

INTERNATIONAL

Realtà Mapei



Year XII - No. 35 - June 2011

SAVE THE DATES!

Next autumn the trade fairs offer will be very rich and some exhibitions will be held at the same time in different places. We recommend you to carefully plan your visit at our stands:

AbitaMi

8-11 September, 2011

Milan

Mapei showroom
Corso Italia Ovest 0.02,
Ponte dei Mari Ovest 0.02

Cersaie

20-24 September, 2011

Bologna

External area 45
booths 12 and 18

Marmomacc

21-24 September, 2011

Verona

Hall 7, booth E2

Saie

5-8 October, 2011

Bologna

External area 45
booth A64
booth A16

Made Expo

5-8 October, 2011

Milan

Hall 2
Hall 3
Mapei showroom

Cibus Tec

18-21 October

Parma

Hall 6
booth B6

Come and see our latest and highly innovative products and systems!

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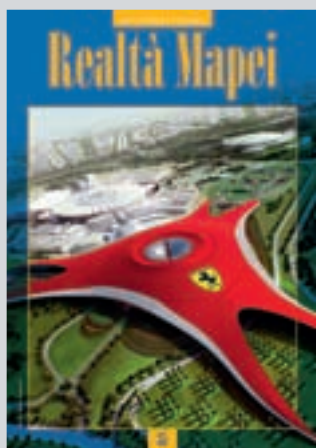
A new lakeside house for Australian sport 80

Mapei Day 2011 back cover

IN THE SPOTLIGHT

MAPELASTIC SMART and **MAPENET 150** page 27,
KERAFLEX MAXI S1 page 33, **MAPETHERM SYSTEM** page 37,
GRANIRAPID page 39, **ADESILEX P24 PLUS**
and **KERALASTIC** page 43, **MAPESILENT SYSTEM** page 61,
ULTRABOND ECO FIX and **MAPECONTACT** page 70.

2011 marks the 150th anniversary of the unification of Italy, and the country organized many celebrating events. Mapei, whose headquarters are based in this country, warmly congratulates Italian citizens living both in Italy and abroad.



COVER STORY:

Mapei contributed to building the first ever Ferrari theme park in the world.

The complex, which is also the biggest indoor theme park in the world, is located on the island of Yas just off the north-eastern coast of Abu Dhabi (UAE).

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

2011 is the International Year of Chemistry

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Simplifying LEED

Mapei online tools help ease contractors' challenges

By Ephraim Senbetta, Mapei Corp*.

As part of its efforts to support the LEED (Leadership in Energy and Environmental Design) program, Mapei Corp. (the U.S. subsidiary of the Mapei Group) conducted an online survey in 2010 to elicit first-hand information about the challenges and needs that flooring contractors in North America face when working with projects that are candidates for LEED certification. LEED is a voluntary, consensus-based nationally accepted standard for developing high-performance, sustainable or "green" buildings. It was developed and first promoted in the U.S.A. by the U.S. Green Building Council (USGBC), and later in several other countries by local counterparts. With more than 90% of respondents of the survey anticipating that LEED will continue to play an important role in the construction industry's future, Mapei Corp. has recently implemented easy-to-comprehend, online and interactive solutions that provide timely assistance to contractors, allowing them to more efficiently contribute to LEED projects.

Administrative Challenges

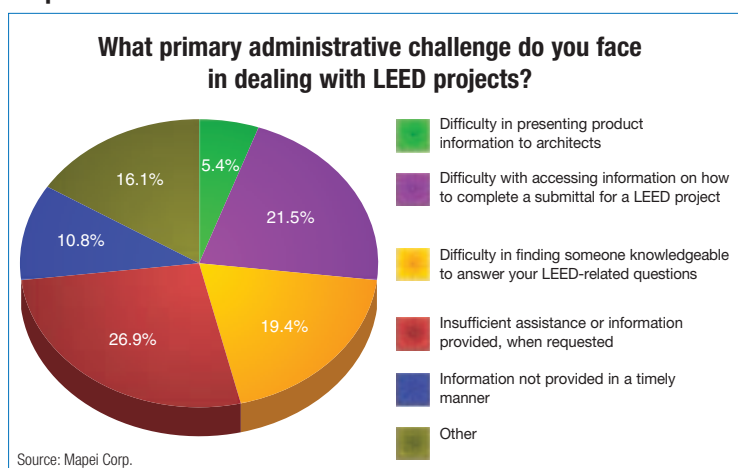
The most frequently mentioned administrative challenges related to LEED projects include the following (see graph 1):

- 27% respondents felt that insufficient assistance or information was provided by suppliers.
- 22% indicated having difficulty accessing information on how to complete LEED project submittals.
- 19% had difficulty contacting a knowledgeable person to answer LEED-related questions.
- 11% indicated that information was not provided in a timely manner.

Furthermore, when suppliers request information, it is generally for product certification letters related to the products' contributions to LEED points. But with no stand-

ardized method of collecting the required information, the manner in which information is reported varies, which further complicates matters for contractors.

Graph 1



Graph 1.

The graph shows the administrative challenges most frequently mentioned by the survey respondents.

Technical Challenges

Understanding the requirements for LEED projects has proven to be a challenge for contractors, as detailed in the following survey results:

- 27% found it difficult to locate information about the requirements for earning or contributing to LEED points.
- 24% had difficulty understanding how many points a product may help contribute to a LEED project. It was clear from the survey results that contractors need clarification on the fact that materials themselves are not LEED-certified. Rather, installing products that are compatible with LEED requirements helps to contribute valuable points toward projects that are candidates for LEED certification.
- 18% had difficulty understanding how to complete LEED submittals.
- 17% had difficulty understanding the LEED program in general.
- 14% had difficulty understanding LEED credits (that is to say, the

fields where LEED points can be achieved).

Support-related Needs

In this survey, contractors were asked what they would find most helpful, as well as what they expect from suppliers regarding LEED projects.

- Almost 50% expressed the need for LEED product certification letters that specify the areas in which products make LEED point contributions.
- 29% would like a tutorial to help them understand how flooring products contribute to LEED points.
- 18% would like a tutorial to help them understand the LEED program in general, particularly one that is jargon-free and easy to understand.
- As far as the dissemination of information, 81% prefer to receive information via the Internet, 36% prefer print information and 13% appreciate speaking with a technical person by phone.

Below. A brief description of the survey's methods and respondents.

SURVEY RESPONDENTS

Out of 195 medium to large U.S. commercial flooring contractors who were surveyed, 93 responded, resulting in a statistically reliable 47.7% response rate. Respondents included contractors specializing in the installation of tile, wood, carpet, laminates, resilient and other flooring types from all major markets:

- 42% are mainly involved in corporate or commercial projects
- 32% are mainly concentrated in healthcare projects
- 12% are focused on educational facilities
- 9% are involved in government or institutional projects

Their levels of involvement in LEED projects were as follows:

- indicated that up to 10% of their work involves LEED project
- indicated that 25% of their work involves LEED projects
- il 9% indicated that up to 50% of their work involves LEED projects.

Figure 2



Figure 2. The seven categories covering the LEED standard.

Three Mapei Solutions to Contractors' Challenges

1. LEED product certification letters certifying the point contribution of products are the most frequently requested pieces of information from suppliers that also cause significant administrative burden to contractors. This is because of the time and effort needed to request the letters and receive them.

Mapei Corp. offers an efficient online system that enables contractors to obtain LEED product certification letters anytime and automatically. A contractor simply needs to provide basic information about a project for which LEED certification letters are needed. In doing so, the system can determine the point contribution of a chosen product to the various LEED credits, including the regional materials credit, by calculating the distance between the product's manufacturing location and the jobsite. This time-saving tool allows one to quickly see a summary of the point contribution

Figure 3

MATERIAL & RESOURCES (MR)

RECYCLED CONTENT

MR CREDIT 4

(NC - 1-2 points Schools - 1-2 points, CS - 1-2 points)

Intent
To increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

Requirements NC, SCHOOLS & CS
Use materials with recycled content(1) such that the sum of postconsumer(2) recycled content plus 1/2 of the postconsumer(3) content constitutes at least 10% or 20%, based on cost, of the total value of the materials in the project. The minimum percentage materials recycled for each point threshold is as follows:

Recycled Content	Points
10%	1
20%	2

The recycled content value of a material assembly is determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

Source: www.mapei.us

Figure 4

Certification Point Requirements

Certified: 40 - 49 points.
 Silver: 50 - 59 points.
 Gold: 60 - 79 points.
 Platinum: 80 - 110 points.

Scoring Summary

You have a current score of 9 out of 110 points.

Scoring Detail

Green Building Design & Construction - total of 9 points.

- Water Efficiency: 3 points.
- Materials & Resources: 3 points.
- Indoor Environmental Quality: 3 points.

Source: www.mapei.us

of a given product to the various LEED credits.

2. LEED Tutorials specifically address one of the main technical challenges that contractors face in dealing with LEED projects: difficulty understanding the LEED standard in general and the point contribution of products, in keeping with LEED requirements (see figure 2).

Mapei Corp. provides an online, easily accessible LEED tutorial at www.mapei.us.

The seven categories in which LEED points are awarded and

Mapei, which can boast a long tradition of carrying out its business practices in careful respect for the environment, is proud to develop innovative and eco-sustainable solutions, offering over 150 products that respect the requirements set down by LEED. Just like the Group's US subsidiary, Mapei Corp.,



the mother company Mapei SpA has provided its customers with computer tools and aids that are certainly useful for designers and constructors interesting in putting forward a product for LEED certification.

A special dedicated section of the www.mapei.it website provides a detailed overview of the Company's commitment to the environment set out in 12 points, also outlining the LEED certification system in full and the contribution Mapei products can make to obtaining this certification. Several Mapei subsidiaries offer similar tools on their local website.

Figure 3. Description of the intent and requirements for a LEED credit.

Figure 4. Summary of point contributions to LEED certification in different categories.

the requirements for earning the points can be found by clicking on each of the categories listed. For example, under the Materials and Resources category, visitors can explore eight different credits, including Recycled Content (MR Credit 4), Regional Materials (MR Credit 5) and Rapidly Renewable Resources (MR Credit 6) where points can be earned. This online tool also describes the intent and requirements of each credit (see figure 3).

3. LEED calculator is a handy and effective tool that helps contractors and architects keep track of all the points earned for a project, or the number of points to which materials selected for a project contribute in all the relevant point categories (see figure 4). Contractors can easily keep track of all LEED points related to a given project – whether new construction, a major renovation, school, or core and shell.

*Responsible for Sustainability and Quality Management for Mapei's North American operations.

Certification-proof

We don't just say **green**, we live it.

You have to believe, invest in research and have your products certified by official, internationally-recognised organisations to make eco-sustainable projects.

Mapei does not invent certification; it is awarded to Mapei all over the world.

Products containing recycled, ultra-light materials

(LEED USGBC rating: **MR Credit 4**)

The maximum use of recycled materials in the composition and packaging of Mapei products

Products with a very low VOC content

(LEED USGBC rating: **EQ Credit 4.1, 4.2 and 4.3**)

Mapei adhesives are certified Green Label Plus, EC1

Special care for the air you breathe

(LEED USGBC rating: **EQ Credit 3.2**)

Compared with conventional Mapei cementitious adhesives, our products with Low Dust technology reduce the amount of dust given off into the air in closed environments during mixing and application by up to 90%

Local production sites

(LEED USGBC rating: **MR Credit 5**)

Reduce impact on the environment by reducing the need for road transport

Products developed to reduce energy consumption

Mapei offers numerous solutions to reduce energy consumption and systems specially designed for soundproofing against the noise of footsteps

R&D focused on the environment

More than 70% of Mapei's research budget (around 60 million Euro per year) is invested in the development and formulation of eco-sustainable products

Choose **MAPEI** for your **eco-sustainable projects**

Mapei is a member of the GBC in the following countries:

USA, Canada, Italy, Spain, Germany, the United Arab Emirates, South Africa, Australia and New Zealand



* LEED The Leadership in Energy and Environmental Design

is the most widely known international reference norm for sustainable building in the world. The LEED standards indicate the requirements for constructing eco-compatible buildings.

The classification of sustainable buildings is by means of a rating system. The total of the credits obtained enable the final performance of a building to be evaluated for a LEED platinum, gold, silver or certified award.



Mapei is a member of the Green Building Council, an association which promotes the LEED certification system



Keeping a level head In current US economy

By Luigi Di Geso



Luigi Di Geso, President and CEO of Mapei Corp. (Mapei's subsidiary in the USA) and responsible for the Group's operations in the Americas.

JP Morgan Asset Management, one of the most important asset management companies in the USA, recently gave this view of the US economy, "Despite a series of geopolitical shocks in the first quarter of 2011, the global economic expansion appears set to continue. There continues to be plenty of pent-up demand for both inventories and autos in the U.S., and capital spending is gradually improving. Although a weak housing market and low consumer confidence continue to drag on economic growth, and additional layoffs by state and local governments are likely, the recovery appears set to continue marching forward in 2Q11."

"Original predictions that the current economic recession would last well into the twenty-teens (2014-2015) seem to be holding true," says Luigi Di Geso, President and CEO of Mapei Corp. (Mapei's subsidiary in the USA) and responsible for the Group's operations in the Americas. "To paraphrase a diagnosis often made by emergency care physicians, we can say that we have stopped the bleeding, but the patient's recovery is moving very slowly." In the United States the economy is minimally influenced by reductions in new housing

construction (2.3% of GDP); however, this reduction has a strong impact on construction manufacturers.

An Overview of Construction Industry Economics in the USA

The current situation of the US construction industry and the forecast for next year can be summarized as follows:

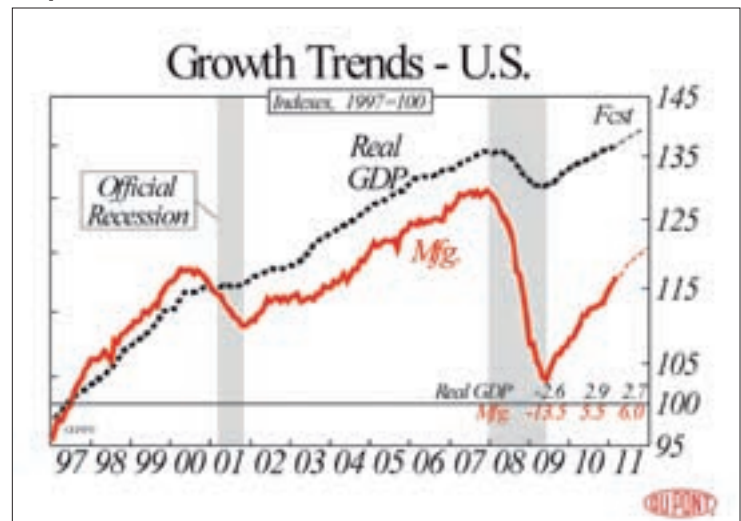
- total private non-residential construction transitioned into a recovery phase last October, indicating that the worst of the recession is over;
- the rate of descent in commercial building trends is slowing, signaling that recovery will continue to develop, albeit at a very slow pace;
- multi-unit housing starts are currently outperforming single-unit housing starts;
- housing starts are expected to decrease mildly into the third quarter of 2011 before a sustainable recovery trend develops in 2012;
- a downward trend points to slower growth in US industrial production through the second half of 2011;
- existing home sales have transitioned back into recession but are expected to post gains in 2012;
- trends suggest a slowing pace of growth

Table 1

Real GDP (Annual % Change)				
	2009	2010	2011	2012
World	-2.1	4.0	3.2	3.5
N. America	-2.6	3.0	2.9	2.9
W. Europe	-4.1	1.7	1.8	1.7
C. & E. Europe	-5.3	4.1	4.2	4.3
Asia	0.7	6.8	4.6	6.0
Japan	-6.3	4.0	0.0	3.6
China	9.2	10.3	9.5	8.6
Latin America	-2.1	5.6	4.5	4.9
M. East & Africa	1.5	4.5	4.8	5.4

The table shows the 2009-2012 development of GDP in the different geographic areas. Source: Robert Shroud/DuPont.

Graph 1



The graph shows the growth of real GDP and industrial production in the USA. Source: Robert Shroud/DuPont.

for the building sector throughout 2011 with a rebound in 2012;

- retail sales activities in building materials & supplies stores will pick up mildly through 2011, but a strong rising trend will not develop until 2012 due to the sluggishness in the housing and construction market this year.

Mapei's Strategy for the Americas

In the North American continent, Mapei has made gains in revenues compared to competitors and to the overall market, but these gains have been eroded to some extent by increasing raw materials costs and lack of availability in accessing raw materials

"The necessity to purchase raw materials further abroad – even internationally – has added significantly to our cost structure," commented Di Geso. "And, adding to the dilemma, the inability to use locally produced materials strains our determination to operate sustainably."

In the Americas the Company has implemented several measures to position itself at the top in the competition for existing and future market share. "Astute supply chain management has helped cut materials costs, while company-wide efforts to be as prudent as possible with expenses is an ongoing measure we are committed to

in order to maximize the bottom line," Di Geso said. Taking advantage of the opportunity to grow wherever possible, Mapei Corp. has begun to expand its Concrete Restoration Systems line. "We have been able to combine the experience of our R&D facilities (primarily the Research Centre located in Milan, Italy) with the work of researchers at our R&D laboratories in the Americas to produce innovative formulations for American products, allowing us to grow the Mapei brand quickly in this business category," said Di Geso. "We are using similar strategies to enter the synthetic turf installation market, a category that will give us revenues from an entirely new source." In addition, Mapei is expanding geographically in the Americas. The recent opening of a regional distribution center in Queretaro (Mexico) has already tripled sales for the Company in that country.

