-front stairs and the natural stone on the doorsteps, stairs leading to the dressing rooms and the stairs to the proscenium was KERAQUICK+LATEX PLUS.

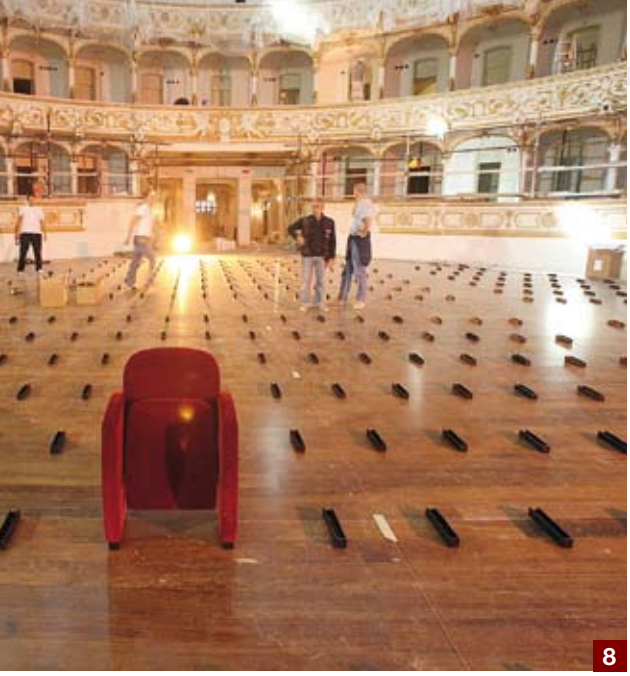
• ADESILEX P9 adhesive with no vertical slip and extended open time (classified as C2TE according to EN 12004 standard) was used to lay the single-fired ceramic tiles in the dressmakers' quarters, the dressing rooms and club rooms.

• The porcelain tiles in the dressmakers' quarters and in the dressing rooms, as with the red and white hexagonal terrazzo tiles for the walkways and the boxes, were laid using KERAFLEX MAXI S1 deformable cementitious adhesive with no vertical slip and extended open time (classified as C2TES1 according to EN 12004 standard).

• The pre-finished Iroko wooden floors in the dressing rooms and corridors were laid on the screeds with ULTRABOND P990 1K one-component, solvent-free, ready-to-use, elastic polyurethane adhesive for all types of parquet and laminates after applying a layer of ECO PRIM PU 1K primer.

• The pre-finished Iroko wooden floor for the whole of the stalls area was also laid using ULTRABOND P990 1K.

• The red-coloured fabric used to cover the walls in the boxes was applied with


8


9


10

ADESILEX MT32 adhesive in water dispersion for laying wall coverings.
Mapei's consultancy activities also included other areas of the building industry which are of fundamental importance. In fact, the strengthening and waterproofing of structures and various types of elements are prerogative for Mapei.

• The reinforced concrete beams and the concrete pediment featuring statues on the main façade of the theatre were repaired and renovated using MAPEFER mortar to protect the reinforcement rods, MAPEGROUT T40 medium-strength (40 MPa) thixotropic mortar to repair the concrete and MAPEFINISH two-component cementitious mortar for the final coating on the concrete. The statues were also consolidated with fabric from the MAPEWRAP C range (mono-directional, bi-directional and quadri-directional carbon fibre fabric in various weights per square metre) applied using special products and epoxy resins from the MAPEWRAP range.

• The girders for the galleries in the stage tower were fixed in place with STABILCEM SCC and GRAVEL 0-15.

• The wooden beams which support the ceiling of the club rooms were consolidated using MAPEWOOD technology, comprising MAPEWOOD PRIMER 100 epoxy primer in water dispersion for consolidating and priming timber structures and MAPEWOOD PASTE 140 thixotropic epoxy adhesive for strengthening wooden structures, by bonding new wooden support structures.

The external squares and terraces were waterproofed with elastoplastomeric membranes (POLYSHIELD TS4) produced by Polyglass, a subsidiary of the Mapei Group, while all the coverings of the attic walls were waterproofed with MAPELASTIC, the renowned two-component, flexible cementitious mortar used to form protective waterproof coverings on concrete, masonry, screeds, etc.

Then came the part which required the most technical commitment from Mapei: the coating operations. Coatings are that part of an architectural masterpiece that everybody, both experts and laymen, immediately notice and for which everybody feels they have the right to express an opinion, to criticise or praise. The coating operations inside the theatre were also supervised by Mapei.

• All the ceilings were treated with SILANCOLOR PAINT, a highly vapour permeable and water-repellent silicone based paint in water dispersion, after applying a coat of SILANCOLOR PRIMER silicon resin based paint in water dispersion which penetrates deep down into the substrate.

• All the seating areas were finished off with SILEXCOLOR MARMORINO highly decorative, silicate based mineral paste


14


15


16


17

18

with a "stucco veneziano" effect, after applying a coat of SILEXCOLOR PRIMER made from modified potassium silicate in water dispersion.

• The stairways, bathrooms, service rooms, dressing rooms and club rooms were decorated with COLORITE PERFORMANCE acrylic resin-based paint in water dispersion used to protect and decorate internal and external surfaces after applying a coat of MALECH micronized acrylic based primer in water dispersion.