An analytical assessment of market economics in South America has led to increased efforts to develop new customer bases in this area, too. In tough economic times, customers frequently must choose price over brand loyalty. In the Americas Mapei is flexible enough to meet these challenges by offering a large selection of products with a wide range of price

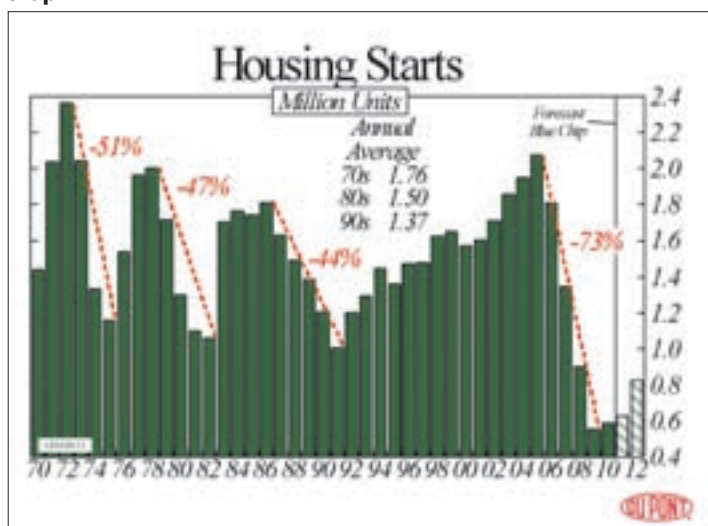
points. "We have also developed synergies with Mapei's subsidiary Polyglass USA" Di Geso said. "We have been able to recognize economies of scale through joint purchasing, marketing and other corporate functions; and we have also benefited from cross-selling opportunities with each other's larger customers."

Another area where Mapei has established plans for new growth is in the expansion of existing facilities, such as the major expansion presently taking place in Brampton (Canada) and the smaller expansion in Laval (Canada). Newer, more modern plants are also on the drawing board. Mapei Corp. has just completed the purchase of a site in New Jersey (USA), and plans are underway to build a larger plant to replace the original facility in this area.

Mapei views the future in the Americas in a positive context. Di Geso concludes, "In the next two years, the construction industry should finally see a lasting turnaround in the economy. We are prepared and positioned for a slower, smarter return to steady market growth that will yield a solid revenue and profit stream." 

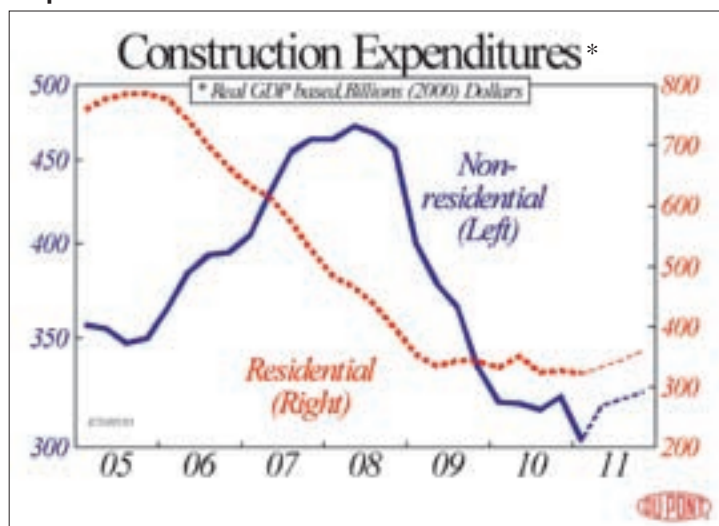
¹J.P. Morgan Retirement Quarterly Investment Review – 2Q2011.

Graph 2

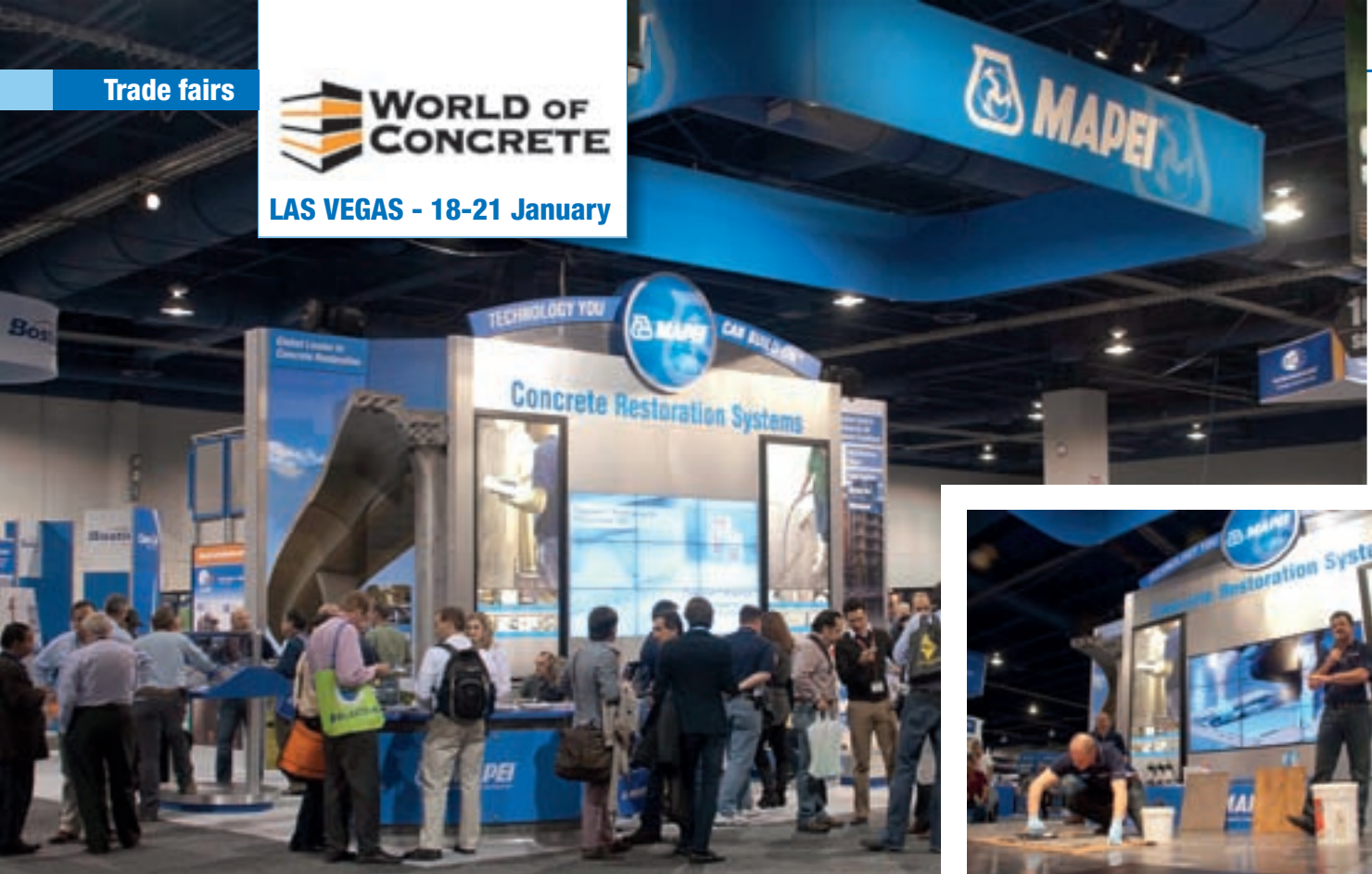


The graph shows the development of the US housing starts markets from the 70s up to today. Source: Robert Shroud/DuPont.

Graph 3



The graph shows the development of the expenditures for residential and non-residential constructions in the USA. Source: Robert Shroud/DuPont.



World of Concrete

Mapei keeps widening its commitment to the concrete systems sector

Once again this year World of Concrete (WOC), the largest North American exhibition for technology in concrete, drew sector specialists from all around the world to Las Vegas (USA). From the 18th to the 21st of January, 48,554 visitors took this opportunity to see at first hand the most innovative products and systems from more than 1,200 exhibitors.


They watched and took part in practical demonstrations and training events (seminars, conferences, competitions and forums included in the schedule dedicated specifically to education and certification) and exchanged opinions and information with other specialists present at the Las Vegas Convention Center.

Mapei Corp., the United States subsidiary of the Mapei Group, was once again present at WOC with a complete range of cutting-edge technological solutions for the concrete sector. The products on display included RESFOAM HB45 low-viscosity, flexible, hydrophobic polyurethane grout, which is ideal for stopping water infiltration in concrete structures; RESFOAM HL35 one-component water-activated hydrophilic polyurethane foam for sealing cracks or joints in concrete

structures that are subject to continuous moisture exposure; RESFOAM PF, a 100%-organic blend of selected, high-temperature oils that provides an environmentally friendly and effective alternative to hazardous products as a flush and cleaning agent for removing polyurethane and other tough composites

from grout-injection equipment and injection lines; and RESFOAM SS75, a low-viscosity, hydrophobic polyurethane compound used for soil stabilization in a variety of water-bearing soils. The yield and performance of Mapei products were also displayed through practical demonstrations by Mapei technicians. The demonstrations concentrated mainly on the levelling compounds PLANICRETE UA, ULTRATOP and ULTRAPLAN M20 PLUS, particularly suitable for creating decorative concrete floors. Detailed information about Mapei systems for repairing concrete were recently made available to architects, builders and designers on the www.arcat.com portal, an aid that helps specialists from this sector choose the most suitable building materials for their specific requirements. To best assist specifiers, Mapei Corp. uses the programme BIM (Building Information Modeling), which is used to send informa-

tion and images of products that may then be inserted easily into technical specifications drawn up by sector specialists using 2D and 3D design protocols.

During the annual press conference organised by Mapei Corp. during WOC, Enrico Dal Negro, head of the UTT (Underground Technology Team) division for the Mapei Group, illustrated the latest developments by the Company in products and technology for the underground construction sector to journalists and visitors. The next edition of WOC will be held in Las Vegas from the 24th to the 27th of January 2012. 

Above and below. At WOC 2011, Mapei illustrated its solutions for the concrete repair sector using an innovative booth and product demonstrations.





Mapei was present at Surfaces 2011 with an extremely popular booth.

Surfaces

From Mapei, solutions suitable for any surface

Surfaces, the traditional American exhibition dedicated to all types of wall and floor coverings, was another occasion for visitors (more than 25,000 between distributors, retailers, designers, flooring installers and builders) to compare notes and exchange information and get to know the most innovative products, equipment and technology for the sector presented by the more than 600 exhibitors at the Mandalay Bay Convention Center in Las Vegas (USA) from the 25th to the 27th of January.


Mapei Corp., the United States subsidiary of the Mapei Group, took part at the event with its booth, which proved to be extremely popular with the visitors, equipped with highly creative, cutting-edge communications tools.

There were numerous practical demonstrations by the Mapei Corp. Technical Service Department, with examples of how to apply high-performance products for installing ceramics and natural stone, such as ULTRAFLEX LFT RAPID adhesive, ideal for bonding large-sized ceramic tiles and stone slabs, ULTRACOLOR PLUS quick-setting and drying mortar with water-repellent DropEffect® and anti-mould BioBlock® technology and other grout for tile joints

and MAPESIL sealant for expansion joints. Amongst the products for installing resilient and textile materials and parquet, Mapei presented numerous adhesives from the ULTRABOND ECO range, each of which has been specifically developed for a certain type of covering material (rubber, PVC, synthetic grass, textile materials and wood). The public also learned about Mapei solutions for waterproofing (MAPELASTIC AQUADEFENSE), sound-proofing (MAPEGUARD 2), moisture barriers in concrete substrates (PLANISEAL EMB) and for small repairs when installing wood (ULTRABOND 905 and ULTRABOND

915). As in previous years, Mapei Corp. organised its VIP Hospitality Event, dedicated to the Company's most loyal clients, who were invited to the subsidiary's booth to talk about their impression of the trade fairs.

After the event, a press conference was held for the journalists at the exhibition, with presentations from various Mapei representatives. One of them was Ephraim Senbetta, responsible for sustainability and quality management for Mapei's North American operations, who spoke about the meaning of the term "eco-sustainability", Mapei's commitment to eco-sustainability and its collaboration with the US Green Building Council, the body which promotes the construction of eco-sustainable buildings in the United States.

The next edition of Surfaces will be held from the 24th to the 26th of January 2012 in Las Vegas. 



The Mapei Group also present at Surfaces 2011 with a booth dedicated to the American subsidiary APAC, which specialises in the production of technologically-advanced adhesives for installing textile and resilient materials. A motorcycle was also on display at the booth with its new look for the APAC trademark, representing one of the prizes which clients may win by purchasing the subsidiary's innovative products.



coverings
THE ULTIMATE TILE - STONE EXPERIENCE™

LAS VEGAS - 14-17 March

at Coverings 2011 were ULTRACOLOR PLUS, OPTICOLOR, KERACOLOR U and KERAPOXY, available in numerous colour variations to create joints with a high visual impact.

The benefits deriving from the use of these products were also illustrated by Mapei technicians through practical demonstrations held on the TCNA Demonstration Stage, an area dedicated exclusively to practical demonstrations and examples by the Tile Council of North America (TCNA).

Coverings 2011 was also the perfect occasion for Mapei to take part, as in previous years, in various side events such as the Installation Design Showcase and the Ceramic Tiles of Italy Design Competition (see following articles), organised by Confindustria Ceramica (the association of Italian ceramic tiles and refractory materials manufacturers) to promote Italian ceramics abroad.

The Company also collaborated in the construction of the Ceramic Tiles of Italy booth, sponsored by Confindustria Ceramica, ICE and the Italian Ministry of Economic Development, supplying adhesives for ceramics (ULTRAFLEX LFT) and grouts for joints (KERACOLOR S and KERAPOXY DESIGN). This stand was designed by Michael P. Johnson, a modernist designer from Arizona, and created using a totally new range of latest-generation Italian tiles and various Mapei solutions.

The next edition of Coverings will be held from the 17th to the 20th of April 2012 at the Orange County Convention Center in Orlando (USA).

Coverings

From Mapei a complete range of products for ceramic and natural stone

More than 800 exhibitors from 50 different countries took part at the latest edition of Coverings, the American exhibition dedicated to ceramic and stone coverings, which was held from the 14th to the 17th of March at the Sands Expo and Convention Center in Las Vegas (USA). The latest market trends and the most advanced technology for wall and floor coverings were presented to a vast audience (around 19,000 visitors) of sector specialists. As in previous years, the event was enlivened by numerous organised training events on each day of the trade fair.

Mapei Corp., the Group's United States subsidiary, was present at Coverings once again this year with a stand dedicated to the promotion of systems for installing

ceramic and stone. In fact, the Company has the capacity to supply a complete range of products to carry out all the installation operations. For the preparation of substrates, Coverings was the perfect occasion to highlight the advantages of PRIMER L bonding promoter, ULTRAPLAN EASY self-levelling compound, MAPECEM QUICKPATCH mortar for repairing concrete, MAPELASTIC AQUADEFENSE for waterproofing and MAPEGUARD 2 crack-isolation membrane for reducing the noise of footsteps. To bond ceramic and stone on floors and walls, on the other hand, the adhesives GRANIRAPID and ULTRAFLEX LFT RAPID were highlighted, which are particularly suitable for installation work when surfaces have to be put quickly back into service.

Amongst the grouts for joints on display



Photo 1. The Mapei booth at Coverings 2011 stood out for its eye-catching design and the range of communication techniques used.

Photo 2. Mapei technicians demonstrated to the public various application techniques of the Company's products during the highly popular practical demonstrations held in the Tile Council of North America (TCNA) area, whose Executive Director Eric Astrachan is shown here on the left with Giorgio Squinzi (CEO of the Mapei Group).

Installation Design Showcase

Cutting-edge products and renowned designers at Coverings 2011



1

Not only was Mapei present at the American ceramic and stone floor and wall coverings exhibition with its own activities and presentations, but it also took part in various side events at Coverings 2011. And the Installation Design Showcase, in its second edition this year, was just one of them. It was an initiative of the National Tile Contractors Association, jointly sponsored by Con-findustria Ceramica (the association of Italian ceramic tiles and refractory materials manufacturers) and Mapei.

On this occasion, innovative designers worked together with floor installers and tile manufacturers to create three different bathroom projects, directly on site at the trade fair during the five days of the exhibition, giving visitors the chance to witness the results of the synergy between design and technique during all the installation operations: from design to materials selection, right up to final installation. The three projects, which commenced a few days before the trade fair and were completed before the closing day, included three completely different bathroom design con-

cepts created by the designers Ali Azhar, Annette Denham and Laura Yorba. The first of the three, Ali Azhar - an up and coming designer with multi-ethnic origins (Indian and Haitian) and a star of American television - created an environment in which, as declared by the designer himself, "spa meets nightclub: original and modern". The ceramic and mosaic used for the floor and walls of this particular bathroom were supplied by the Italian companies Marazzi,

Sicis and Mosaico+, laid using Mapei ULTRACONTACT and ADESILEX P10, with joints grouted with KERACOLOR S and KERACOLOR U mortars. Azhar also used ceramic collections from several other Italian companies (Casamood-Casa dolce casa, Ceramiche Provenza, Marazzi, Settecento Mosaici e Ceramiche d'arte and Sicis) to create a 3x6 m decorative panel installed using ADESILEX P10 adhesive.

For one of the other designers, Annette Denham, manager of an interior design studio specialising in kitchens and bathrooms, the image for the bathroom was that of an oasis of wellbeing within the home, harmoniously blending classic lines with more contemporary styles.

Her creation included the use of Mapei's ULTRAFLEX RS, ADESILEX P10 and KERABOND adhesives to lay the slabs of Carrara marble and mosaic tiles, while the joints were grouted with various shades of ULTRACOLOR PLUS and KERACAULK grouts.



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Photos 1 and 2.

The designers Ali Azhar, created a bathroom in which "spa meets nightclub". The ceramic and mosaic coverings used for the floor and walls were laid with Mapei products.



Ceramic Tiles of Italy Design Competition 2011

Numerous awards for North American architecture and Italian tiles... with Mapei

This year marked the eighteenth edition of the Ceramic Tiles of Italy Design Competition, one of the events organised by Confindustria Ceramica (the association of Italian ceramic tiles and refractory materials manufacturers) during the Coverings exhibition. The aim is to promote Italian ceramics in international markets by awarding prestigious architectural projects which have included the use of Italian tiles.

An international jury selects the winning projects from three categories (residential architecture, commercial/hotel architecture and institutional architecture) and

assigns an award and a honourable mention to each category. When assigning the awards, the functionality of the project, its aesthetic qualities and the original use of Italian ceramics are the criteria favoured.

This year, the projects chosen for the awards stood out for certain elements in common, mainly the use of large-sized, thin tiles made from recyclable materials and certified to respect the environment. In the category reserved for institutional architecture, the award went to the **Canada Line Subway** which runs from the international airport in Vancouver (Canada) to the Olympic village, and includes 16

Photo 1. In the **Canada Line Subway in Vancouver (Canada)** ceramic tiles were installed on the wall and floors using Mapei products.

Photo 2. Mapei adhesives and grouts played an important part when installing the ceramic tiles on the external façades of the **Ingleside section of the San Francisco public library**.

stations. Each station was designed in a different style and in different colours to blend in harmoniously with the surrounding environment. On the platforms and in the areas reserved for the general public, the ceramic tiles were laid on the walls and floors with Mapei products (ULTRAFLEX LFT, KERABOND + KERAPLY and ULTRACOLOR PLUS).

The Fourgeron Architecture studio from San Francisco (USA) was awarded the honourable mention in the same category for its project in the **Ingleside Branch Public Library** in San Francisco. The colour chosen for the ceramic tiles was silver to ensure harmony



Photo by Douglas A. Salin

1



Photo by Joe Fletcher

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Photo by Philip Castleton

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Photo 3. The renovation project at the Toronto branch of the Fairview Mall included the use of various Mapei solutions to bond ceramic tiles on the walls and floors.

Photo 4. In the Curved House by the Hufft Projects Design Studio, there are ceramic floors installed with Mapei products.

Photo 5. The Ceramic Tiles of Italy Design Competition Awards were assigned to the winning projects by the Confindustria Ceramica delegates Andrea Borelli and Franco Manfredini together with Aniello Musella, Trade Commissioner & Executive Director for the USA branch of ICE (Italian Trade Commission).



Photo by Mike Sinclair

4

with the surrounding buildings, and they were bonded on the external façades of the building for their properties of durability and ease of cleaning. Mapei adhesives and mortars were used to bond the tiles and grout the joints, respectively.

The honourable mention in the

commercial/hotel category went to the renovation project for the **Toronto (Canada) branch of the Fairview Mall** chain. It was designed by the GHA Design Studios and Mapei solutions were used in all the work phases, including the installation of new ceramic coverings on the floors in the

corridors, on the columns, on the floors in the refreshments areas, bathrooms and near the entrance and on the internal walls in various areas. The substrates were prepared and waterproofed with MAPECEM and MAPELASTIC, while ULTRACONTACT RS and KERAPOXY were chosen to bond the tiles.

The **Curved House** by the Hufft Projects studio from Kansas City (USA), on the other hand, was awarded the honourable mention in the residential architecture category. Made using eco-sustainable materials and technology, the house includes a swimming pool and a main building reminiscent of a cabana.

There are also various ceramic floors in the house which were installed using Mapei products, such as ULTRAPLAN 1 PLUS and PRIMER L to prepare the substrates and KERACALUK and KERABOND for bonding tiles and grouting joints.



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Glenwood Hot Springs Spa

Renovation of the historical thermal complex in Colorado

Situated next to the Colorado River and surrounded by the Rocky Mountains in Colorado (USA), Glenwood Hot Springs embodies the largest mineral hot springs pool in the world.

The complex was established in 1888, while the history of the hot springs actually dates back thousands and thousands of years. Ancient rain and melted snow, superheated deep within the earth, bubbled up through layers of sandstone emerging in underground caves and hot pools that dot the Colorado River.

The Ute Indians were the first to discover these mineral-rich

waters, calling them “Yampah” meaning “Big Medicine”.

In the 1880s, Walter Devereux and his two brothers purchased the springs and 4 hectares of land with grand plans to build a large hot springs pool.

Completed in 1888, the first pool was complemented by a red sandstone bath house and lodge that housed tubs, Roman vapor baths, bath rooms with dressing and lounging rooms, a ladies’ parlor, physician’s office, gymnasium and smoking and reading rooms.

In 1891, construction began on the Hotel Colorado, for the pools’ guests.

Over the years, buildings were

Photo 1. The Glenwood Hot Springs Spa is located near the Colorado River and surrounded by the Rocky Mountains.

Photo 2 and 3. GRANIRAPID adhesive was used to install ceramic tiles on the floors and walls of the locker rooms of the bath house.

added to the original construction until the red sandstone edifice stretched over two blocks long. Today the complex encloses a 107-room lodge, the health-based athletic club, a retail sport shop, the poolside grill, and a miniature golf course.

The main pool measures over two blocks long. The heated waters are 32°-34°C in the large pool and 40°C in the smaller, therapy pool. Two water slides, inner tubes, diving boards, and bubble chairs bring out the kid in everyone. Visitors have access to modern locker room facilities, lounge chairs, towel service, and swim suit rentals.

The First Renovation Intervention: Lockers and Atrium

In 2005, the present owners began major renovations of the hot springs' locker rooms and atrium space that leads to the hot springs pool. The renovations included replacing floors, walls and showers, and installing high-quality decorative tiles. The installation company saved the project a significant amount of money by setting tiles over the existing quarry tile floors and cinder block ceramic glazed wall tiles. The key to this cost-saving effort was the use of Mapei's solutions for installing ceramics and natural stones. In this case GRANIRAPID was chosen within the wide range of products offered by the Company. This is a two-component, high performance, fast-setting and hydration adhesive system, which

with mosaic listels at eye level and absolute polished granite surrounds at doorways. Slate random block mosaic tiles were bonded on the floors using GRANIRAPID. Because the surfaces would be exposed to constant water, heavy minerals, and moisture, all joints of the tile surfaces were grouted with KERAPOXY, an epoxy grout especially suitable for areas where hygiene and resistance to chemical agents are required.

Photo 4. In 2008 the red sandstone building hosting the wellness centre and the fitness area underwent a restoration intervention.

Photo 5. The substrate floors in all areas of the spa were treated with PRIMER L and levelled with NOVOPLAN EASY.

The Second Renovation Intervention: The Wellness Centre

In 2008 the historic red sandstone building hosting the wellness centre and the fitness area underwent an additional restoration intervention. Works included the renovation of the damaged exterior façade, which was due to the sulfur fumes from the hot springs pool, and creating a 5-star contemporary European-style spa.



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was applied first as a scratch coat over a shot-blasted floor tile and lightly scuffed wall tile, and then again as a thin-set layer to bond the tiles.

In the locker rooms, small-size white tiles were initially chosen for the wall coverings; but they were then changed to earthier tones using larger porcelain tiles



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Over thirty different types of porcelain, stone, glass, metal tile, and custom liners from several American tile manufacturers were used to this purpose.

The ground floor is dedicated to the new entry vestibule and shop, the women's locker room, a luxurious waiting room overlooking the hot springs pool and a specialized hydrotherapy room.

The second floor contains the men's locker room and several massage treatment rooms, a manicure/pedicure room and a new exercise room. The locker rooms are open in design and flow into intimate rooms for tub soaking and steam rooms with tile installed from floor to ceilings.

Most of the new spa floors required an underlayment treatment, which was carried out using Mapei's PRIMER L solvent-free



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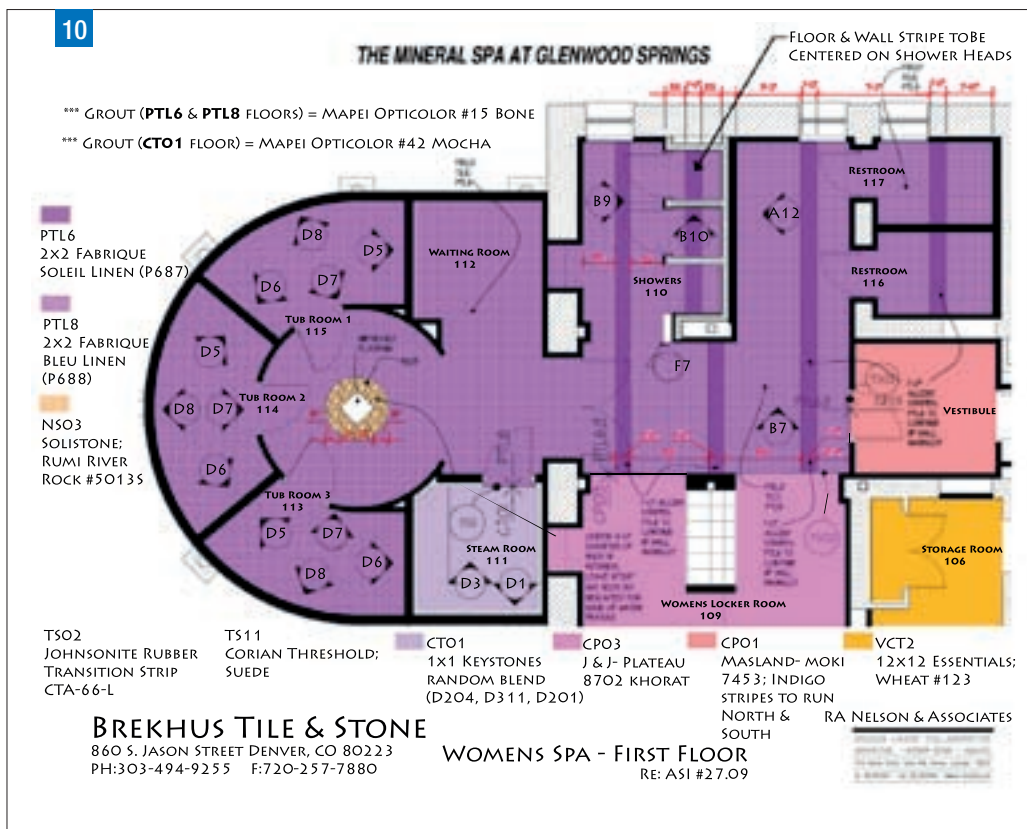
acrylic primer, to improve the bond of the covering materials, and NOVOPLAN EASY self-leveling compound to make substrates even, suitable to the installation of any kind of covering material (ceramics, textiles, bamboo, etc.). Due to the very tight schedule, work had to be sectioned into defined spaces and done while other trades were working in adjacent areas. A large amount of detailed tile work had to be done in the spa and athletic club, so a book with color-coded graphic representations of all the areas was given to the installers. The field book provided the installation

Photo 6 and 7. Ceramic floor tiles were laid in the wellness centre with the KERABOND+ISOLASTIC (distributed on the American market with the name of KERALASTIC) adhesive system. Joints were grouted with OPTICOLOR grout. **Photo 8.** Wall ceramic tiles in treatment rooms and other wet areas were laid with ULTRALITE MORTAR.

team leaders with an easy-to-read colored graphic floor plan and elevations, showing exactly which style and color of tile and grout color should be set in a specific area (see picture n.10). Niches to hold aromatic candles were spaced around the spa and therapy rooms, and each niche was inset with glass tile. ADESILEX P10 high-performance, white cementitious glass tile adhesive, with no vertical slip for glass mosaic, ceramic and marble coverings, was used to bond and enhance their beauty. 5x5 cm mosaic tiles were laid on the floors of the shower areas and



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other wet areas to reduce slip-page and also to give the spaces a European spa look.

To bond the mosaics, the installers used the KERABOND+ISOLASTIC (the latter is distributed on the North American market with the name of KERALASTIC) system featuring excellent bonding strength, flexural strength, elongation and freeze-thaw durability.

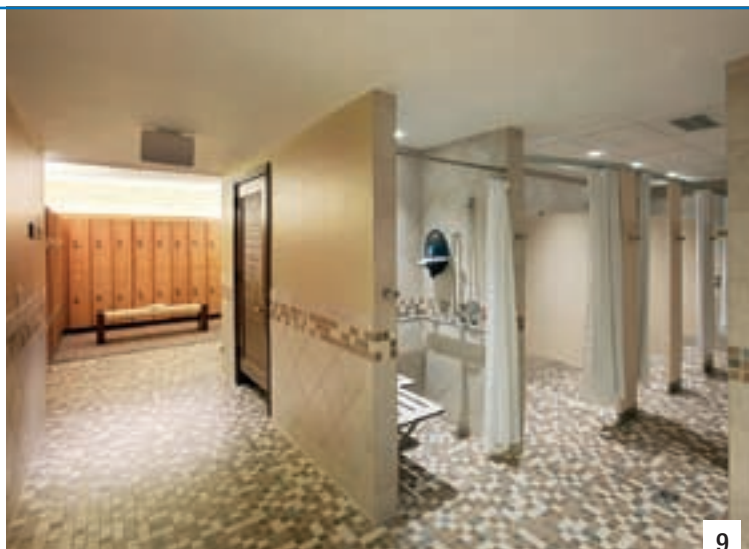
The same tile patterns and colors, but in a larger size, were installed on the walls of the showers, the spa treatment rooms and wet areas. For these tiles, the installers used ULTRALITE MORTAR, a one-component, high-performance, cementitious adhesive.

Ultralite technology provides twice the coverage of a traditional Mapei adhesive and helps contribute to LEED points with over 20% recycled content.

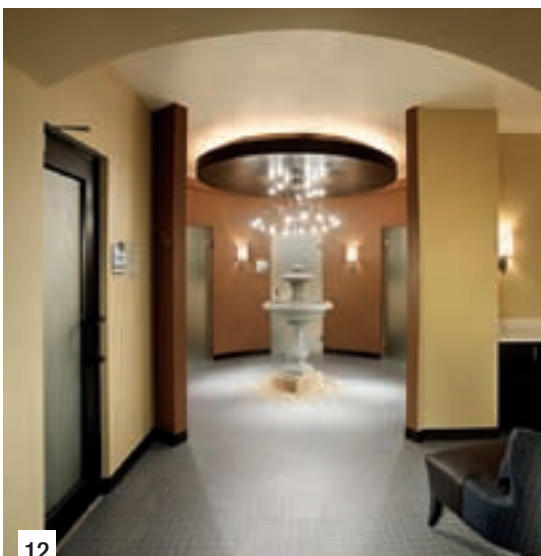
To provide moisture- and stain-resistant beauty for the spa and athletic club, all tile joints were grouted with OPTICOLOR, a high-



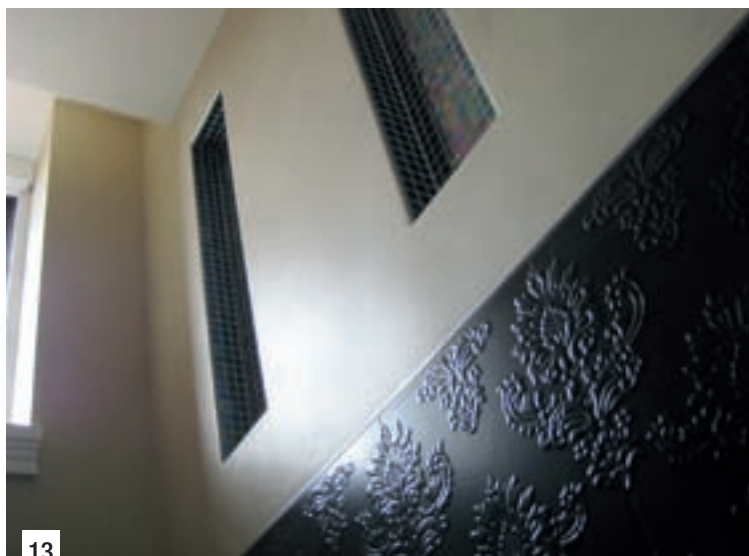
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performance, easy-to-clean reactive resin-based grout.

The Glenwood Springs Spa was an exciting project that required close teamwork among all the people and companies involved on site.

Mapei supplied complete systems for installing ceramics and mosaics, from products for substrate preparation to mortars for grouting the joints. Furthermore, a Mapei technician regularly came out to the job site and gave the installers hands on demonstrations for the installation of the products. The result can be seen in perfectly laid coverings which contribute to the comfort of the guests enjoying wellness and relaxation at Glenwood Hot Springs Spa.

Some of the photos and the information used for this article were supplied by Glenwood Hot Springs Spa, whom we would like to thank.



Photo 9. The men's showers and locker rooms in the spa feature ceramic floors laid with KERABOND+ISOLASTIC (distributed on the American market with the name of KERALASTIC). Wall tiles were bonded with ULTRALITE MORTAR.

Picture 10. Colored-graphic floor plan showing different areas of installations were given to floor layers.

Photos 11 and 12. Ceramic floor tiles were laid in the waiting areas and in the shop of the wellness centre with KERABOND+ISOLASTIC.

Photo 13. Niches in the walls of the wellness centre were covered with glass mosaics installed with ADESILEX P10.

TECHNICAL DATA

Glenwood Hot Springs Spa, Glenwood Springs, Colorado (USA)

Period of Construction: 1886-1890

Designer: Theodore Von Rosenberg

Years of the Intervention: 2005 and 2008

Intervention by Mapei: supplying products for preparing the floor substrates in the wellness centre, for laying ceramic, mosaic and stone floor and wall coverings in the locker rooms and atrium leading to the pools as well as in the wellness centre

Client: Glenwood Hot Springs

Designer: RA Nelson & Associates

Contractor: Diemoz Construction

Laying Company: Brekhus Tile & Stone

Laid Materials: ceramic tiles, mosaics, stone slabs

Works Direction: Kevin Cooper

Mapei Distributor: Daltile

Mapei Co-ordinator: Kyle Murphy, Mapei Corp. (USA)

MAPEI PRODUCTS

The products mentioned in this article (**Granirapid, Kerapoxy, Primer L, Novoplan Easy, Kerabond+Isolastic** - Isolastic is distributed in the Americas under the name of **Keralastic**) are manufactured and distributed in the USA by Mapei's local subsidiary, Mapei Corp. For further information, visit the website www.mapei.us.



International Roofing Expo

New Polyglass solutions for the roofing industry

Roofing industry professionals packed the North Halls at the Las Vegas Convention Center from the 16th to the 18th of February, for the 2011 edition of International Roofing Expo (IRE). The show floor buzzed with excitement as the outlook for construction remains steady with hopes for significant improvement in 2012. Total attendance topped 8,000 with a staggering 18% increase in attendees over the 2010 show held in New Orleans. Participants came from all segments of the roofing industry including commercial and residential contractors, builders, remodelers, building owners, facility managers, manufacturers, architects, engineers and other ancillary industry professionals. There were 394 exhibiting companies and more than 40 training events were attended by over 4,000 people.