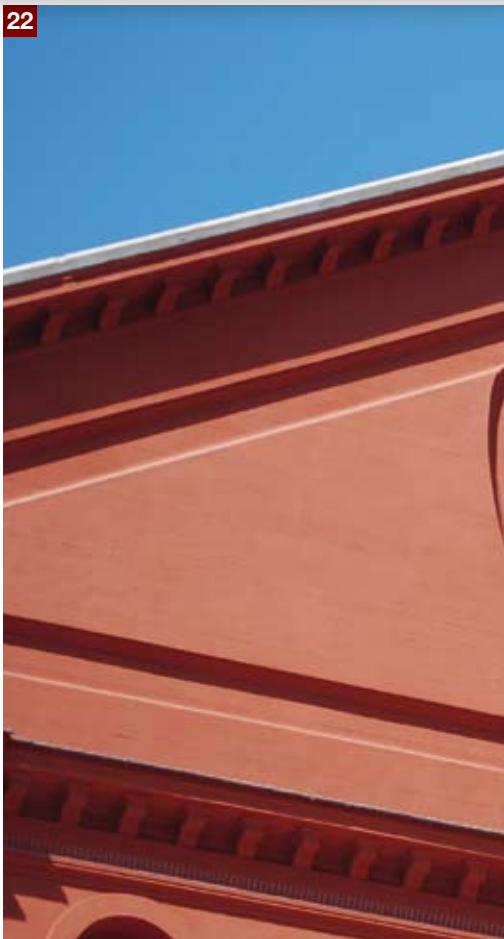
But the most complex phase was the external coatings. The choice for the colour of the main front face was the subject of a heated debate. Once the "Petruzzelli White or Petruzzelli Red" argument had been settled, the first problem was to create the exact shade of red expected by the Superintendent for Fine Arts. The Superintendent had

Photos 16, 17 and 18. *The concrete statues, part of the pediment of the Petruzzelli Theatre, were renovated using MAPEFER, MAPEGROUT T40 and MAPEFINISH and consolidated with carbon fibre fabric from the MAPEWRAP range.*

Photo 19. *Part of the strengthening process of the wooden trusses in the club rooms using technology from the MAPEWOOD system.*

Photo 20. *The external surfaces were waterproofed with elastoplastomeric membrane produced by Polyglass. Also in the photo, Fiorella Rodio surveys the site.*


21


22

Photos 21 and 22. *From its original colour to the new "Petruzzelli Red", created by Mapei with a dedicated research project which united diagnostics, research and technology.*

Photo 23. *The external masonry facing wall before repair operations.*

Photo 24. *The Kartens test used on site to check the absorption of various types of substrate.*

Photo 25. *The new Mapei colour range for coatings now includes "Petruzzelli Red", the shade specially developed for this prestigious project.*

Photo 26. *One of the numerous test areas used to make a final choice for the external coatings.*

Photos 27 and 28. *Application and a close up of the final coating.*


19


20

authorised the use a silicate-based system rather than a more traditional lime-based paint after a convincing case presented by Mapei based on its scientific knowledge and wide experience. The "Petruzzelli Colour" project was thus launched in the Mapei Research & Development laboratories which involved a number of highly professional figures. The singling out of the colour was the object of a number of in-depth studies into the stratification of the old paintwork: which is how the "Petruzzelli Red" version of SILEXCOLOR PAINT was created and which Mapei intends including in its standard colour range for coatings. Once the correct shade had been created, the all but negligible problem of the heterogeneity of the substrate had to be solved. In fact, over the years, the façade had been patched-up a number of times with various types of render, paint and plaster and there were also the signs of the fire itself and the previous restoration work. The main problem, therefore, was how to obtain a perfectly homogenous coloured finish on an extremely irregular substrate with different levels of absorption. A number of tests were carried out by the Coatings laboratory in Milan. A direct line of contact was created between the laboratory in Milan which developed the samples to be tested on site and the technical team for the south of Italy. Dozens of samples were tested and screened by the building company and the site management team, and the feedback was transmitted back to the Company, which led to excellence. And so a new family of products was born, which includes SILEXCOLOR BASE COAT modified potassium silicate-based primer in


23


24

25


26


27


28

29

Mapei Products: *the products mentioned in this article belong to the "Building Speciality Line", "Products for Ceramic Tiles and Stone Materials", "Products for the Installation of Resilient, Textile and Wood Floor and Wall Coverings" and "Coating Systems" 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. Almost all the Mapei products for laying floors and walls are also GEV-certified and have been awarded the EMICODE EC1 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 standards. 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.*

Adesilex MT32: *adhesive in water dispersion for the installation of wall coverings (PVC, textiles, etc.).*

Adesilex PG1: *two-component thixotropic epoxy adhesive for structural bonding.*

Adesilex P9 (C2TE, EC1 R; CE EN 12004): *high performance cementitious adhesive with no vertical slip and extended open time for ceramic tiles.*

Colorite Performance (CE EN 1504-2): *pure acrylic resin-based paint in water dispersion for protecting and decorating external and internal surfaces.*

Elastorapid (C2FTES2, CE EN 12004): *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.*

Eco Prim PU 1K (EC 1R): *one component, solvent-free, hygro-hardening polyurethane primer with very low emission of volatile organic compounds (VOC) for consolidating and waterproofing cementitious screeds.*

Epojet: *two-component epoxy adhesive for monolithic sealing of cracks in screeds.*

Eporip: *two-component epoxy adhesive for monolithic sealing of cracks in screeds.*

Gravel 0-15: *gravel graded between 0 and 15 mm to be used mixed with Stabilcem or Stabilcem SCC.*

Keraflex Maxi S1 (C2TES1, CE EN 12004): *high performance, deformable cementitious adhesive, with extended open time and no vertical slip for ceramic tiles and stone material, with Low Dust technology. Especially suitable for the installation of large-size porcelain tiles and natural stone.*

Keraquick (C2FTS1, *mixed with Latex Plus it becomes* ***S2; CE EN 12004, EC1):*** *high performance, deformable, fast setting cementitious adhesive with no vertical slip for ceramic tiles and stone material.*

Latex Plus: *latex admixture inducing elasticity to be mixed with Keraquick.*

Malech: *micronised acrylic resin based primer in water dispersion.*

Mapefer: *two-component corrosion-inhibiting cementitious mortar for reinforcing rods.*