Mapei attended the exhibition through its subsidiary Polyglass, a leading company for the production of modified bitumen roofing and waterproofing membranes, roof coatings, covering materials and insulating systems for the building industry, which became part of the Mapei Group in 2009. The Polyglass Group includes

Polyglass USA with three manufacturing plants across the country that supply the USA, Canada and Caribbean, with headquarters in Florida; Polyglass S.p.A with headquarters in Ponte di Piave (Province of Treviso, Italy), 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 from over 40 countries highly innovative technology continuously developed since 1960.

Continuing its theme "It's a Polyglass World", Polyglass promoted its many roofing solutions at this year's IRE. Polyglass highlighted its self-adhered modified bitumen membranes and launched a new and improved version of its white, reflective cap sheet, POLYKOOL. This product features ADESO® technology, unique to the industry by consisting of a compound on the top layer and an excellent self-adhesive compound on the bottom layer. As a self-adhering product, POLYKOOL can help contribute to the reduction of global warming and release of hazardous emissions into the atmosphere.

The Company also showcased its quality

Above. Polyglass was present at IRE 2011 with an extremely popular booth, equipped with cutting-edge communications tools (screens, videos, slabs, etc.) and hosting practical demonstrations concerning the application of the Company's membranes.

white elastomeric coatings as another part of its KOOL ROOF solutions, which contribute to cutting energy consumption and roof maintenance costs.

Polyglass' booth was interactive so that attendees could experience its products in several ways: with touch screen monitors that featured product literature and installation videos, product displays and hourly product demonstrations.

POLYKOOL was also featured in the Green Product Pavilion at the IRE show which was devoted to eco-sustainable solutions of the roofing industry. At the conclusion of the convention, Polyglass' POLYKOOL SA membrane won second place for Best Green Product.

The 2012 IRE will be held in Orlando, Florida next February (22-24).

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reflective protective varnishes
protective paints for bituminous membranes
acrylic membranes
liquid membranes
primer

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Mapei in the Arab Emirates

The Company's operations in a rapidly developing region

by Riccardo Ardito*

From January this year lots of countries in the Middle East and North Africa are experiencing uprisings and revolts that would have been unthinkable until recently. First Tunisia, then Egypt and then in quick succession Yemen, Bahrain, Jordan, Syria and Oman, followed by the war in Libya. The time seems to have come for lots of these nations to take control of their own future, and the uprisings have highlighted a real desire for greater involvement in democratic life, calling for better representation and freedom of speech, which Western countries have enjoyed for a long time.

The United Arab Emirates, in contrast, just like Qatar and Saudi Arabia, are going through a period of stability and growth, although of course they watch these events with a certain degree of apprehension due to how close they are. The United Arab Emirates (UAE) in particular have always been one of the most politically stable countries in the region, which has allowed them to receive relevant investments from overseas, including from the Mapei Group, which has constructed an important and innovative manufacturing centre in the Emirates serving the Middle East region. This plant manufactures adhesive products for ceramics, coloured grouts, self levelling


compounds, screeds, mortars for repairing concrete, admixtures for concrete, and grinding aids. Despite the economic recession, that even affected the Emirates from late 2009, there are some important signs of revival helped along by the restructuring of Dubai's debt, which has enabled lots of projects to be set underway. A significant number of families and business people are moving over to Dubai during these months of uprising and upheavals, attracted by the nation's stability and also the availability of housing (whose prices have dropped by 60% compared to the high point in 2008), schools and other services.

The Emirates' economy is forecast to grow by 4% in 2011 and, for the first time in almost two years, real-estate prices are expected to rise starting from the end of 2011. Abu Dhabi has played a key role in all this, and its contribution to the nation's development has been of fundamental importance, as some of the projects recently carried out have clearly demonstrated: we are referring to the Ferrari Park for which Mapei supplied lots of products for waterproofing (MAPELASTIC SMART, ADESILEX PG4, ELASTOCOLOR WATERPROOF) and installing marble and ceramics (KERAFLEX MAXI, ULTRAPLAN MAXI, KERABOND, KERAPOXY ADHESIVE,

KERACOLOR FF, ULTRACOLOR PLUS) and lots of new and futuristic projects that were recently announced at the Cityscape real estate event held in Abu Dhabi.

Thanks to opening its modern production plant located in the Dubai Investments Park (DIP), Mapei has been able to continue and indeed strengthen its contribution to some of the most prestigious projects carried out in Dubai and Abu Dhabi: we are referring to the works at Dubai Airport, Burj Al Arab hotel, the Burj Khalifa skyscraper (see *Realtà Mapei International* n. 32), the Dubai underground railway line, and the Emirates Palace Hotel. Local clients and customers were extremely pleased with the products and standards of service provided by Mapei. Thanks to the Mapei Group's investments in Research & Development (85 million Euros in 2010 alone, equivalent to 5% of the Group's overall turnover), it has been possible to develop products even for these markets, taking into account the specific climatic conditions and demands of local contractors and installers.

Mapei has always focused on developing eco-sustainable products and over 150 products help contractors and designers to achieve LEED certification for eco-sustainable buildings, which is highly appreciated by building companies, consultants, designers and local authorities in the Emirates. They have all discovered that Mapei is a reliable partner for carrying out eco-sustainable projects.

Mapei is taking up these opportunities and, with the wind in its sails, it is continuing with its development and investment plans that have enabled the Company to gain notable market shares; in a market like the Emirates (that had dropped by 40% in 2010 alone), its turnover has doubled and Mapei has been able to cast solid foundations for its long-term vision for the region. The wind of freedom is blowing across these lands and Mapei, too, is ready to help them grow and develop. 



The IBS
manufacturing
plant in the Dubai
Investments Park.



* Export Area Manager, Mapei SpA

CityBuild


Reliable materials and technologies for one of the most developing building markets in the Middle East

Her Excellency Sheikha Lubna Al Qasimi, the Minister of Foreign Trade for the United Arab Emirates, chaired the official opening ceremony for the 2011 CityBuild trade fair, which was held at the Abu Dhabi National Exhibition Centre from 17th to 20th April. The event, which celebrated its second edition this year, is certainly one of the most important in the building industry in the Emirates, and this year its timing was particularly appropriate: the industry is actually showing the first signs of a revival that, according to forecasts, will lead to a 4% growth by 2020 and create a turnover equivalent to € 13.36 billion this year. The event was held in Abu Dhabi, the capital of the Emirates that aims to be a strategic meeting point for all stakeholders in the regional building industry. It also included an extensive schedule of side events, such as the CityBuild Construction Summit, the prize giving ceremony for the CityBuild Abu Dhabi Construction Awards (for companies that have provided a notable contribution to local building) and the Archi-World Academy Awards (for younger architecture students), the Clean Tech Showcase exhibition, and a seminar entitled "Natural Stone: Marble & Granite" about the use of natural stone. Mapei played an important part in the entire event through its local subsidiary, I.B.S.-Mapei, both as a Gold Sponsor of CityBuild 2011 and as an exhibitor with a stand in Pavilion n.8 of the Abu Dhabi National Exhibition Centre. The Company took this chance to show the general public all the innovation incor-



porated in its building materials and technology, using panels, demonstrative slabs and technical documentation, as well as putting on practical demonstrations of how to use the products. The demonstrations were mainly intended to highlight the benefits and ease-of-application of Mapei's eco-sustainable solutions for installing various materials, such as ceramics, natural stones, wood, PVC, rubber, etc. These include MAPEGUM WPS, a fast-drying elastic liquid membrane for waterproofing indoor premises; ULTRABOND

P990 1K, a ready-to-use, flexible, one-component, solvent-free polyurethane adhesive for all kinds of parquet; ULTRABOND ECO V4 SP, a universal acrylic solvent-free adhesive in water dispersion with very low emission level of volatile organic compounds (VOC), and with extended open time for installing rubber, PVC, vinyls, polyolefin, linoleum and textile floors; ULTRABOND ECO FIX, a solvent-free adhesive in water dispersion, with a permanent tack and very low emission level of volatile organic compounds for dry-lay floor tiles.

I.B.S.-Mapei also presented a brand-new innovation at the trade fair: the first machine for analysing natural stones in the United Arab Emirates, capable of assessing which is the most suitable adhesive for installing every type of stone material by analysing their sensitivity to water and variations in temperature. This tool, that I.B.S. supplies its customers, combines with other cutting-edge installation systems developed by the Company to guarantee stone materials are installed correctly, in order to avoid any chance of curling, staining or appearance of efflorescence. 

Photos 1 and 2.

The Mapei Group took part in the 2011 edition of the CityBuild trade fair through its subsidiary I.B.S.-Mapei. Its stand was equipped with cutting-edge communication and hosted practical product demonstrations.





Ferrari World in Abu Dhabi

Mapei products have had an important role in the construction of the biggest indoor theme parks in the world

On the 30th of November last year, H.H Sheikh Mohammed bin Zayed Al Nahyan, Prince of Abu Dhabi and Supreme Commander of the United Arab Emirates army, inaugurated the first ever Ferrari theme park in the world. The complex, which is also the biggest indoor theme park in the world, is located on the island of Yas just off the north-eastern coast of Abu Dhabi. It is just 10 minutes by car from the Abu Dhabi international airport and 30 minutes from the city centre, which is also the capital of the Emirates. The island is destined to become an important destination for international tourism, which is why numerous structures are also being built to welcome and accommodate the predicted flow of tourists.

Enjoyment for All

Ferrari World is owned by Aldar Properties PJSC, one of the biggest real-estate and investment companies in the Emirate of Abu

Dhabi.

Its most striking feature is its red roof, characterised by its clean lines and curvaceous form reminiscent of a Ferrari GT, and the biggest logo ever created in the world of the famous Italian car manufacturer.

The indoor area open for public use spreads over an area of 86.000 m², the equivalent of 10 full-size soccer pitches.

The complex offers the chance of a memorable multi-sensorial experience for all the visitors, whatever their distinction: adults, children, families, fans and adrenalin seekers alike.

With more than 20 attractions inspired by driving a Ferrari, areas dedicated to the history of the Italian car manufacturer, numerous videogames and displays of various Ferrari cars, six Italian restaurants where Michelin chefs offer refined dishes and a large array of shops, Ferrari World is able to cater for everybody's taste.

Mapei Solutions for a Complex Fit For a Prince

Because the intention of the owners was to present the entertainment complex as unique, not only in the Middle East but also in the whole world, Ferrari World has been constructed to the highest of standards.

Since the construction materials had to also be up to the standards required for such an ambitious project, the choice finally fell on solutions offered by Mapei,

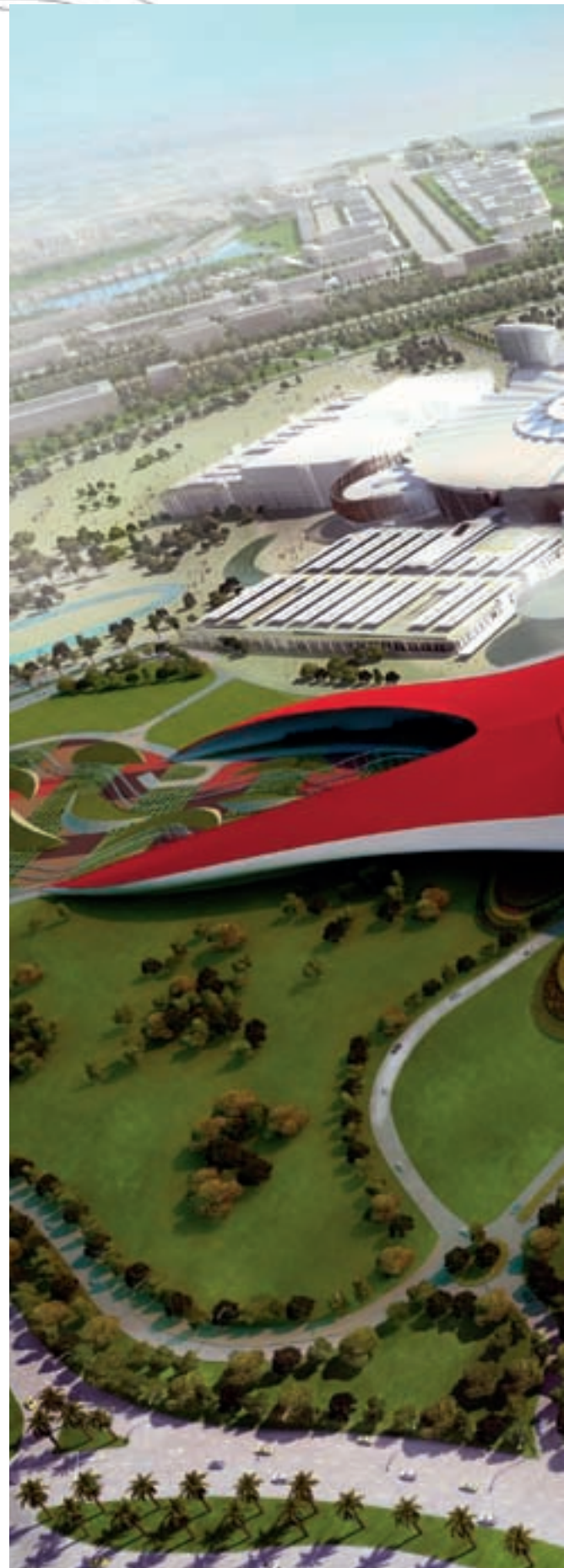




Photo 1. Some of the areas in the complex are dedicated to displays of various models of cars.
Photo 2. A bird's eye view of Ferrari World, the famous car manufacturer's only theme park in the world.



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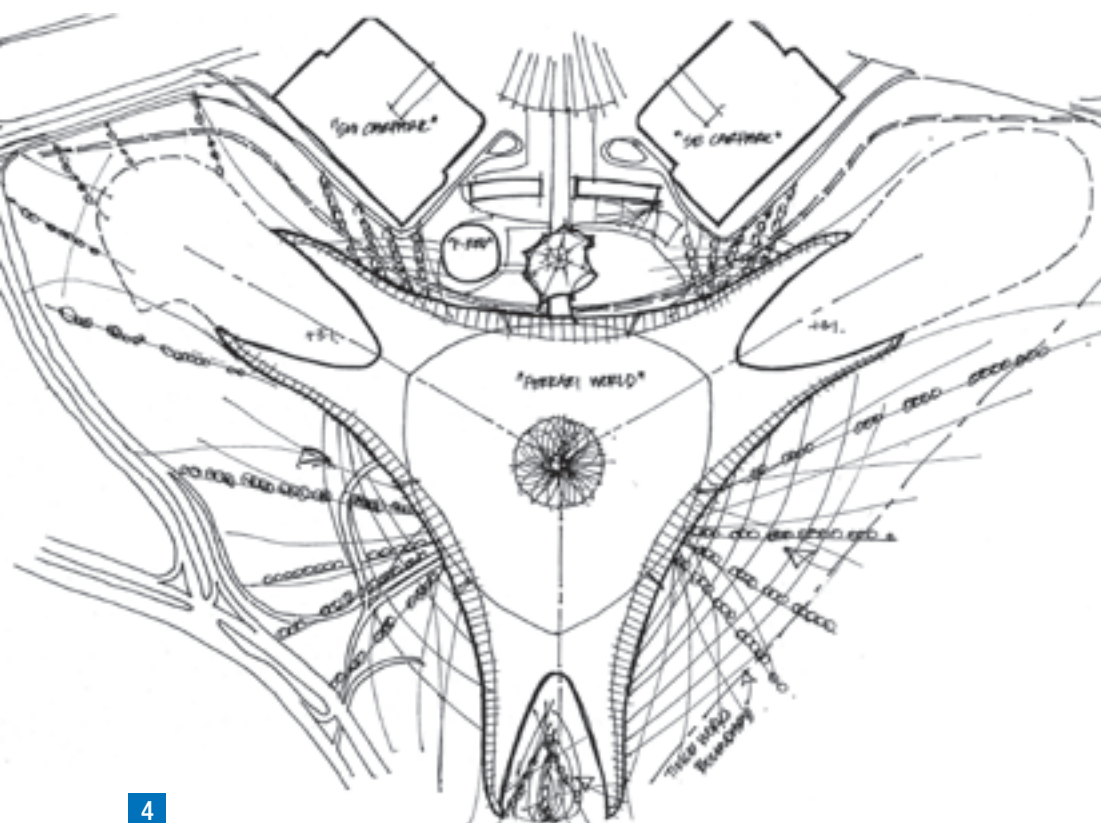
which had already been used in the United Arab Emirates in other important construction projects, such as the Sheikh Zayed Bin Sultan Al Nahyan Mosque in Abu Dhabi (see *Realtà Mapei International* n. 32), the exclusive Armani Hotel located in the Burj Khalifa tower (see *Realtà Mapei*

International n. 33) and the Dubai international airport. Mapei products had already been used on the island of Yas to build the Yas Marina Hotel, the Rotana Hotel, the Stay Bridge Hotel and the Centro Hotel, thus proving to be a reliable supply partner hence able to again offer a quality con-

Photo 3. A bird's eye view of Yas island, home of the Ferrari World centre.

Photo 4. A drawing of the complex.

tribution for the construction of Ferrari World. Going into detail, through the local subsidiary IBS-Mapei, headquartered in Dubai, Mapei supplied the materials used to waterproof the surfaces of various tanks, fountains and water features, to lay ceramic, stone, mosaic and resilient coverings, to treat the substrate in various areas and for a number of other interventions during construction.



4

Waterproofing Tanks, Fountains and Water Features and Sealing Joints

More than 25.000 m² of surfaces were waterproofed in the fountains, tanks, water features, planters and a host of other damp surfaces with MAPELASTIC SMART two-component, high-flexibility cementitious mortar reinforced



6



with alkali-resistant FIBREGLASS MESH (which has now been replaced on several markets by MAPENET 150) and with MAPETEX SEL pre-punched, non-woven polypropylene fabric. The waterproofing system was then completed by applying ELASTOCOLOR WATERPROOF acrylic paint on the treated surfaces. Black was chosen in this case. It took a whole five months of laboratory analysis and quality control to create the most suitable version of ELASTOCOLOR WATERPROOF. MAPEBAND rubber tape was used to seal and waterproof the corners and edges between adjacent walls and joints between the walls and floors. MAPEBAND TPE tape, bonded with ADESILEX PG4 two-component, thixotropic epoxy adhesive

with modified rheology and covered with a layer of quartz sand, was used to seal and waterproof the expansion joints. MAPEFLEX PU50 SL one-component, castable polyurethane sealant with a low modulus of elasticity, suitable for joints with movements up to 25%, was chosen to seal the expansion joints in the surfaces, including some of the surfaces in the water features below MAPEBAND TPE. MAPEGROUT ME 06 shrinkage-compensated, super-fluid mortar, on the other hand, was used to seal around the openings provided in the floor of the water features to allow for the installation of water pipes and floor drains. Inside the tanks artificial rocks made from fibre-reinforced concrete were used to dress a metal frame which had been anchored

Photo 5. MAPELASTIC SMART, FIBREGLASS MESH and MAPETEX SEL were used to waterproof the surfaces in the fountains, tanks and water features.

Photos 6 and 7. After applying the first layer of MAPELASTIC SMART, FIBREGLASS MESH (replaced on several markets by MAPENET 150) was inserted before applying the second layer of MAPELASTIC SMART.

Photo 8. To waterproof the bases of the metal frame of the artificial rock formations in some water features, MAPELASTIC SMART was reinforced with MAPETEX SEL after applying ADESILEX PG4.

Photo 9. Sealing of the cross-piping elements and waterproofing of the edges was carried out with alkali-resistant MAPEBAND rubber tape.

to the base and sides of the tanks with bolts. MAPETEX SEL was applied around the anchorage points to guarantee continuity in the waterproofing layer. Before applying the waterproofing treatment, the metal bases of the frame were first coated with ADESILEX PG4 covered with a layer of quartz sand to create a rough surface and improve the bond of MAPELASTIC SMART, which was applied afterwards.

Laying Resilient Floor and Wall Coverings

Products from the Mapei line for laying resilient materials were also employed in Ferrari World. MONOFINISH one-component, normal-setting cementitious mortar was used to even out irregularities and uneven areas on various walls throughout the complex before laying wallpaper with ADESILEX MT 32 adhesive in water dispersion, a product suitable for bonding all types of wall coverings (vinyl paper, flocked, textiles, glass fibre textiles, etc.). PVC tiles were used to floor the entrance area for the games area, where visitors often have to queue before entering. In this case, the substrates were initially treated with PRIMER G, a synthetic resin-based primer in water dispersion with a very low emission level of volatile organic compounds (VOC), which was then smoothed over and levelled off with ULTRAPLAN MAXI self-levelling, ultra quick-hardening smoothing compound.



Photo 10. Various Mapei products were used in a number of tanks and water features for waterproofing and laying coverings.

Photo 11. Numerous Mapei adhesives and grouts were used to lay porcelain tiles, marble and glass mosaics in a number of areas.





IN THE SPOTLIGHT

MAPELASTIC SMART

It is a two-component, highly flexible cementitious mortar, to be applied by brush or with a roller, for waterproofing concrete surfaces such as foundations, retaining walls, balconies, terraces, basins and swimming pools and for protection against aggressive chemical agents.

MAPELASTIC SMART is used to protect new concrete structures, concrete structures repaired using special mortars from the MAPEGROUT or PLANITOP ranges, renders with hairline cracks and cementitious surfaces in general which, being subject to vibrations, may suffer from cracking, and for waterproofing hydraulic projects such as channels and faces of dams and swimming pools, basins, storage tanks, balconies and terraces. It is particularly suitable for waterproofing irregular surfaces.

MAPELASTIC SMART meets the requirements defined by **EN 1504-9** ("Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity – General principles for the use of products and systems") and the minimum requirements claimed by **EN 1504-2**,

coating (C) according to the **PI, MC and IR principles** ("Protection systems for concrete surfaces").

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

MAPENET 150

It is an alkali-resistant fibreglass mesh used to reinforce waterproof protection layers, anti-fracture membranes and cementitious smoothing and levelling layers.

The mesh is made from fibreglass treated with a special primer which makes it resistant to alkalis and improves its bond to all waterproofing and smoothing and levelling products, where its use is recommended. Once the smoothing and levelling compound or waterproofing layer has hardened, the fibreglass mesh reinforces the layer to protect against the formation of cracks due to movement in the substrate or the tiled surface. It also makes it easier to apply an even layer of smoothing and levelling compound approximately 2 mm thick and improves the systems resistance to temperature variations and abrasion. It is available in 50 metre rolls, 1 m wide.

Laying Ceramic and Natural Stone

Mapei also contributed to the construction of Ferrari World by supplying various products for laying porcelain, marble and glass mosaic on numerous surfaces, including in corridors, toilets and for the water features.

These products included a series of innovative adhesives, such as KERAPOXY ADHESIVE (two-component epoxy adhesive with no vertical slip) to lay marble slabs on the stairs; KERAFLEX MAXI high-performance, flexible cementitious adhesive (replaced on several markets by KERAFLEX MAXI S1) to bond white marble on the walls where the Ferrari logo was created and glass mosaic on the surfaces of the water features; KERABOND T cementitious adhesive with no vertical slip to lay ceramic tiles on the walls in the toilets and corridors.

Various grouts for joints were also used, such as ULTRACOLOR PLUS (high-performance, poly-



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Photos 12 and 13.


The artificial rock formations in some of the water features were made from fibre-reinforced concrete and used to cover a metal frame anchored in place with bolts. Before applying the waterproofing treatment, the metal bases were treated with ADESILEX PG4 covered with a layer of quartz sand to create a rough surface and improve bond of MAPELASTIC SMART, which was applied afterwards.

grout joints in ceramic coverings in the water features. The colours yellow and black were chosen for the latter product, available in 26 different colours, to blend in with the colours of the Ferrari logo. KERAPOXY DESIGN two-component, decorative, anti-acid, translucent epoxy mortar was used where red was required to grout the joints. This product, offers a distinctive advantage in that it is available in 15 different standard colours. KERACOLOR FF pre-blended, polymer-modified cementitious mortar with water-repellent DropEffect® technology, was used to grout the joints in ceramic coverings on the walls and floors in the toilets and cor-

mer-modified, anti-efflorescence, quick-setting and drying mortar with water-repellent DropEffect® and anti-mould BioBlock® technology) to grout joints in the white

marble walls and for ceramic and mosaic tiles in various areas and KERAPOXY (two-component, high-performance, anti-acid epoxy mortar with no vertical slip) to

ridors. Once again, a prestigious project on an international scale has shown that Mapei has the ability to supply solutions at the highest level without compromising the construction schedule, while guaranteeing extremely high quality for the work carried out.

The drawings and Ferrari World logo used for this article have been taken from the Italian magazine TSport, issue n° 278/March-April 2011, whom we kindly thank. 

TECHNICAL DATA

Ferrari World Park, Abu Dhabi (United Arab Emirates)

Period of Construction: 2008-2010

Period of the Intervention: 2009-2010

Intervention by Mapei: supplying products for preparing, waterproofing and levelling the substrates; for laying ceramic and stone materials on walls and floors; for bonding wallpaper and PVC floorings; for sealing the anchoring points within steel structures

Project: John Robertson Architects (USA), Benoy Architects (UK) and Ramboll (Denmark)

Client: Aldar Properties PJSC

Contractor: Aldar Besix (UAE)

Works Direction: Fara Abaspour (DEPA)

Laying Company: DEPA (EAU)

Mapei Co-ordinator: Tarana Daroogar, Mohammed Qunber, Daniele Spiga - IBS L.L.C. (UAE); Enrico Geronimi, Mapei SpA (Italy).

MAPEI PRODUCTS

The products mentioned in the article belong to the "Products for Ceramic Tiles and Stone Materials", "Building Speciality Line" and "Products for the Installation of Resilient and Textile Floor and Wall Coverings" ranges. The technical data sheets are available at the web site: www.mapei.com. 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. Mapei's adhesives for ceramics and stone materials conform to EN 12004 standard and have been awarded the CE mark in compliance with Annex ZA, standard EN 12004. Mapei grouts for ceramics and stone materials conform to EN 13888 standard. Mapei products for the protection and repair of concrete surfaces and structures have been awarded the CE mark in compliance with EN 1504 standards. Mapei membranes and cementitious mortars used for waterproofing before laying ceramics comply with EN 14891 standard. Almost all the Mapei products for laying floors and walls are also GEV-certified and have been awarded the EMICODE EC1 ("very low emission level of volatile organic compounds") mark by GEV. Mapei sealants comply with standard ISO 11600. More than 150 Mapei products contribute points to obtain the LEED (Leadership in Energy and Environmental Design) certification.

Waterproofing the substrates

Adesilex PG4 (CE EN 1504-4): two-component, thixotropic epoxy adhesive with modified rheology for bonding Mapeband, Mapeband Tpe, PVC strips and Hypalon and for structural bonds.

Elastocolour Waterproof: waterproof, easy-to-clean acrylic paint for internal and external surfaces in permanent contact with water.

Fibreglass Mesh: alkali-resistant fibreglass mesh for reinforcing protective waterproofing layers, anti-fracture membranes and thermal insulation systems. N.B. The product has been superseded in several markets by Mapenet 150.

Mapeband: alkali-resistant rubber tape with felt for cementitious waterproofing systems and liquid sheaths.

Mapeband TPE: TPE tape for flexible sealing and waterproofing expansion joints and cracks subject to movement.

Mapeflex PU50 SL (F-25-LM): paintable, castable polyurethane sealant with a low modulus of elasticity for movements up to 25%.

Mapelastico Smart (CE EN 1504-2, coating (C), principles PI, MC and IR; EN 14891): two-component, high-flexibility cementitious mortar applied by brush or with a roller, for waterproofing concrete surfaces such as balconies, terraces, bathrooms and swimming pools and for protecting against aggressive agents.

Mapetex Sel: macro-holed, non-woven polypropylene fabric for reinforcing waterproofing membranes.

Laying ceramics and stone materials

Kerabond T (CE EN 12004, C1T, EC1 R): cementitious adhesive with no vertical slip for ceramic tiles.

Keracolor FF (CG2, EC1 R): pre-blended, high-performance, polymer-modified cementitious mortar with water-repellent DropEffect® technology for grouting joints up to 6 mm wide.

Keraflex Maxi (CE EN 12004, C2TE S1): high-performance deformable cementitious adhesive with no vertical slip, extended open time for ceramic tiles, particularly recommended for laying large porcelain and natural stone tiles. N.B. The product has been superseded on several markets by Keraflex Maxi S1.

Kerapoxy (CE EN 12004, R2T; RG): two-component, high-performance, anti-acid epoxy mortar and adhesive with no vertical slip for laying and grouting ceramic tiles and stone material.

Kerapoxy Adhesive (CE EN 12004, R2T): two-component epoxy adhesive with no vertical slip for ceramic tiles and stone material.

Kerapoxy Design (CE EN 12004, R2; RG): two-component, anti-acid, decorative, translucent epoxy mortar for grouting glass mosaic, ceramic tiles and stone material, used in combination with MapeGlitter for a particularly attractive and high quality finish. May also be used for bonding.

Ultracolor Plus (CG2; EC1): high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent DropEffect® and anti-mould BioBlock® technology for grouting joints from 2 to 20 mm wide.

Laying resilient coverings and wallpaper

Adesilex MT32: adhesive in water dispersion for laying all types of wall resilient coverings (tufted wallpaper, flock-print, heavy fabrics, fibreglass fabrics, etc).

Monofinish (CE EN 1504-2, R2; CE EN 1504-3 coating (C) principles MC and IR): one-component, normal-setting cementitious mortar for smoothing concrete and cementitious render.

Primer G (EC1): synthetic resin primer in water dispersion with a very low emission level of volatile organic compounds (VOC).

Ultraplan Maxi (CE EN 13813, CT-C35-F7-A2_n-s1; EC1): self-levelling, ultra quick-hardening smoothing compound for thicknesses from 3 to 30 mm.

Sealing water system elements

Mapegrout ME 06: super-fluid mortar with compensated shrinkage. N.B. The product is distributed on the UAE market by IBS L.L.C.



Photo 1. The large glass window which illuminates the foyer.



Photo by Trond Isaksen

The Oslo opera house

An evocative building overlooking the North Sea has become the new home of Norwegian opera and ballet

The home of the Norwegian National Opera and Ballet and the National Opera Theatre, the Oslo Opera House, rises in the ex-docks area on the peninsula of Bjørvika, at the start of the fjord overlooked by the capital of Norway.

Due to its vicinity with the city centre, the entire area will be transformed into a residential and commercial area. And the new structure is considered to represent just a starting point for the new urban development of the area by designers and investors alike. A tunnel underneath the fjord is currently under construc-

tion, in order to eliminate all the road traffic so that a green area may be developed around the Opera House.

This grandiose national theatre, which the Norwegian people have been waiting for for more than one hundred years, was inaugurated by King Harald V in April, 2008 and is the largest cultural centre built in Norway since 1300, the inaugural year of the Cathedral of Trondheim.

An international tender for the construction of the theatre was published in 1999. The winner, chosen from among 350 participants, was the Norwegian design

A WAIT OF MORE THAN 120 YEARS

1881. An Oslo daily paper announces that the capital will soon have its own Opera House.

1998. Vestbanen is proposed as a suitable location to build the new Opera House, but the idea is rejected by the Norwegian parliament.

1999. Three options are proposed to Parliament for the site: Vestbanen, Bjørvika and the Folketeater. On the 15th of June, the majority deliberates in favour of constructing the new theatre on Bjørvika.

2000. An international architectural competition is presented by the Norwegian Ministry for Cultural and Ecclesiastical Affairs to choose the best project. 240 projects are accepted for the competition, the winner is the Norwegian design studio Snøhetta.

2001. The final design for the new Opera House, with the signature of Snøhetta design studio, is presented.

2002. The Norwegian Government officially approves the design for the new theatre in Oslo.

2003. In mid-February, work officially starts on Bjørvika.

2004. In September, King Harald V laid the first stone.

2005. In mid-May the Stage Tower, the highest structure of the theatre complex, is completed.

2006. Work starts on the inside of the theatre.

2007. In the Winter, the complex is handed over to the client.

2008. In April, the Opera House is inaugurated in the presence of the Norwegian Royal Family (in the photo to the side).





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studio Snøhetta, which may boast the construction of the new library in Alessandria (Egypt) amongst its reference list of projects.

The Opera House also won the World Architecture Festival held in Barcelona in 2008 and the Mies van der Rohe Award at the European Union Prize for Contemporary Architecture in 2009.

Construction started in 2003 and was completed five years later. The execution of the project was particularly complex with more than 50 companies being involved, all working together to create this imposing building with some of the most technologically advanced features. Visitors can now see the building as being completely covered with white marble from the quarries in the Apuane Alps, apart from a strip at the base of the building made using local granite, which is partially immersed in saltwater and exposed to the local freezing winter weather.

When choosing the snow-white Carrara marble covering, the designers wanted to remind us of the Arctic landscape which characterises the northern part of the country, while at the same time creating a monolithic-like structure, reminiscent of a cliff of ice, divided into a series of inclined levels, with a large glass wall reaching out towards the bay to create movement in the lines of the building.

The spaces inside the Opera House cover an area of 38,500 m², sub-divided into three main sections: the actual theatre part of

the building with two theatres with 1400 and 440 seats, a foyer covered in oak, ticket booths, cloak-room, bars, restaurants, services and conference and teaching facilities; rehearsal rooms and the administration offices; an area dedicated to workshops for the scenery, costumes and make-up.

Mapei's Role in the Project

Such a challenging structure, for its sheer size and materials used in its construction, had to count on tried and tested, high quality products suitable for the damp climate and rigid winter, with the capacity of supporting the passage of thousands of people throughout the year.

The designers of the building turned to Rescon Mapei AS, the Norwegian subsidiary of the Mapei Group, which recommended the best and most suitable products for such an avant-garde project.

Concrete Repair and Structural Anchoring

The designers wanted the foyer of the Opera House to be illuminated by a large glass wall, supported by a seemingly fragile metallic structure, which changes colour according to the time of day and the weather conditions: opaque grey on windy days or reflective blue during fair weather, and then with a softer light at the onset of dusk. In the foyer area and in the two theatres where the performances are held, Rescon Mapei AS supplied a series of products for

Photo 2. Rescon Mapei AS (the Norwegian subsidiary of the Mapei Group) supplied a series of products for structural bonding and for anchoring the metallic components: MAPEPOXY LR, MAPEPOXY UV-L, MAPEPOXY BI and NONSETT 120.

Photos 3 and 4. The concrete elements suffered from cracking. Rescon Mapei AS recommended using several products tested specifically for the repair of concrete: MURTETT, REDIREP 25 RSF and CONFIX.



the repair of concrete (MURTETT, REDIREP 25 RSF and CONFIX) and for structural bonding with epoxy resin and fluid mortar products for anchoring purposes (MAPEPOXY LR, MAPEPOXY UV-L, MAPEPOXY BI and NONSETT 120).



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These products are manufactured and distributed in the Northern European countries by Rescon Mapei AS.

Waterproofing and the Installation of Ceramic Tiles and Glass Mosaics

The substrates in the bathrooms were waterproofed using MAPEGUM WPS quick-drying flexible liquid membrane, ideal for waterproofing damp environments before laying tiles. The surfaces were then treated with the synthetic resin-based primer in water dispersion PRIMER G.

To cover the walls and floors, the designers chose 1x1 cm glass mosaic tiles and 10x10 cm ceramic tiles, in an anthracite-grey colour. KERAFLEX MAXI S1 high-performance cementitious adhesive with Low Dust technology and MEGAFIX LIGHT one-component, cementitious adhesive, manufactured and distributed in the Northern European countries by Rescon Mapei, were recommended for laying the coverings. All the joints between the mosaic and ceramic tiles were grouted with ULTRACOLOR PLUS high-performance mortar with DropEffect® technology, which guarantees excellent water repellence, and is anti-mould with BioBlock® technology. The expansion joints were then sealed with MAPESIL AC and MEGATEC sealants, the latter of which is manufactured and distributed in the Northern European countries by Rescon Mapei AS.

Photo 5. The bathrooms substrates were waterproofed with MAPEGUM WPS. The adhesives KERAFLEX MAXI S1 and MEGAFIX LIGHT were used to lay the glass mosaics and ceramic tiles, while ULTRACOLOR PLUS was used to grout the joints.

Photo 6. An oak covering characterises the entrance to the theatre.

IN THE SPOTLIGHT

KERAFLEX MAXI S1

It is a deformable (S1), improved (2) slip resistant (T) cementitious adhesive (C) with extended open time (E) of class C2TE S1 according to EN 12004 standard.