Mapefinish (CE EN 1504-2, *coating* ***(c),*** *principles* ***PI, MC*** *and* ***IR, CE EN 1504-3, R2 EN 1504-3):*** *two-component cementitious mortar for finishing concrete surfaces.*

Mapegrout T40 (CE EN 1504-3, R3 EN 1504-3): *medium strength (40 MPa) shrinkage-compensated fibre-reinforced thixotropic mortar for the repair of concrete.*

Mapelastic (CE EN 1504-2, *coating* ***(c),*** *principles* ***PI, MC*** *and* ***IR):*** *two-component flexible cementitious mortar for waterproofing balconies, terraces and bathrooms.*

Mapetex System: *completely removable system for the installation of ceramic tiles and stone material. Can also be used as an anti-fracture layer.*

Mapewood Paste 140: *thixotropic epoxy adhesive for the restoration of timber structural elements.*

Mapewood Primer 100: *fluid epoxy primer in water dispersion for consolidating and priming timber structures.*

MapeWrap C UNI-AX, BI-AX *and* ***QUADRI-AX:*** *high strength uni/bi/quadri-directional carbon fibre fabric.*

Polyshield TS4 (CE EN 1370): *high performance elastoplastomeric waterproofing membrane produced and distributed by Polyglass, subsidiary of the Mapei Group.*

Silancolor Paint: *high vapour-permeability and water repellent silicone resin based paint in water dispersion for exterior and interior applications.*

Silancolor Primer: *silicone-resin based insulating primer in water dispersion.*

Silexcolor Base Coat: *coloured, modified potassium silicate-based primer paint in water dispersion with high filling properties for evening out surfaces, complies with DIN 18363 standard.*

Silexcolor Marmorino: *trowelable highly decorative, fine finished vapour-permeable, silicate mineral paste coating, for interior and exterior applications, complies with DIN 18363 standard.*

Silexcolor Paint: *modified potassium-silicate based, vapour-permeable paint for the decoration of cement- or lime-based renders, for exterior and interior applications, complies with DIN 18363 standard.*

Silexcolor Primer: *silicate-based base, specific for levelling the absorption of the substrate.*

Stabilcem SCC: *superfluid expanding cementititous binder for injection slurries, mortars and concrete.*

Topcem: *special hydraulic binder normal-setting, fast drying (4 days) and controlled shrinkage screeds.*

Topcem Pronto (CT-C30-F6-A1$_{fl}$, CE EN 13813, EC1 R): *ready-to-use, pre-blended, normal-setting mortar with controlled shrinkage for fast-drying screeds (4 days).*

Ultrabond P990 1K (EC1 R): *ready-to-use polyurethane one-component, solvent-free, elastic adhesive with very low VOC content for all types of wooden flooring.*

Photo 29. *The craftsmen, technicians and suppliers who all worked side by side to rebuild the Petruzzelli Theatre.*

Photo 30. *Mapei sales representative Achille Carcagnì with the Site Manager Giuseppe Festa.*

Photo 31. *G. Vincenti with Giorgio Squinzi during their visit to the Theatre.*

TECHNICAL DATA

Petruzzelli Theatre, Bari (Italy)
Period of Construction: 1898 - 1903

Period of the Intervention: date of handing over of work site: 18th June 2007
date of completion of site work: 8th January 2009
Intervention by Mapei: restoration and functional renovation of the theatre
Project Financed by: Italian Government, Puglia Regional Government, Bari Province Government and Bari City Council
Overall Cost of Renovation Project: 24,303,812.51 Euro
Project Tender by: office of the Delegated Commissioner for the rebuilding of the Bari Petruzzelli Theatre (Delegated Commissioner: Angelo Balducci)
Sub Commissioners: Ruggiero Martines and Salvatore Nastasi
Head of Procedures: Fabio de Santis
Architectural and Structural Design: temporary design consortium including S.M.N. Studio di Architettura G.L. Sylos Labini and Partners, Gianluigi Sylos Labini, E. Capodacqua, V & A Studio Vitone & Associates (Vitantonio Vitone as group leader), F. Bonaduce, V. Giannuzzi, L. Maggi, A. Giglio, A. Pizzini, G. A. Spinelli, Comes Studio Associato (Carlo Blasi as group leader), S. Carfagni and F. Blasi
Historical Aspects and Decorative Works: M. Civita (consultant), G. Berardi and G. Giannini
Design of Plant Fittings: temporary design consortium including U. Ruggero (group leader), M. Strada and M. Cisternino
Acoustics Design: Teatroprogetti E. Strada and U. Perut
Design of Fire and Safety Systems: temporary design consortium including Piero Masini (group leader), N. De Venuto and F. Spadafora, in collaboration with M. Bellini and R. Masini
Site Design and Improvements: general coordination, inter-disciplinary integration and works scheduling by S.A.C. Società Appalti Costruzioni SpA – Rome; Adriano Draghini
Architectural Design: A. Restucci – Venice; E. Fabbri – Venice; G. Vincenti – Bari
Collaborators: G. Baffo and L. Vecchina
Structural Design: S.A.C. Società Appalti Costruzioni SpA – Rome; F. Bertozzi
Plant and Fire Prevention Design: Itaca SpA Servizi di Ingegneria – Naples; R. Bellucci Sessa and E. Errico
History and Music Research: Lorenzo Arruga
Stage Procedures: Mauro Carosi
Acoustics Enhancement: Mauro Facondini - Tanacoustics Studio
General Works Manager: Enrico Bentivoglio
Restoration Work Director and Safety Coordinator: Nunzio Tomaiuoli
Operations Manager: Fabrizio Ciotti
Site Inspectors: Giovanni Prisco and Eligio Gioia
Main Concractors: temporary construction consortium including Conscoop Consorzio – Forlì; S.A.C. Società Appalti Costruzioni SpA – Rome
Main Contractor: Società Consortile Ricostruzione Teatro Petruzzelli Scarl
Project Managers: Vito Matteo Barozzi and Vito Giuseppe Giustino
Architectural Technical Directors: Giovanni Vincenti and Giovanni Simone (assistant)
Operational Techniques Directors: Giuseppe Festa and Paolo Lorusso
Technical-Administrative Staff: Michele Casanova, Antonio Fiore, Antonio Forte, Giorgio Pisculli, Leonardo Santoro and Mario Simone
Technical Director – Structures: Vito Lanzone
Technical Directors – Plant Systems: Michele Pisculli and Giovanni Pisculli
Diagnostic Research: Mapei SpA Research & Development Laboratory - Milan
Mapei Co-ordinators: Achille Carcagnì, Fiorella Rodio, Giammario Dispoto, Luca Carcagnì, Arianna Colella, Michelangelo Sorrenti, Paolo Sala and Angelo Giangiulio (Mapei SpA)