It is particularly suitable for interior and exterior bonding, up to 15 mm thick, of ceramic tiles of every type and size (single and double fired tiles, porcelain tiles, klinker, terracotta, etc.) on uneven substrates and renders; for bonding stone materials, provided that they are not sensitive to moisture; for spot bonding of insulating material in interior such as expanded polystyrene, rock and glass wool,




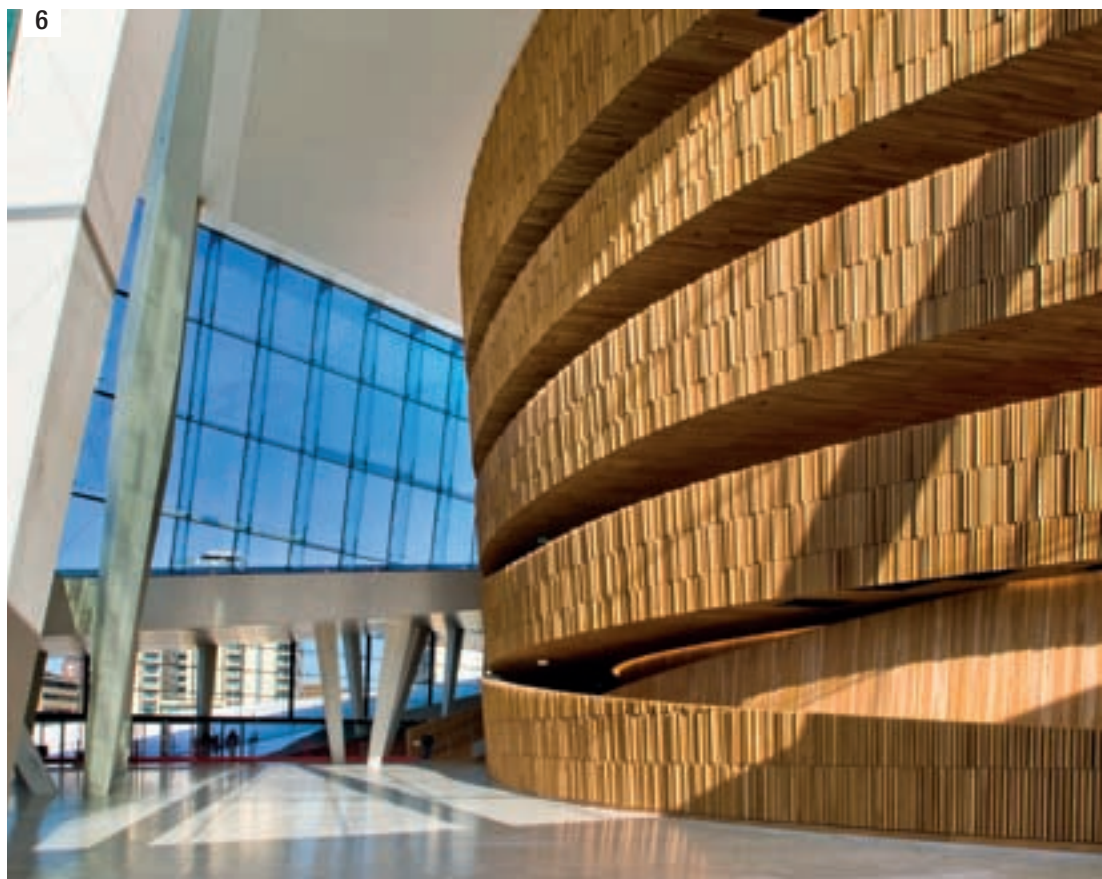
Eraclit® (wood-cement panels), sound-deadening panels, cork, etc. The innovative Low Dust technology which characterises this adhesive, allows the amount of dust emitted while mixing the product to be drastically reduced compared with standard cementitious Mapei adhesives, making the work area more comfortable and healthy for floor layers.

It features low viscosity, therefore it is easily workable; it is highly thixotropic and can be applied on a vertical surface without sagging or letting even heavy and large tiles slip. It has good capability to accommodate the different deformation of the covering from the substrate. It ensures perfect bonding to all materials normally used in building. It has a particularly extended open and adjustability time, facilitating installation.

Laying the Parquet

Mapei also supplied its own product to lay the parquet in one of the small rehearsal rooms used by performers in the thea-

tre: ULTRABOND P990 1K one-component, solvent-free adhesive with a very low emission level of volatile organic compounds (VOC). 



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TECHNICAL DATA

The Opera House, Bjørvika, Oslo (Norway)
Period of Construction: 2002-2008

Period of the Intervention: 2007-2008

Intervention by Mapei: supplying products for laying and grouting mosaics and

ceramic tiles in the bathrooms, restoring concrete, anchoring structures and laying parquet

Client: Statsbygg - Norwegian Ministry for Cultural and Ecclesiastical Affairs, Oslo

Designers: Studio Snøhetta AS and Reinertsen Engineering ANS

Contractors: AF Scandinavia, Norma and Norsk Epoxy AS

Mapei Co-ordinators: Lars Andersen and Tony Hamran, Rescon Mapei AS (Norway)

MAPEI PRODUCTS

The products mentioned in the article belong to the “Products for Ceramic Tiles and Stone Materials” and “Products for the Installation of Wooden Floors” 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 standard and have been awarded the CE mark in compliance with Annex ZA, standard EN 12004. Mapei grouts for ceramics and stone materials conform to EN 13888 standard. Almost all the Mapei products for laying floors and walls are also GEV-certified and have been awarded the EMICODE EC1 (“very low emission level of volatile organic compounds”) mark by GEV. Mapei plasticizers and superplasticizers for mortars and concrete have been awarded the CE mark in compliance with standard EN 934-2 and EN 932-4 standard. Mapei products for repairing and protecting concrete structures comply with EN 1504 standard. Mapei cementitious mortars and membranes used for waterproofing before installing ceramics comply with EN 14891 standard. Mapei sealants conform to ISO 11600 standard. More than 150 Mapei products can contribute to obtain the LEED (Leadership in Energy and Environmental Design) certification.

Waterproofing and laying ceramic tiles and mosaics

Keraflex Maxi S1 (C2TE S1, CE EN 12004): high-performance deformable cementitious adhesive with no vertical slip, extended open time and Low Dust technology for ceramic tiles, particularly recommended for laying large porcelain tiles and natural stone.

Mapegum WPS: quick-drying flexible liquid membrane for waterproofing internal surfaces.

Mapesil AC (F-25-LM): pure, anti-mould, acetic silicone sealant for movements up to 25%.

Megafix Light: one-component, cementitious adhesive. N.B. The product is manufactured and distributed in the Northern European countries by Rescon Mapei AS.

Megatech: polymer based highly deformable sealant. N.B. The products is manufactured and distributed in the Northern European countries by Rescon Mapei AS.

Primer G (EC1): synthetic resin primer in water dispersion with a very low emission level of volatile organic compounds (VOC).

Ultracolor Plus: high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent DropEffect® and anti-mould BioBlock® technology for grouting joints from 2 to 20 mm wide.

Concrete repair

Confix: mortar for repairing concrete to be applied by spraying.

N.B. The product is manufactured and distributed in the Northern European countries by Rescon Mapei AS.

Murtett: cement mix for repairing concrete. N.B. The product is manufactured and distributed in the Northern European countries by Rescon Mapei.

Redirep 25 RSF: mortar for repairing concrete. N.B. The product is manufactured and distributed in the Northern European countries by Rescon Mapei AS.

Structural anchoring and bonding

Mapepoxy LR: epoxy adhesive. N.B. The product is manufactured and distributed in the Northern European countries by Rescon Mapei AS.

Mapepoxy UV-L: solvent-free epoxy resin, especially suitable for underwater bonding. N.B. The product is manufactured and distributed in the Northern European countries by Rescon Mapei.

Mapepoxy BI: solvent-free, low viscosity epoxy resin for injections.

Nonsett 120: fluid expansive mortar for anchoring. N.B. The product is distributed in the Northern European countries by Rescon Mapei AS.

Laying parquet

Ultrabond P990 1K (EC1 R): one-component, ready-to-use, solvent-free, flexible polyurethane adhesive for all types of parquet on screeds made from Mapecem, Mapecem Pronto, Topcem and Topcem Pronto, cementitious screeds, old wooden, ceramic, marble and terrazzo floors, etc.



Photo by Trond Isaksen

The floating sculpture

Steel and glass for the installation located in the sea opposite the Oslo Opera House

On the 11th of May last year, in the stretch of sea overlooked by the Opera House of Oslo, Queen Sonja of Norway inaugurated the sculpture “She lies” by Monica Bonvicini. Originally from Venice, the artist uses her works to express the relationship between architecture and man, and also often includes many historical and artistic references. In fact, for “She lies”, she was freely inspired by the romantic painter Caspar David Friedrich and his famous painting “Das Eismeer”.

In fact the sculpture, as with the painting itself, represents the force of nature and man’s belief in his own ability to control nature and its elements.

The three-dimensional sculpture/installation won the “Aquatic Project” competition announced in 2007 to complete the programme of works of art which decorate the Opera House. The competition asked artists to propose works of art which illustrate the close bond of Norway’s history and identity with the sea.

The 12 m high and 17x6 m struc-

ture sits on concrete base and weighs 335 tonnes. It has been formed around an open stainless steel framework partially covered with semi-transparent panes of glass which reflect each other.

The transparency of the glass, the varying atmospheric conditions and continuously changing light from the sea all contribute to modify one’s perception of the sculpture.

From the coast, admirers may view the installation from an ever-changing perspective, with the sculpture itself in continuous movement and rotating on its own axis according to the direction of the wind and the force of the waves. At night, to achieve the same mutation effect, the sculpture is illuminated by shafts of light from lighthouses situated along the coast.

The company which coordinated the installation of the sculpture contacted Rescon Mapei AS, the Norwegian subsidiary of the Mapei Group, to supply a product which could be used to grout the panes of tempered glass fixed on the steel structure to the concrete base.

Above.

The sculpture “She lies” is located opposite the Opera House.

The panes of glass were grouted with MAPECOAT UNIVERSAL mixed with Sylotix.

The Rescon Mapei AS Technical Service Department suggested MAPECOAT UNIVERSAL transparent epoxy resin, produced and distributed in the Northern European countries by Rescon Mapei AS. In this particular case, to increase its consistency and viscosity, the resin was mixed with Sylotix calibrated grain size compound.

So even an evocative work of art in a “difficult” environment such as this carries the Mapei signature.



TECHNICAL DATA

“She lies” sculpture, Oslo (Norway)

Year of Construction: 2010

Year of the Intervention: 2010

Intervention by Mapei: supplying products for grouting glass panes on the steel structure

Client: Kistefos AS (sponsor of the “She lies” project)

Project: Studio Riksantikvaren; work of art by Monica Bonvicini

Mapei Co-ordinator: Helge Aasen, Rescon Mapei AS (Norway)

MAPEI PRODUCTS

The product mentioned in the article is manufactured and distributed in the Northern European countries by Rescon Mapei AS, the Norwegian subsidiary of the Mapei Group. The technical data sheet is available at www.mapei.no.

Mapecoat Universal: two-component, solvent-free transparent epoxy resin.

Photo by Fotograf Tærud



FramMuseet

The thermal insulation of an historical museum in Oslo with a Mapei composite system

Three sights not to be missed by anybody visiting Oslo are the museums dedicated to boats and explorers: the Viking Ship Museum, the Kon-Tiki Museum, home of the raft used by the Norwegian ethnographer and adventurer Thor Heyerdhal to cross the Pacific Ocean, and the FramMuseet, which recounts the history of Norwegian polar expeditions.

The latter one, with its characteristic triangular roof, is located on the peninsula of Bygdøy near to Oslo, and inside there is just one ship, the Fram, used for three famous expeditions in the Arctic and Antarctic Oceans: the one led by Fridtjof Nansen from 1893 to 1896, the one led by Otto Sverdrup between 1898 and 1902 and the last one led by Roald Amundsen, the most famous of all the polar explorers, from 1910 to 1912. It

was built in 1892, and is considered to be the wooden ship which has navigated the most to the North and South of the globe. In order to face up to the dangers of the long polar winters, it was designed and built with a completely smooth hull to exploit the movements of the ice and then actually climb and float on the ice-pack. It has enormously powerful internal strengthening and a rudder and propeller which can be raised to avoid them getting

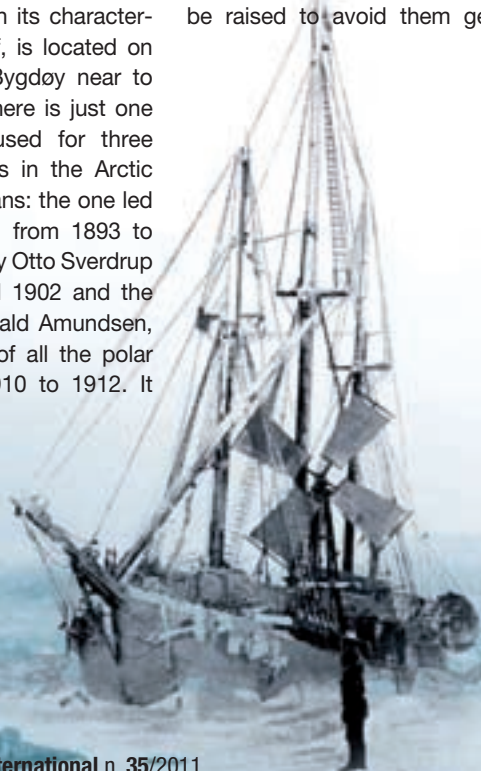


Photo 1. The main entrance of the FramMuseet and its characteristic cabin roof.

Photo 2. The outside of the museum was the subject of an intervention using the MAPETHERM thermal insulation system. The façades were then treated with SILEXCOLOR PRIMER and SILEXCOLOR TONACHINO mineral coating.

caught up in the ice-pack.

The museum which houses the ship was inaugurated in 1936, and it is possible to visit the inside of the Fram along with all its equipment and objects, which to this day are still intact. The museum was renovated in 2010, which included the installation of a thermal insulation system for the external walls. The thermal insulation system may be positioned on the inner walls, in the gap in the perimeter wall or on the external wall and the aim is to offer sure, continuous thermal insulation for walls made from various materials.

Thermal insulation systems may

IN THE SPOTLIGHT

MAPETHERM SYSTEM

The MAPETHERM thermal insulation system proposed by Mapei is an effective answer to the new requirements regarding lower energy consumption in buildings, and is also the only solution which may be easily applied on existing buildings to upgrade their energy requirements. It consists in the application of the following elements to the perimeter walls of a building, through which more than 50% of energy losses is estimated to occur: a layer of adhesive; an extruded polystyrene insulating panel; a first layer of levelling mortar; primed glass fibre net; a second layer of levelling mortar; a finishing cycle. The MAPETHERM system offer the following advantages: living comfort; preservation of the structure tied to the elimination of conditions of stress in the wall, of the negative effects of thermal bridges and interstitial condensation phenomenon; reduction in energy consumption for heating during the Winter and for air conditioning during the Summer; savings may be calculated to be about 30%; an increase in the value of a property located in a building with a higher energy classification rating; a reduction in greenhouse-gas emissions.



Photo 3. The Fram, the ship used for polar expeditions to the Arctic and Antarctic oceans.



be applied on both new and old buildings for various final uses (residential, industrial and commercial). The system guarantees higher energy efficiency for the building and improved thermal comfort in the Summer and Winter. The system may be installed relatively quickly while limiting disruption for those who work or live in the building.

Installation of a Thermal Insulation System


The MAPETHERM thermal insulation system for external walls of buildings was used to insulate the walls of the FramMuseet, a system specially developed and tested by Mapei. Before carrying out installation of the thermal insulation system, the old covering on the wall had to be completely removed.

MAPETHERM AR1 one-component, cementitious mortar was then used to bond and smooth over the insulating panels. An even coat of this product was applied over the entire surface of the insulating panel with a notched trowel, apart for a 2 cm wide strip around the perimeter, to avoid the adhesive flowing into the joints

between adjacent panels and forming a thermal bridge due to its higher conductivity. After laying and bonding the insulating panels, MAPETHERM PROFIL aluminium angle irons with incorporated glass fibre mesh were applied around all the corners. Before laying these strengthening elements, a layer of MAPETHERM AR1 was applied around the corners, and then the MAPETHERM PROFIL was laid onto it so that the adhesive could flow through the holes in the element. 24 hours after bonding the panels, they were smoothed over using, again, MAPETHERM AR1. While this layer was still fresh, MAPETHERM NET alkali-resistant glass fibre mesh was laid on the layer. After a further 24 hours, a second layer of MAPETHERM AR1 was applied to form an even layer and to completely embed the mesh.

Then, after several days, when the smoothing layer had dried out, the surface was finished off using the SILEXCOLOR system.

The façades were first treated with SILEXCOLOR PRIMER modified potassium silicate based primer in water dispersion, to even out the absorption of the successive coating. Once the primer was completely dry, the façade was treated with 0.7 mm grain size SILEXCOLOR TONACHINO mineral coating which, when dry, forms a single body with the substrate without modifying its permeability to water vapour.

An excellent final result to the project with the application of Mapei products for thermal insulation. 

TECHNICAL DATA

FramMuseet, Oslo (Norway)

Designer: Riksantikvaren

Year of Construction: 1936

Year of the Intervention: 2010

Intervention by Mapei: supplying products for applying a thermal insulation system on external façades

Client: Norsk Maritimt Museum

Contractor: Furuset Entrepreneur AS

Mapei Co-ordinator: Stein Age Lysgard, Rescon Mapei AS (Norway)

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.

More than 150 Mapei products can contribute to obtain the LEED (Leadership in Energy and Environmental Design) certification.

Thermal insulation

Mapetherm AR1: one-component, cementitious adhesive and smoothing and levelling compound for thermal insulation systems.

Mapetherm Net: alkali-resistant glass fibre mesh for reinforcing base layers in thermal insulation systems.

Mapetherm Profil: pre-mounted aluminium angle iron incorporated with alkali-resistant glass fibre mesh.

Coatings

Silexcolor Primer: silicate primer specifically formulated to even out the absorption of substrates and improve the bond of Silexcolor Paint, Silexcolor Tonachino and Silexcolor Marmorino, according to DIN 18363 standard.