water dispersion used to even out and fill surfaces according to DIN 18363 standard, which allows a substrate to be primed by applying a first coat in the form of a thick, coloured layer. The problem of the lack of homogeneity in the substrate was thus overcome by applying a layer of SILEXCOLOR PAINT in "Petruzzelli Red", a one-component, modified potassium silicate-based coating with selected fillers and light-resistant pigments according to DIN 18363 standard. The result was fantastic and received applause from technicians and the local public alike.

Today…

Today, all site work has been completed and the people of Bari have a theatre again! For all those, like Mapei, who have had the honour and privilege of contributing to the execution of the Petruzzelli project, it is a very moving experience to wander between the boxes and stalls, the dressing rooms and on stage, which are now overflowing once again with artists and spectators, music and odours, cartwheels and song.
An incredible feeling which makes the heart beat faster, and faster…!

Photo 32. *The Mayor of Bari Michele Emiliano surrounded by Mapei staff on the re-opening day devoted to the workmanship involved in the restoration. From left: Luca Carcagnì, Giammario Dispoto, Arianna Colella and Anna Di Leo.*

Mapei Day 2009
Running with the foxes

Compared to last year's event when, because of the cold, bad weather and landslide along the River Adda which made getting home a real adventure everybody who took part in the 4th edition of Mapei Day became part of sporting history, this 5th edition took place on a truly "sly" and exciting weekend.

As sly as the fox – the mascot to this year's event which appeared on the athletes' official running vests and T-shirts – which turned out to bring plenty of luck to the organisers, sportsmen/women and friends of Mapei, who all gathered in Bormio on the weekend of Saturday 11th and Sunday 12th July.

It is also worth underlining the number of athletes who took part in the event, with about 3000 entrants in the various competitions on Sunday and lots of others taking part in the five-a-side football, golf and skiing competitions organised on Saturday. The event, designed to further consolidate the Mapei Group's commitment to the world of sport and, at the same time, to bring together all those people who have contributed to its success over the years – such as customers, designers, athletes, supporters, friends and acquaintances – has now become a regular event, constantly growing in popularity and held in the early summer.

Neither too hot nor too cold, the weather was just right for enjoying sport and tackling the famous and incredibly tough Bormio-Strada Imperiale-Stelvio Pass climb either by bike, running or on roller skis. The course involved the climb from Bormio (1225 m above sea level) to Stelvio Pass (2758 m above sea level) covering a distance of 21.097 km with 42 hairpin bends to be tackled and a total height of 1533 m.

A challenge which first began 25 years ago when the cycling sector of the US Bormiese sports team first began cycling up

All the hard work of Aldo Sassi, Director of Mapei Sport, is rewarded.

the Re Stelvio road; a challenge which the team continued for twenty years until it joined forces with Mapei, which, together with Banca Popolare di Sondrio, got involved in the Re Stelvio event and renamed it Mapei Day. The first year there was just competitive cycling and pleasure cycling, later on runners and walkers joined in, and this year we also had roller skiing to make it a poker of disciplines for the climb up the great mountain.

Roller-skiing up to the Stelvio Pass was an absolute first and encouraged various Italian national athletes to measure up to this very special challenge as the first of the scheduled events on Sunday. A climb which, together with various other routes through the Alta Valtellina area, is usually tackled by the Italian national cross-country skiing and biathlon teams while carrying out their summer training down in the valley.Together with Mapei and Mapei Sport – under the patronage of Bormio City Council and Sondrio Provincial Council – lots of companies and associations helped make the 2009 event a real success: the Unione Sportiva Bormiese, which ensured everything was organised extremely well as usual, the Banca Popolare di Sondrio, and the Pirovano centre (University of Skiing). There were also numerous technical sponsors this year: Bormio Terme, Colnago, Enervit, Giussani Enrico e Figli, Limonta, Mic-Shimano, Santini and Winning Time.

A real success for the organisers and sponsors of an event which – set up by Mapei in order to provide the chance to share some truly intense sporting moments with its customers and numerous friends – has, in the space of just five years, become not just a corporate event but a real festival of sport attracting more and more both Italian and foreign sportsmen to Alta Valtellina.

Saturday 11th July

Tourists or sportsmen and sportswomen? The view is astounding but the style is not …snowy.

SKIING

Over 120 Mapei guests really enjoyed themselves on a bright and sunny morning. A lot of extremely favourable coincidences made this well-established event out on the snow a truly memorable occasion.

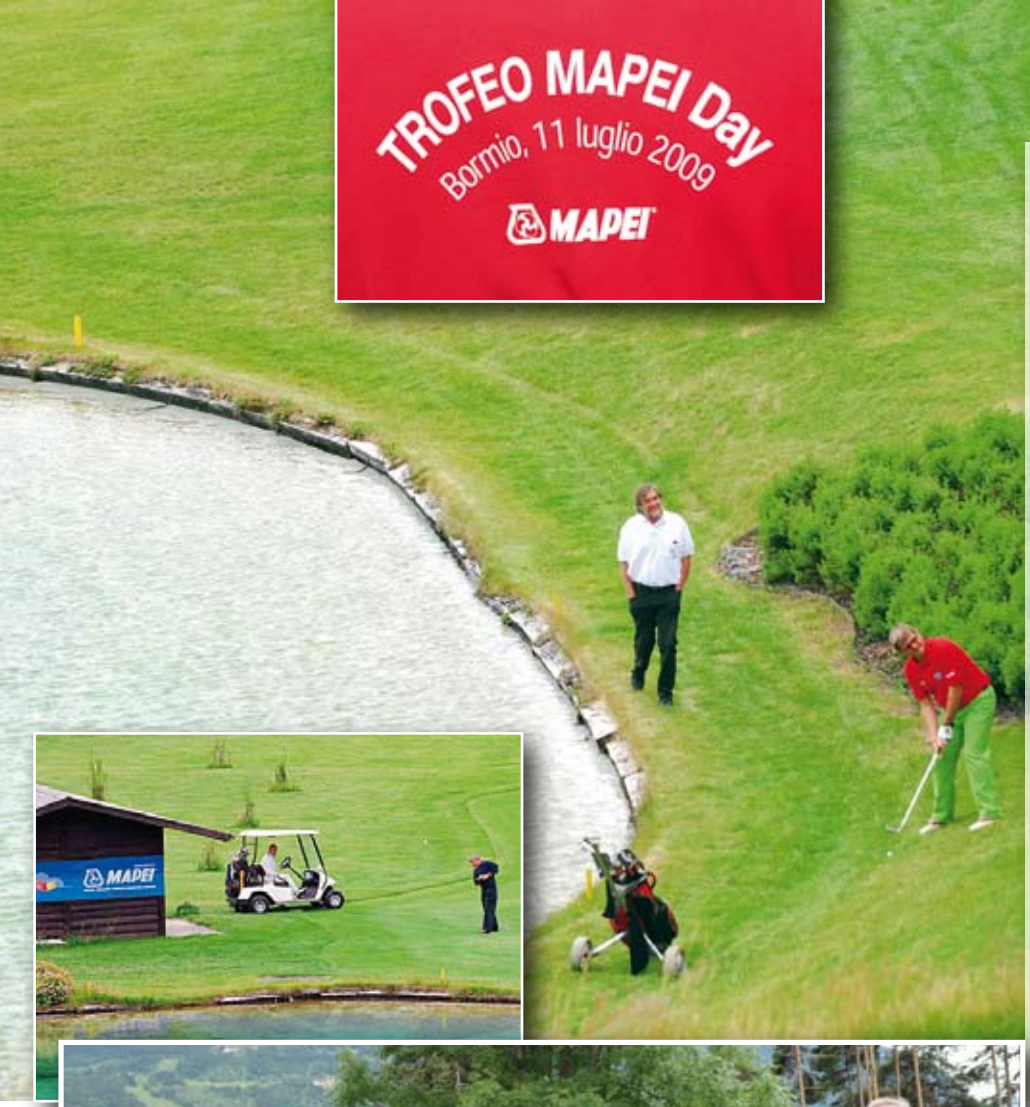
The snow was in ideal condition on this day: a considerable layer had built up during the winter and there had also been plenty of recent snowfall up to a height of 2600 m. The very cold temperatures combined with the warm July sunshine did the rest, meaning that the skiing took place on snow which held up from the start to the finish.

It had been years since the ski slopes of Stelvio Pass had been covered in so much snow at this time of year, allowing everybody to ski right down from the glacier to the Pass. The giant slalom race on a course with 25 gates was held on the snowy slopes of Geister piste and had 57 entrants. The winner of the men's race, Matteo Brenna, and women's race (14th overall), Annabella Beghini, each won a weekend at the Pirovano resort.

At the end of a wonderful sport morning out on the snow there was yet another surprise much to everybody's joy and delight on the way back: a sudden snowfall suddenly transformed everybody, just for a few moments, into over-excited children.

FIVE-A-SIDE FOOTBALL BORMIESE WINS THE TOURNAMENT

The Bormiese Calcio first team won the five-a-side tournament held on Saturday 11th as part of the programme of sports events and celebrations for Mapei Day. In the final, partly thanks to the saves made by Stefano "Becco" Della Franca, Bormiese beat the Polyglass-Vinavil team from Mapei on penalties. Third place went to the Mapei Area Rossi team (managed by the new Sassuolo coach, Stefano Pioli, and Andrea Tarozzi, formerly of



GOLF

Once again this year golf was one of the sports on the busy schedule of events for Mapei Day. The sport is becoming increasingly popular in Italy every year and can count on some wonderful natural settings for playing. One of the most striking courses is Bormio Golf Club's nine-hole course designed by the architect Mario Verdieri from St. Moritz, extending for 4236 m just outside the city of Bormio in a place called La Fornace. In total harmony with the surrounding Alpine landscape, Bormio Golf Club is one of the most impressive mountain golf courses in Italy. The Mapei Day Golf Trophy was held in this unique Alpine setting and was based on the "stableford" scoring system in two different categories.

On a typical sunny summer's day up in the mountains and in perfect playing conditions, a very exciting event took place involving 41 Mapei guest players. Another 120 Mapei guests, trying out the sport for the first time, also got the chance to play on the practice course with the club professionals and, at the end of the day, take part in a putting competition, whose takings were all donated to charity.