Silexcolor Tonachino: transpirant, thick-layered silicate coating product with high filling properties for internal and external surfaces.



1



Saint-Charles station in Marseille

Marble floors for a prestigious renovation and development project

Thanks to its port, cosmopolitan population and millenary culture, Marseille was once known as “the meeting place of the entire world”. Second only to Paris for number of inhabitants, Marseille has not lost any of its charm and today may be considered the capital of the South of France, with its natural beauty and artistic heritage a magnet for the numerous visitors to the city.

Many of them arrive at the Gare Saint-Charles, the main railway station which overlooks the city from the Saint-Charles plateau. Inaugurated in 1948, the station is formed by a large U-shaped building along the lines of the main Paris stations, in which 16 railway lines come to an end. Opposite the station, a magnificent flight of steps which descend towards the city is adorned with imposing sculptures and classified as an his-

torical monument. After 10 years of renovation work, the newly renovated and extended station was inaugurated in December 2007. At just three hours from Paris thanks to the high-speed railway, Saint-Charles station was a “victim” of its own success with traffic volumes doubling since 2000, and so the rebuilding had become indispensable. A large glass canopy covering an area of 6400 m² and supported by 64 white stone columns was added to the original building. Under the canopy, a large, light-filled entrance hall plays host to 24 large pine trees which have been replanted.

The result is an extremely warm, welcoming ambience to welcome the 15 million passengers which pass through Saint-Charles station every year.

This particular renovation and modernisation project is just a part of Euroméditerranée, an urban



Photo 1. The new entrance hall in Saint-Charles station in Marseille.

Photo 2. The cream-coloured marble was laid using GRANIRAPID cementitious adhesive. The anchorage blocks in the floors, on the other hand, were made from MAPEGROUT COULABILE F controlled-shrinkage mortar.

renovation and cultural and economic development project of the city of Marseille. Mapei took part in this work by supplying its products for laying the marble along the railway platforms.

Mapei's Contribution

The restoration work included renovating the terminals and waiting areas for the TGV high-speed railway lines. The laying company chose Mapei products for bonding the 30 mm-thick Monte Caume cream-coloured marble floors, chosen in different sizes, for a total surface area of 2500 m².



IN THE SPOTLIGHT

GRANIRAPID

It is a high performance, deformable, fast setting and hydration, two-component cementitious adhesive for ceramic tiles and stone material. It is particularly suitable for the installation of stone material that is moderately unstable to moisture and requires a rapid drying of the adhesive. It is suitable for bonding floors subject to heavy traffic. Because of its extraordinary bonding and fast-

setting characteristics, GRANIRAPID is particularly suitable for rapid re-tiling jobs and flooring that has to be in service within very short time (supermarkets, industries, hospitals, airports, swimming pools, etc.). GRANIRAPID is classified as **C2F S1** according to European standard **EN 12004** and has been awarded the **CE** mark in compliance with Annex ZA, standard **EN 12004**. It can contribute up to **5 points** to obtain the **LEED** (Leadership in Energy and Environmental Design) certification.





Photos 3 and 4. The marble installation work was carried out at the terminals and in the waiting areas of the high-speed railway lines. GRANIRAPID was used to bond the marble slabs.

the various elements had to be incorporated in the floors. MAPEGROUT COULABLE F was chosen for this operation, a fibre-reinforced, controlled-shrinkage mortar which allows concrete elements to be repaired and reinforced whenever a fluid product is required. This product is distributed on the French market by Mapei France. Its properties make it similar to MAPEGROUT HI-FLOW, available on the international market. This mortar was used to make the anchoring blocks and to fill the spaces between the various elements.

Saint Charles station is today one of the largest buildings in Marseille. Larger, safer and better equipped, it is now capable of welcoming its 45,000 daily visitors in a light-filled, modern environment, thanks also to the contribution of Mapei.

This article was taken from Mapei & Vous, issue n.27/2009, the in-house magazine published by Mapei France, the French subsidiary of the Mapei Group, whom we would like to thank.

TECHNICAL DATA

Saint-Charles Railway Station, Marseille (France)

Year of Construction: 1948

Year of the Intervention: 2007

Intervention by Mapei: supplying products for laying marble on the floors

of the terminals and waiting areas, as well as for floor anchoring

Designer: Jean-Marie Duthilleul, M.P. Le Jacques, M. Fabry, studio AREP

Client: SNCF (Société Nationale des Chemins de fer français)

Laying Company: Mattout, Marseille

Laid Materials: marble slabs

Works Direction: Socotec, Saint Quentin en Yvelines (France)

Mapei Co-ordinator: Xavier Arribat, Mapei France

MAPEI PRODUCTS

The products mentioned in the article belong to the "Products for Ceramic Tiles and Stone Materials" and "Building Speciality Line" ranges. The technical data sheets are available at the web site www.mapei.com. Mapei's adhesives for ceramics and stone materials conform to EN 12004 standard and have been awarded the CE mark in compliance with Annex ZA, standard EN 12004. Mapei products for the protection and repair of concrete surfaces and structures have been awarded the CE mark in compliance with EN 1504 standards. Most of the Mapei products for laying floors and walls are also GEV-certified and have been awarded the EMICODE EC1 ("very low emission level of volatile organic compounds") mark by GEV. More than 150 Mapei products contribute to obtain the LEED (Leadership in Energy and Environmental Design) certification.

Granirapid (EN 12004, C2F S1, EC1): two-component, high-performance, deformable, quick-setting and drying cementitious adhesive for ceramic tiles and stone material.

Mapegrount Coulable F (EN 1504-3, R4): fibre-reinforced, controlled-shrinkage mortar for repairing concrete. N.B. The product is distributed on the French market by Mapei France. Its properties make it similar to MAPEGROUT HI-FLOW, available on the international market.

The marble was laid on the concrete substrate with white GRANIRAPID two-component, high-performance cementitious adhesive, perfect for laying floors subject to intense traffic.

Thanks to its characteristics (exceptional bonding strength, quick setting and drying properties) GRANIRAPID is particularly suitable for bonding marble.

A number of newspaper and snack kiosks had to be installed on the platforms, so anchoring points for

Granirapid



Application

Two-component high performance fast-setting and hydrating cementitious adhesive for ceramic tiles and stone material.

- **Particularly suitable for bonding stone material with fast drying times**
- Particularly suitable for rapid re-tiling jobs or flooring that has to be ready for use within very short times (supermarkets, hospital, swimming pools, etc.)
- Suitable for bonding floorings subject to heavy traffic



Hotel Vincci Baixa in Lisbon

Urban restoration in the ancient centre of the Portuguese capital

The Spanish hotel chain Vincci Hoteles has hotels all over Spain, in New York, in Tunisia and now also in Portugal. In fact, the first Vincci hotel in Portugal opened its doors to guests on the 24th of July 2008 in Lisbon.

Situated in the heart of the ancient part of the city, the Vincci Baixa is located in one of the liveliest parts of Lisbon, the commercial area of Baixa, a neighbourhood teeming

with shops, bars and restaurants. Baixa is the part of the city which runs from the banks of the river Tago to the main thoroughfare of Lisbon, Avenida de Liberdade, and was completely rebuilt after the devastating earthquake in 1755, the first example of a large-scale rebuilding plan of an entire city neighbourhood in Europe. The privileged location of the hotel, just a few metres from Praça do Comércio square

and the Cathedral, and close to Elevador de Santa Justa lift from where you may enjoy a view of the whole city, allows guests to easily see on foot the most characteristic areas in Lisbon.

The Vincci Baixa has 66 rooms in two renovated buildings which overlook Rua do Comércio and Rua de São Julião in the centre of the ancient part of Lisbon.

The seventeenth-century lines of the hotel are reminiscent of the refined buildings of a cosmopolitan city, without forgetting the comfort of the furnishings and fine finishes with which the guests, divided equally between tourists and businessmen, are now familiar.

Photo 1. An image of the hotel after the restoration work, which included the use of MAPETHERM system for the thermal insulation and QUARZOLITE TONACHINO for the finishing coating.





3

Photo 2. The upper part of the façade was insulated with the MAPETHERM insulating system.

Photo 3. The façade of the hotel was covered with Portuguese *azulejos* (ceramic tiles) laid with KERAFLEX MAXI. Joints were grouted with ULTRACOLOR PLUS.

Photo 4. The Portuguese actor Chaby Pinheiro was born in the building in 1873.

Waterproofing the Foundations

Restoration of the Vincci Baixa hotel was particularly complex, not only from a structural point of view, but also from a town planning point of view due to its position in the heart of the ancient part of the city. Now, thanks to its perfect insertion into the fabric of the city, it has become a reference point for other restoration projects.

In spite of the problems and difficulties encountered on site, the Vincci Baixa hotel opened its doors just eighteen months after the start of work, as specified by the client. Because of the complexity of the work and the short lead-time of the project, the company entrusted with the restoration work contacted the Technical Service Department of Lusomapei S.A. (the Portuguese subsidiary of the Mapei Group) for support, who assisted the designers on both the structural project and the internal finishing.

The structure of the building was subjected to particularly high hydrostatic pressure, and in this specific case the Technical

Service Department proposed the use of MAPEPROOF bentonite waterproofing sheets for all the foundations.

The internal facing walls were strengthened with a reinforced concrete bulkhead. In this case, to anchor the steel reinforcing rods, MAPEGROUT HI-FLOW fibre-reinforced, compensated-shrinkage mortar, MAPEGROUT SV pourable mortar and MAPEFILL expansive fluid mortar for anchoring were used. MAPEFER cementitious mortar was applied to protect the steel reinforcing rods from corrosion.

Thermal Insulation and Protection of the Façade

On the upper parts of the external walls, the designers had decided to apply a thermal insulation system, and the MAPETHERM system was chosen for this intervention.

MAPETHERM AR1 one-component, cementitious mortar, specifically developed for laying insulating panels, was used to bond and level over the panels. MALECH undercoat, which regulates the absorption of substrates and pro-

motes a good bond with finishing products, was used to prepare the surfaces before applying the final treatment.

The final coating chosen in this case was QUARZOLITE TONACHINO for external walls. Made from acrylic resins in water dispersion, selected filler materials, quartz and light-resistant pigments, this product is resistant to atmospheric agents, salt and smog and has good water-repellent properties and breathability.

Strengthening Floor Slabs and Stairs

The floor slabs and stairs were strengthened on the sides of the building using metallic profiles which run around the construction and which also act as reinforcement. The profiles were anchored to the walls with MAPEGROUT THIXOTROPIC fibre-reinforced, controlled-shrinkage mortar.

Waterproofing the Lifts

The hotel has 4 lifts, two for service use and two for the hotel guests. The well shafts were waterproofed with IDROSILEX PRONTO osmotic cementitious mortar. The

IN THE SPOTLIGHT

ADESILEX P24 PLUS

It is a ready-to-use, high-performance adhesive paste with no vertical slip and long open time for ceramic tiles.

It is particularly suitable for interior and exterior bonding of ceramic tiles of every type and size (single and double fired tiles, porcelain tiles, terracotta, etc.) on traditional substrates as well as on concrete structures, pre-cast concrete panels, fibre-cement, gypsum plaster and wooden panels as long as sufficiently constrained and with slight deformations. It is especially suitable for installing on gypsum surfaces.

The product is only available on the Portuguese market, where it is distributed by Lusomapei,

the Group's Portuguese subsidiary.

The counterpart available on the international market is ADESILEX P25.

KERALASTIC

It is a two-component, high-performance, polyurethane adhesive for ceramic tiles and stone material, classified as **R2** according to **EN 12004** standard. It features easy workability; perfect adhesion on all surfaces used in building; it hardens by chemical reaction without shrinkage until it becomes highly resistant; it is highly deformable; if applied in a continuous layer, it ensures perfect waterproofing before installing tiles with the same product. It is also available in thixotropic version (KERALASTIC T), which can be applied vertically without slump and without letting even heavy or large tiles slip.

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





internal floors in the lift cabins were covered with stone slabs and KERALASTIC two-component polyurethane adhesive was recommended for laying the slabs on the metal substrates.

Laying on the Inside...

The showers in all the rooms in the Vincci Baxia hotel were waterproofed with MAPELASTIC cementitious mortar. It is supplied in two pre-dosed components which are mixed together without adding water and applied either

Photo 5. The stone slabs on the floors in the lifts were laid with KERALASTIC.

Photo 6. The ceramic tiles in the bathrooms were laid on the plasterboard walls with ADESILEX P24 PLUS and joints were grouted with ULTRACOLOR PLUS. The showers surfaces had first been waterproofed MAPELASTIC.



with a flat trowel or by spray on clean surfaces. In this case, to increase the strength, glass fibre mesh was inserted between one coat and another.

MAPELASTIC forms a highly-flexible, waterproof protective coat on the surface.

ADESILEX P24 PLUS quick-setting and drying adhesive paste was used to lay the ceramic tiles on the plasterboard walls. This product is only available on the

Portuguese market and is distributed by Lusomapei S.A..

The joints were grouted with ULTRACOLOR PLUS high-performance mortar with DropEffect® technology, which guarantees excellent water repellence, and anti-mould BioBlock® technology.

The same Mapei products were also used to bond the *azulejos*, glazed ceramic tiles in different shades of blue and white, on a panel used to decorate the lounge



on the ground floor where breakfast is served.

GRANIRAPID two-component cementitious adhesive was used for laying natural stone floor slabs in the breakfast lounge, as well as on the stairs and in the reception area. ULTRACOLOR PLUS was again used to grout the joints.

...and on the Outside


In Portugal, it is also typical to use *azulejos* tiles to decorate the façades of buildings, and to respect the original appearance of the building, the Portuguese Institute of Archaeology imposed

Photos 7, 8 and 9.

The ceramic tiles in the breakfast lounge were bonded with ADESILEX P24 PLUS and grouted with ULTRACOLOR PLUS. GRANIRAPID and ULTRACOLOR PLUS were used for bonding and grouting the stone slabs.

Foto 10. The entrance to the hotel.

that they were replaced here too. KERAFLEX MAXI cementitious adhesive with no vertical slip and ULTRACOLOR PLUS were used for bonding the tiles and grouting the joints respectively.

This was a challenging restoration intervention that gave new life to a historical building, thanks also to Mapei products. 

Our sincere thanks go to Lusomapei S.A., the Portuguese subsidiary of Gruppo Mapei, for the use of this article, first published in issue n° 4/2010 of "Realtà Mapei Portugal".



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TECHNICAL DATA

Hotel Vincci Baixa, Lisbon, Portugal
Period of Construction: mid 19th century

Period of the Intervention: 2007-2008

Intervention by Mapei: supplying products for waterproofing the structure below ground level, for anchoring structures, for thermal insulation and

decorative finish on the upper part of the façades, as well as for laying and grouting the antique ceramic tiles on the façades; supplying products for waterproofing the showers surfaces, laying the ceramic tiles in the bathrooms and breakfast lounge, laying the natural stone slabs in the reception and on the stairs

Designers: Studio Promontorio; A2p design studio, Vasco Appleton and João Appleton

Client: Vincci Hoteles

Works Director: Nuno Pinheiro

Contractor: Constructora San José

Laying Company: Constructora San José

Mapei Co-ordinator: Ana Oliveira, Lusomapei S.A. (Portugal)

MAPEI PRODUCTS

The products mentioned in the article belong to the "Products for Ceramic Tiles and Stone Materials" and "Building Speciality Line" ranges. The technical data sheets are available at the web site: www.mapei.com. Mapei's adhesives for ceramics and stone materials conform to EN 12004 standard and have been awarded the CE mark in compliance with Annex ZA, 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 ("very low emission level of volatile organic compounds") mark by GEV. Mapei plasticizers and superplasticizers for mortars and concrete have been awarded the CE mark in compliance with EN 934-2 and EN 932-4 standards. Mapei products for repairing and protecting concrete structures comply with EN 1504 standards. Mapei cementitious mortars and membranes used for waterproofing before installing ceramics comply with EN 14891 standard. More than 150 Mapei products can contribute to obtain the LEED (Leadership in Energy and Environmental Design) certification.

Waterproofing the foundations and substrates
Idrosilex Pronto (CE EN 1504-2, coating (C), principles MC and IR): osmotic cementitious mortar suitable for contact with drinking water for waterproofing masonry and concrete structures.

Mapelastix (CE EN 1504-2, coating (C), principles PI, MC and IR; EN 14891): two-component, flexible cementitious mortar for protecting and waterproofing concrete surfaces, balconies, terraces, bathrooms and swimming pools.

Mapeproof (CE 1213-CPD-4489): bentonite waterproofing sheets for structures below ground level, suitable for both horizontal and vertical surfaces.

Anchoring reinforcing rods

Mapefer: two-component, anti-corrosion cementitious mortar for steel reinforcement rods.

Mapegrout Hi-Flow (CE EN 1504-3, R4): fibre-reinforced, controlled-shrinkage mortar for repairing concrete.

Mapegrout SV (CE EN 1504-3, R4): quick-setting and hardening, compensated-shrinkage hi-flow mortar for repairing concrete and fixing drains, manholes and urban architectural fittings in place.

Strengthening Floor Slabs and Stairs

Mapegrout Thixotropic (CE EN 1504-3, R4): fibre-reinforced, controlled-shrinkage mortar for repairing concrete.

Thermal insulation and protection of the façades

Malech: acrylic resin undercoat in water dispersion to even out the absorption of substrates before applying other products.

Mapefill (CE EN 1504-6): fluid expansive mortar for anchoring objects in place.

Mapetherm AR1: one-component, cementitious adhesive and smoothing and levelling compound for thermal insulation systems.

Quarzolite Tonachino: high-protection, thick-layered acrylic coating product with high filling properties for internal and external surfaces.

Laying ceramics and stone materials

Adesilex P24 Plus (CE EN 12004, D2T): quick-setting and drying adhesive paste was used to lay the ceramic tiles on the plasterboard walls (this product is only available on the Portuguese market and is distributed by Lusomapei S.A., the Portuguese subsidiary of the Mapei Group).

Granirapid (CE EN 12004, C2F S1; EC1): two-component, high-performance, deformable, quick-setting and drying cementitious adhesive for ceramic tiles and stone material.

Keraflex Maxi: high-performance deformable cementitious adhesive with no vertical slip (N.B. The product has been superseded by Keraflex Maxi S1, with Low Dust technology, classified as C2TE S1 according to standard EN 12004).