Among the Mapei guests first place for the gross score was Marcello Zamboni. In the 1st category Giancarlo Leuzzi was 1st net and Andrea Quaglia 2nd net. In the 2nd category Franco Fulvi and Sergio Carli were 1st and 2nd net respectively. 1st place among the seniors went to Luca Grisotti, with Lidia Frigo winning among the ladies.

All champions in the Mapei Trophy.

The local team won but Vinavil came second.

Fiorentina football team). 16 teams entered the tournament, which pit representatives of Mapei's various manufacturing departments against teams from the Banca Popolare di Sondrio (winners of the first two editions) and Unione Sportiva Bormiese Calcio. The final between Bormiese and Polyglass Vinavil was closely fought right till the final whistle and was only decided on penalties. The guests took the lead but Bormiese then equalised and took the lead themselves through Gasperi and Zappa. A long clearance by the goalkeeper Della Franca after exchanging passes with the defence made it 3-1 to the local team, but Vinavil managed to pull one back through the tournament's leading scorer Gerry Graziani and then made it 3-3 right at the final whistle, so yet again everything had to be decided on penalties. Della Franca was the star once again and Bormiese won the trophy awarded by the Squinzi family. Zappa was named the best player.

1

PARTY AT THE PENTAGONO

While waiting to take part or watch Sunday's races, over 1300 Mapei guests attended a social evening, held once again this year at the Pentagono, a big construction in Bormio used for hosting sports events. This is always an extremely popular event, which serves both to relieve pre-race nerves and to strengthen old and new friendships made either at work or out playing sports. It is also a chance for Mapei customers, colleagues and friends to get together in a relaxed and friendly atmosphere in the company of Giorgio Squinzi, the man responsible for Mapei's success around the world and the patron of this event. An evening's festivity aimed at bringing people together, so that they can share Mapei's corporate values which takes sport and "teamwork" as guiding principles to be aspired towards. This is always a really tough challenge for all the staff working for the Company's Marketing and Communication Department, but it is also extremely satisfying to have been part of one big family sharing the same enthusiasm and same principles down the years.

As proof of how unforgettable the sporting experiences and friendship enjoyed during Mapei Day are, lots of Mapei guests invited to the social evening wore a blue bracelet on their shirt sleeves from the first edition in 2005 together with the pink plastic bracelet given to the Company's guests this year. And the fact that so many veterans wore this sort of "badge of honour" with such pride and enjoyment is proof of the real strength of Mapei Day, an event during which the fatigue of sport mixes with the genuine pleasure in "feeling good together". Once again there was music, film clips, important guests and a meal consisting of plenty of typical dishes from the Valtellina region. The evening's events were introduced by Adriana Spazzoli, Operational Marketing & Communication Director for the Mapei Group, who took turns with the Director of Mapei Sports, Aldo Sassi, in presenting numerous personalities from the world of sport who attended the meal.

Sassuolo Calcio football team: everybody ready for the forthcoming season.

And once again Alessandro Brambilla, a popular Italian sports reporter and regular commentator at Mapei Day, was there on stage to tell us about all the achievements and personal biographies of all the sports people present. Among the personalities attending the evening was also Piero Melazzini, the friendly manager of the Banca Popolare di Sondrio, who emphasised the values and spirit of Mapei Day, an important sports and social event for the whole of Valtellina.

At the beginning of the evening due recognition was paid to the Mayor of Bormio, Elisabetta Ferro Tradati, for the help provided by all the people of Bormio in organising the event, and also to the Prefect of Sondrio, Chiara Marolla, who, after remembering all the great effort that went into solving issues related to the poor weather last year, underlined the importance of an event of this scale. Along with many other people in attendance, it is worth mentioning the presence of such well-known cyclists and old friends of Mapei as Franco Ballerini, Andrea Tafi, Ivan Basso, Paolo Bettini and a famous former footballer and sportsman like Fabrizio Ravanelli.

There were also plenty of representatives from Sassuolo Football Club (the football team sponsored by Mapei) headed by its extremely likeable centre forward Riccardo Zampagna. This was also an opportunity to introduce everybody at Mapei to the new coach

2

3


4


5


6


7

of Sassuolo, Stefano Pioli, who played as a defender for various professional Italian football teams, most notably Juventus, Verona and Fiorentina. A real sportsman, who provided a very clear and simple picture of what football means to him and what he expects from the adventure he is about to set off on with his new team.

Alongside the Sassuolo team, which was the real revelation of the Italian second division last season just failing to make the play-offs to get into the first division (Serie A) by a whisker, there were other teams sponsored by the Company in attendance, most notably Co-Ver Mapei.

An evening with the Squinzi family, which saw Giorgio Squinzi up on stage quite frequently. Towards the end of the evening, he managed to stop Alessandro Brambilla from spouting on about a subject which was just too emotionally important and dear for him to keep quiet: AC Milan football club.

One particularly emotional movement during the evening was when the sculptor from Castronno (Province of Varese), Pietro Scampini, was invited on stage. This multi-talented artist, who designed the logo and created the sculpture for the 2008 World Cycling Championships in Varese and often draws inspiration from the world of sport when creating his sculptures, presented Giorgio Squinzi with an exclusive copy of the work, which is a stylised figure of a cyclist in motion, specifically intended to thank a man whose passion for sport (and cycling in particular) helps inject real enthusiasm into the most important events in this sport. An extra gift for all the sportsmen and women in attendance at the Ottagono was the news that, this year, the commemorative medal awarded to everybody crossing the line at the top of Stelvio Pass was designed by this artist from Varese.

To underline that Mapei Day is a non-profit event with a very concrete example, the evening ended with a lucky draw for charity, which was particularly successful and, like last year, had the slogan "It is big to help little ones".

The money collected was given to three associations which Mapei has been supporting for some time (Exodus run by the Italian priest Don Mazzi, Archè, and the Piccola Opera di Traone for Save the Children) and, in addition this year, the Paediatric Complex – IRCCS Foundation – belonging to the Italian National Tumours Institute.

1. Not just sport, but also entertainment and charity work at the traditional Mapei Day gala social evening.
2. The Knight of Industry Piero Melazzini, President of the Banca Popolare di Sondrio, and Knight of Industry Giorgio Squinzi, CEO of the Mapei Group.
3. The Mayor of Bormio, Elisabetta Ferro Tradati, and the Prefect of Sondrio, Chiara Marolla, welcomed guests to Mapei Day together with Adriana Spazzoli, Operational Marketing and Communication Director for the Mapei Group.
4. The sports commentator Alessandro Brambilla and Paolo Lorenzini, Manager of the Banca Popolare di Sondrio could not possibly have missed the event.
5. The sculptor Pietro Scampini presents Giorgio Squinzi with the work he created for the World Cycling Championships in Varese.
6. Amedeo Colombo and Ernesto Colnago donated lots of bicycles for the charity draw.
7. Matilde makes her first appearance at Mapei Day with her mother Veronica Squinzi and dad Emanuele Della Pasqua.

There were so many familiar faces..... weren't they all supposed to be on the building site?

Sunday 12th July

THE CLIMB UP MOUNT STELVIO

The entire city of Bormio was woken up early on Sunday morning on the 12th July by almost 3000 sportsmen and women ready to set off to climb the Stelvio wearing the official jersey with a lovely picture of a red fox printed on it. In the quiet of an overcast morning in ideal temperatures performing well, everybody was bent on doing their best and, in any case, reaching the goal of crossing the finishing line at a height of 2758 m above sea level.

It goes up and up, does it ever end.....?

Stelvio Pass, which was built by Austrian soldiers from 1820-1825 to connect Bormio in Valtellina to Trafoi in Val Venosta, witnessed many battles at the foot of and along the slopes of the glaciers surrounding it. For anybody who loves cycling, cycling up to Stelvio Pass is a real achievement and can only be done after meticulous preparation; and the same applies to anybody who runs up, walks up or, as was the case this year, roller skies to the top. 2200 of the 2900 people who originally signed up to take part (2500 of whom actually set off) completed the course. Almost 1000 people cycled or climbed the mountain on foot without an official number on their jerseys or handlebars, some even riding tandems or very unusual bicycles or towing along their families behind them. The Re Stelvio and Mapei Day attracted over 5000 people to the highland valley, taking into account all the footballers, golfers, skiers and other people taking part in Saturday's event/entertainment.

This year Sunday 12th July was divided into five separate events:

1. The roller ski race only open to club members;
2. The "Re Stelvio" competitive cycling race, the 25th edition of the Valtellina classic competition;
3. A half marathon truly unique of its kind, which combines the difficulties of running at altitude with a very steep course;
4. The Bormio-Stelvio amateur cycling competition, open to everybody, in the company of former Mapei athletes and other leading sports personalities. It is worth mentioning that the climb up to the famous alpine pass, the "Coppi Summit" par excellence, is a must in the "career" of any amateur cyclist;
5. The road running race open to everybody, which has now reached its fourth edition and saw many keen athletes out on these legendary roads.

21.097 km climbing up 1,533 metres at an average gradient of 7.6% and as steep as 14% in parts.

Once again this year, the logistics and tried and trusted organisation were impeccable. As well as various refreshments points along the course, participants found specially installed facilities for freshening up and changing, with their clothes bag being taken up to Bormio by the organisers, a special store for bicycles being provided, the usual free pasta party or possibility of enjoying lunch at numerous cheap restaurants, not to mention the shuttle buses specially laid on, which, from 2 p.m. onwards, took those runners and cyclists who did not feel like cycling or running down the mountain back to Bormio.

Paolo Bettini, Eros Capecchi, Davide

Viganò, Andrea Noè, Gianni Motta, Ivan Basso, Andrea Tafi, Franco Ballerini, Aleksandr Kolobnev and Marco Cattaneo, all took part in the Re Stelvio event. Other star names who cycled up from an altitude of 1225 m at Bormio to the summit of the Stelvio at 2758 m were the footballers Fabrizio Ravanelli (ex Juventus) and Stefano Pioli, now the coach of Sassuolo. Squinzi was at the summit of Mount Stelvio with lots of friends and colleagues to applaud all the champion cyclists taking part.

All the Winners of the 25th Re Stelvio - Mapei Day 2009

The Biathlon champion, Christian De Lorenzi, and member of Polisportiva Valmalenco, Sabrina Rossi, won the roller ski race; the Moroccan athlete, Benazzouz Slimani, from Co-Ver Mapei and Monica Carlin from Brema Running Team won the half marathon; the star member of Velo Sondriese, Andrea Acquistapace, and the number one from Lissone Mtb Asd, Michela Benzoni, were victorious in the cycling. They were the six winners in the three main events held on Re Stelvio Mapei Day 2009. Alongside these names Roberto Moizi and Daniel Antonioli recorded the best times in the amateur cycling and open cycling events for 2009.

Roller Skiing

The first to set off where the roller skiers, an absolute first at this edition of Re Stelvio/Mapei Day. The partecipants (49 entrants, 36 finishers) were led by the Italian national team member Christian De Lorenzi (GS Esercito). He completed the climb from Bormio to Stelvio Pass in 1h 26'35"25; just behind him came his team mate Alan Martinelli (CS Carabinieri) in a time of 1h 30'43"61, who in turn finished just ahead of Daniele Compagnoni, who completed the course in 1h 36'33"94. Top spot on the rostrum in the women's event went to Sabrina Rossi from Polisportiva Valmalenco, who roller skied to the top of the Stelvio in 2h 08'51"56; behind her three competitors from SC Alta Valtellina, Ilenia Coletti (2h 39'40"45), Roberta Confortola (2h 46'02"73) and Lisa De Lorenzi (2h 58'24"26).