Keralastic (CE EN 12004, R2): two-component, high-performance polyurethane adhesive for ceramic tiles and stone material.

Ultracolor Plus (CG2, EC1): high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent DropEffect® and anti-mould BioBlock® technology for grouting joints from 2 to 20 mm wide.

Dursilite: the high-performance water-based paint

A long-tradition product name for a growing sector

Water-based paints for internal applications are the most widely known and large family on the paint products scene.

Is there anybody who has not painted or repainted the walls in their home at least once? Market research has found that Italian people repaint our homes every four to five years. There is an enormous range of products available on the market, with an estimated 4000/5000 water paints on offer

from around 1,000 different paint producers.

Since there is no recognised classification system to guide consumers, choice is often based simply on the price of a product, with the performance parameters indicated being often completely unknown to most of us: no-film forming paints, semi-washable paints, with high vapour permeability, etc. In the meantime, consumer interest is increasing, while the sector's representative bodies, the press and the television dedicate articles

Photo 1. DURSILITE is a product which offers high covering properties.



and reports on the subject. For example, the Italian independent consumers' association magazine *Altroconsumo* publishes various articles every year on the water-based family of paints.

Bearing this situation and trend in mind Mapei, the leading producer in the world of chemical products for the building industry and owner of Vinavil, a historical brand name amongst suppliers of raw materials used in water-based paints, could not ignore this sector which generates an estimated turnover of 600 million Euros in Italy alone.

For Mapei it's like going back in



time. In fact DURSILITE, a high performance water-based paint, is another historical brand name in production since the end of the 1930's when the Company, which had just been formed in Via Cafiero in Milan by Rodolfo Squinzi, had its core business based on a range of products for the building industry (amongst which DURSILITE).

But in order to completely understand the most interesting performance characteristics of a water-based paint for internal applications, certain elementary considerations have to be made about the product's basic formula

Photo 2. Dursilite's coloured paint light up the environments we live.

and the influence of its main ingredients.

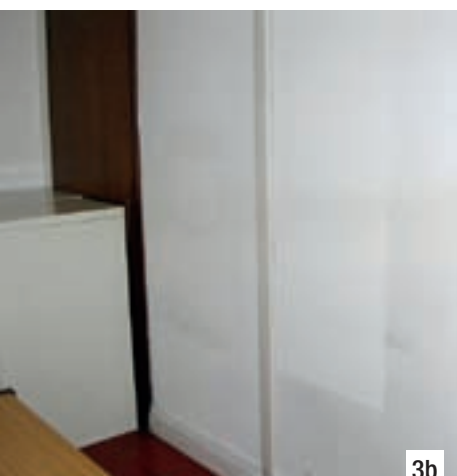
Water-based paint is made using powders (pigments and fillers) mixed with a liquid (binder and additives) and water, which may be added before applying the paint to make it easier to apply on walls with a brush or roller. Apart from the additives which, even though they are only added in tiny amounts, regulate important characteristics such as ease of application, running and dripping, resistance to the formation of foam and mould, the two most important raw materials are the pigments (the most important is

white titanium oxide), which are used to give the paint better covering properties and colour, and the binder (the most well known is Vinavil) which is used to "bind" the powders to the substrate and to regulate other important characteristics such as dirt pick up, washability/cleanability, the chance to obtain bright colours and, above all, durability.

The fillers (the most important is calcium carbonate) are powders which "weigh down" the product, and high quantities are added particularly to cheaper products to lower the price of water-based paint.



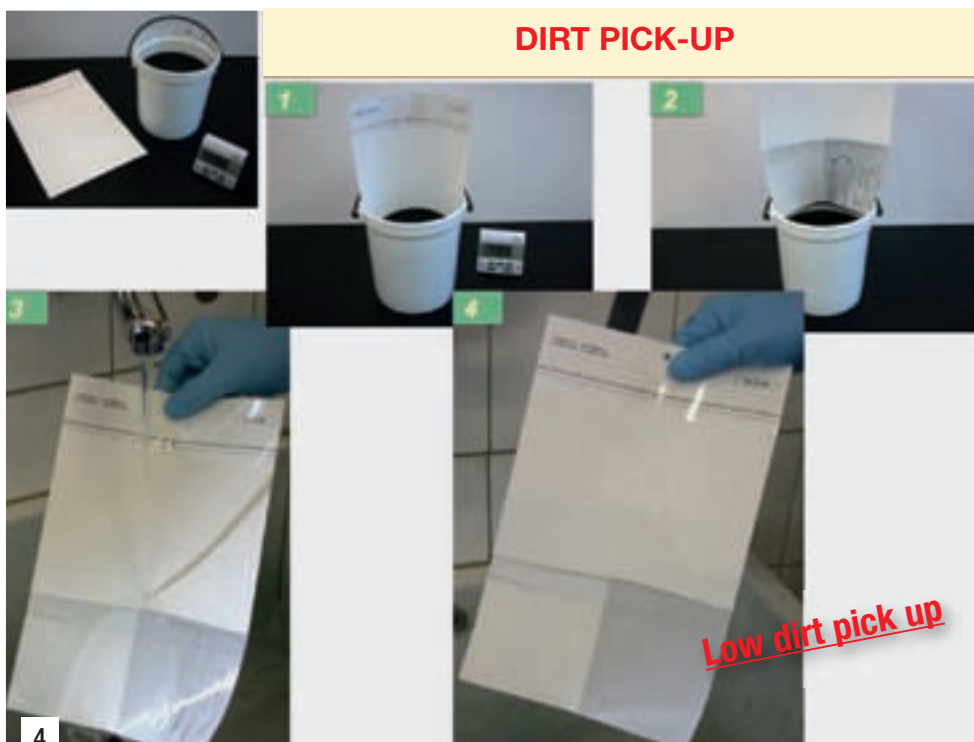
3a



3b

How a water-based paint should be evaluated?

How do we assess the quality of a product when we use it? Above all, after diluting the paint with water, we can see if it “covers” well, that is, if the old colour (if we decide to change the colour) or if old smoke stains and dirt



“show through”. Using a product with good covering properties means saving time and money: fewer coats are required to get a good result and, therefore, an even surface without marks.

There is a test carried out in the laboratory to evaluate the “cover” of a water-based paint.

The product is applied (at a given thickness, similar to a coat of paint on a wall) on white cardboard with a black strip in the centre, and a special instrument is used to measure the percentage of cover over the black strip. The

Photos 3. To evaluate the quality of a water-based paint, the critical areas to watch are those above radiators (3a) and behind wardrobes (3b). **Photos 4.** In the “dirt pick up” test, the paint is dirtied with smoke stain in water dispersion to simulate what happens to walls in a domestic environment.

higher this percentage, the better the “cover” of the product. That is, the higher the percentage of titanium oxide in the product, the better the cover.

But it is above all with time that we can evaluate the “quality” of the paint used: in fact, the better the product the less it tends to become dirty. The critical areas when evaluating the quality of a product are above radiators or behind pictures and wardrobes (see photos 3a and 3b). The laboratory can help us again using the “dirt pick-up” test (photo 4), which is carried out by adding smoke stain in water dispersion to the paint to “dirty” it, simulating the effect of radiators on the areas of paint above them over the years.

Wet abrasion resistance is also evaluated, which represents the possibility of cleaning stains from walls if the paint gets dirty. This characteristic is improved by the amount of binder in the formula.

The washability test tells us if the product can be cleaned (photos 5, 6, 7 and 8). The paint is applied on a non-absorbent substrate which is immersed in water and then scrubbed with a brush held in a special instrument which records

MAIN COMPONENTS AND THEIR FUNCTIONS IN PAINTS	
BINDER	Protection
PIGMENTS	Colour & cover
FILLERS	Filling
ADDITIVES	Emphasise specific characteristics

Washable and transparent



how many “strokes” are required by the brush to remove the coat of paint.

If the number of strokes is less than 100, the product is considered cheap; if the value is higher than 3000 strokes, it is a medium-quality product, and if more than 10,000 strokes are required, then the product in question is of high quality and will form brighter, livelier colours.

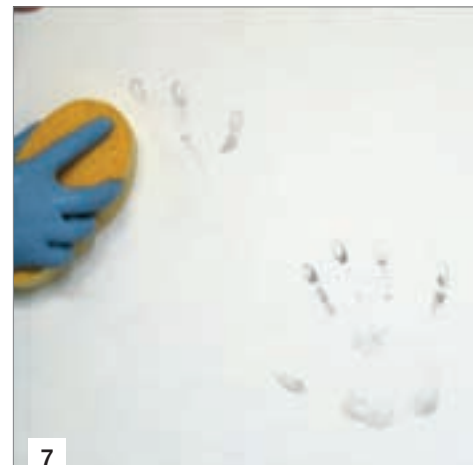
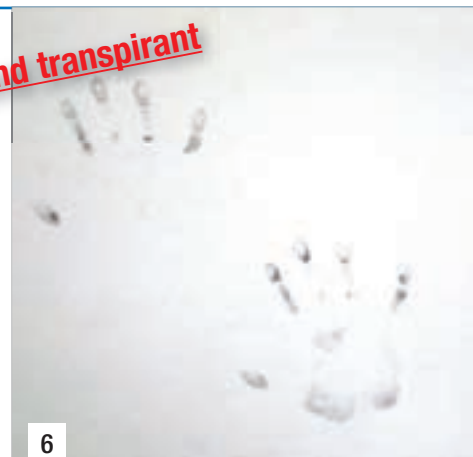
The choice for a high performance paint lies with the client, especially when it is for private use. This

Photo 5. In the washability test, the product is applied on a substrate which is immersed in water and then rubbed by a brush.

Photos 6, 7 and 8. The “washability” of a paint allows stains to be cleaned from walls.

is why Mapei has chosen a communication means that reaches as many people as possible, the television. In fact, DURSILITE has been the star of a sales promotion on one of Italy’s most popular channel last April.

There is also a banner displayed on the Company website www.mapei.it and by clicking on the banner, it automatically links to the www.mapei-soluzioni.com website, and users may send emails to ask for technical advice about Mapei products.



Colours to light up the environment
we live in with passion.



Dursilite

Washable water-based paint
for decorating all internal wall
surfaces.



From our experience,
all the solutions you need.

- quick to apply
- for every type of surface
- wide range of colours available
- excellent covering capacity
- washable and transparent
- long-lasting
- low dirt pick up
- very low solvent emissions level

(European Directive EC 2004/42)



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

Mapei meets design and culture

Designing the future together: concrete ideas in Mapei showroom at Fieramilano Rho trade fair centre



1

The 50th edition of the Milan furniture shows (the so-called "Saloni" including the Salone del Mobile furniture show, the International Furnishing Accessories Exhibition, the Euroluce biennial international lighting exhibition, Salone Ufficio international biennial workspace exhibition and SaloneSatellite exhibition dedicated to young designers) drew to a close last April with a total of 321,000 visitors (out of which 282,483 were professional operators of this sector, with a 2% increase in comparison with 2009). These successful results were shared by Mapei. The Company was present at the Salone del Mobile show with its permanent showroom in the Fieramilano Rho trade fair centre. More than 200 m² on two floors, not only the ideal space to present the continuous evolution of their products, but above all a place for ideas and a laboratory for design. A laboratory which reflects the Company philosophy: the most qualified reference point for those operating in the building industry. The physical centrality of the Mapei showroom inside Fieramilano complex sym-

Photo 1. View from the outside of the Mapei's permanent showroom in Corso Italia Ovest 0.02, Ponte dei Mari Ovest 0.02 at Fieramilano Rho trade center.

bolizes the very nature of Mapei, capable of being right in the heart of its own territory (the city of Milan) and, at the same time, at the centre of the international building market.

Ideas and Solutions for all the Situations

In Mapei's permanent showroom, technicians and highly-skilled personnel from the Company were on hand to meet architects and designers from all around the world, working together to imagine the most suitable solutions for any kind of problem in the building world and for the design of indoor and outdoor areas.

Eco-sustainability is one of the mainstays of the Mapei strategy and the main driving force behind the Corporate Research Centre in Milan, which is at the forefront of proposals for new, technologically-advanced solutions. The 2011 furniture shows exhibitions represent-

ed the ideal opportunity to display this commitment at its best. There are now more than 150 products which comply with international eco-sustainability standards which carry the Green Innovation logo, a certification system created in collaboration with the United States Green Building Council, of which Mapei has been a member for more than 5 years.

Products which allow projects to be awarded points towards LEED (Leadership in Energy and Environmental Design)'s certification.

As a fundamental partner for those operating in the building world, Mapei also proposed original, innovative solutions so designers may make the most of their creativity, sure of using only high-performance products.

For instance Mapei's family of coatings for protecting and decorating internal surfaces has recently been increased with two new vinyl resin paint systems in water dispersion:



2



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DURSILITE and COLORITE MATT, coatings which are easy to apply, have an excellent yield and may be coloured to suit.

Mapei's aim is to help create surfaces with an attractive, striking aesthetic impact, to guarantee complete protection and ensure surfaces which are transpirant, hygienic and water-repellent thanks to BioBlock® and DropEffect® technology.

Coloured joints also allow to get the best coloured patterns with all types of tiles, both indoors and outdoors. Mapei offers a complete range of grouts for all types of internal and external ceramic wall and floor surfaces – in terracotta, stone and glass mosaic – and epoxy and cementitious fillings for joints.

In the spotlight at Saloni 2011 one could find KERAPOXY DESIGN, decorative grout which enhances the beauty of even the highest quality tiles and mosaic. It has a bright, translucent finish, is easy to work with and is highly durable. It is available in 15 different colours which may be blended together to form an infinite variety of shades, and may also be mixed with MAPEGLITTER to create special aesthetic effects.

The resin and cementitious flooring sector is in continuous evolution with technologically advanced systems which guarantee increased durability and more attractive finishes. Thanks to the infinite range of applications with special colorations,

Mapei's functional, decorative MAPEFLOOR SYSTEM and ULTRATOP SYSTEM flooring systems are particularly recommended where design is fundamental, such as in trend-setting domestic environments, showrooms and penthouse apartments.

With Mapei floorings, a designer may choose the most attractive finish without neglecting the all-important technical aspects, such as resistance to abrasion, impact, cracking and aggressive chemical agents, while guaranteeing evenness and easy cleaning. To improve the quality of new floors, increase the mechanical or chemical properties of old floors and to repair damaged floors, Mapei has developed a series of epoxy, polyurethane and cementitious systems which, thanks to their characteristics, allow users to quickly and efficiently upgrade floors to match their real use.

At Mapei showroom systems able to meet the most severe standards were also on display: MAPETHERM highly-renowned thermal insulation system and MAPESILENT system for soundproofing against noise caused by footsteps. The Company also proposed special heated panel systems for laying on both conventional and thin heated floor substrates, particularly suitable for restoration operations.

Beside, Saloni 2011 was also the perfect occasion to present the new collections by the Italian mosaic manufacturer Mosaico+,

Photos 2, 3 and 4. Some detail views of the Mapei's showroom hosting plenty of international visitors during the Saloni furniture exhibitions in Milan.

with the support of a new software for the realisation of colour.

At Mapei's showroom in Fiera Milano Rho international design and culture found an ideal partner to talk about any issue regarding building and architecture, because Mapei always combines aesthetic impact and functionality.

DM



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Mapei at the **FUORISALONE** events

The Company took part in several exhibitions and initiatives of the off-the-show events during the furniture exhibitions in Milan

From 12th-17th April, the city of Milan celebrated being at the focus of international attention through its various shows, notably the Salone del Mobile (International Home Furniture show), the International Furnishing Accessories Exhibition, the biennial EuroLuce (International Lighting Exhibition), SaloneUfficio (International Biennial Workspace Exhibition) and SaloneSatellite (exhibition dedicated to young designers and international design schools). These appointments provided the chance to see, touch and try out the very best home furniture has to offer in terms of different typologies and styles, as well as what tomorrow holds as regards new trends and fashions.

But it is not just furniture and design. Just like every other year, the Fuorisalone (off-the-show) initiative had an extensive schedule of events ranging from parties, installations, exhibitions, aperitifs and conferences. A major media and cultural event that Mapei took full advantage of, contributing to the organisation of events and installations and getting involved in innovative cultural enterprises. As well as "Mapei meets Design and Culture", held at the permanent Mapei showroom at the Fieramilano Rho trade fair centre, the Company also backed various other projects. The following pages contain focus on just some of the events in which Mapei played a key role, in a city which, for a week, really did become cosmopolitan and cutting-edge, hosting leading figures from all over the world as part of an extraordinary interchange of ideas. Mapei projected a very dynamic and concrete image of itself through products and systems for constructing buildings aimed at designers who are looking for high performance, creativity and aesthetic qualities.



LECTIO MAGISTRALIS BY MARIO BOTTA

As it better described in the following article, "Architecture and the City" was the title of the Lectio Magistralis given by the architect Mario Botta on the 13th April in Milan's Statale University with the backing of Mapei. The architect provided an extremely clear-thinking and sober presentation about the main guidelines inspiring his work, his view of modern city, and the mention of some of the architectural projects he has built in countries all around the world. Giorgio Squinzi, CEO of the Mapei Group, was on stage with Mario Botta and stressed his personal and working relationship with him.

For further information see www.mapei.com/IT-EN/events.asp; www.interni-events.com.



THE "STANZA" INSTALLATION BY MARIO BOTTA

This installation, designed by Mario Botta, was placed from the 11th to the 17th of April in Cortile d'Onore courtyard of the Statale University of Milan. It was part of the Interni Mutant Architecture & Design exhibition, organized by the *Interni* magazine's editor-in-chief Gilda Bojardi under the aegis of the Milan City Council. Mario Botta conceived the "Stanza" installation as an opportunity to think about our ways of living and building. The work was composed of 115 marble L-shaped modules, with criss-crossed vertical and transversal threaded pre-compression rods inserted inside, for a total weight of 45 tons. For more details see the dedicated article on this same issue of the magazine.

For further information see www.mapei.com/IT-EN/events.asp; www.interni-events.com.

PADAM INSTALLATION IN THE "METAMORFOSI" EXHIBITION

An installation by the renowned designer Diego Grandi was displayed from the 12th to the 17th April at the Triennale Design Museum in Milan. It was part of the "Metamorfosi" exhibition organized by Confindustria Ceramica (the association of Italian ceramic tiles and refractory materials manufacturers) and other associated companies. In the "