Running

After the roller skiers it was the turn of the runners to climb the Stelvio. Right from the start the pace was set by a member of the Adm Melavì di Ponte team from Valtellina, Graziano Zugnoni, and the Moroccan athlete from Co-Ver Mapei, Benazzouz Slimani. It was the latter, who won the Miami marathon at the beginning of the year, who dominated the half marathon race much to the delight of the whole of Mapei. Out on his own from the sixth kilometre, Benazzouz was able to set his own pace and winning in a time of 1h 38'32", almost 2 minutes ahead of second place, Graziano Giagnoni (ADM Melavì Ponte Valtellina), and over four minutes ahead of third place, Gianluigi Martinelli from Marathon Club Alta Quota Livigno (1h 42'55"48). The women's top marathon saw a very fine performance by Monica Carlin (Brema Running), across the line in a time of 2h 03'40"61 (47th overall); behind her came Daniela Vassalli (Recastello Radici) in 2h 06'57"93 and Lorenza Combi from Runners di Colico, who stopped the watch at a time of 2h 14'18"15.

Cycling

The classic Re Stelvio cycling race set off after the uphill half marathon, with the women setting off first on the challenge up to the great mountain. Michela Benzoni of Lissone Mtb finished the race in a time of 1h 21'38"13, close to the course record. Second place on the rostrum went to Sabine Gandini (Team Scapin) in 1h 23'19"90, followed by Annarita Piccari representing Frecce Rosse Cicli Casati, who stopped the watch at a time of 1h 28'41"13.

The men's race was characterised by a long spell in the lead by the 22-year-old cyclist from Velo Sondriese, Andrea Acquistapace.

Behind him the group of leading riders tried to catch up led by Wolfgang Niederegger (Vinschgau), who won the Re Stelvio race in 2008, but Acquistapace sped around the hairpin bends of the Stelvio to win out on his own.

The time of 1h 03'52"05 was one of the best ever in a race which has now been held to 25 years. Niederegger came second in a time of 1h 04'56"82; third place on the rostrum went to Niki Giussani (Carimate Kuota) 1h 05'33"72. Jacompo Bettoni (Pianeta Bici Cervelo), Simone Zampatti (Club Lombardia Team), Fabio Paganelli (Team Breviario), Demetrio Bellò (Bassano), Paolo Previtali (Breviario), Andrea Lodi (UC Emporio Bici Max Team) and Claudio Pedranzini (US Bormiese Ciclismo) completed the top 10 of the 25th Re Stelvio. US Bormiese Atletica and US Bormiese Ciclismo won the two team events ahead of, respectively, Marathon Club Livigno and Amatori Lecco in the half marathon, and Club Lombardia Team and Velo Sondriese in the cycling.

Benazzouz Slimani, Moroccan athlete from Co-Ver Mapei, who came first in the half marathon.

Above, left: the Italian national cycling team manager, Franco Ballerini, never had such a strong team. The starting line-up included: Ivan Basso, Franco Ballerini, Adriano Baffi, Paolo Bettini, Marco Cattaneo, Andrea Tafi and many others…

Above, right: lots of champion sportsmen and leading men of industry and finance: from left, Gianni Motta, Mario Alberto Pedranzini, Giorgio Squinzi, Paolo Bettini, Stefania and Marco Squinzi, Andrea Noè, Lorenzo Tomasi, Franco Ballerini, Ivan Basso; front row, Adriana Spazzoli and Paolo Lorenzini.

The Mapei Day 2009 prize-giving ceremony took place in Piazza Kuerc, which hosts some buildings renovated by using MAPE-ANTIQUE, SILEXCOLOR TONACHINO and SILANCOLOR TONACHINO.

Squinzi hugs Paolo Bettini and whispers: "Next year I will be back".

The finishing line…at last!

Prize-Giving Ceremonies

As usual Piazza Kuerc in Bormio was the striking setting for hosting the prize-giving ceremonies in a joyous and extremely friendly atmosphere. Two days of great sport and passion in the name of the joyous commitment and gritty determination, lived in the spirit which truly characterises Mapei: a spirit of sharing the hard work required to achieve a goal, working as true teammates.

See you in 2010!

Matilde is incognito...

REOXTHENE TECHNOLOGY®

THE REVOLUTIONARY TECHNOLOGY FOR NEW GENERATION WATERPROOFING MEMBRANES

We make your job lighter!

Extremely lightweight (up to 4 mm = 33 kg)

Very easy-to-apply and with high yield

REOXTHENE TECHNOLOGY is available in 4 products:

BITULIGHT	EVOLIGHT	EASY LIFT FOUNDATIONS	PRO-EVOLUTION
-5° C	-10° C	-10° C	-15° C

REOXTHENE is the revolutionary technology developed by the POLYGLASS and MAPEI Research & Development laboratories. An innovative approach has revolutionised traditional bitumenous compound mixing and compound techniques. This lets us go beyond yesterday's technological limits in the weight/thickness ratio.

POLYGLASS® UNI EN ISO 9001

MAPEI GROUP

Adds value!

POLYGLASS GROUP

www.polyglass.com

Keraflex Maxi S1

Less dust for everyone

- 90% DUST

From the Mapei Laboratory experience innovative technology: “LOW DUST” -90% dust during mixing, application and use compared with traditional Mapei cementitious adhesives

- Especially suitable for laying large-format tiles
- Highly deformable
- No vertical slip
- Extended open time
- New formula with LOW DUST technology

www.mapei.com

MAPEI®

ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING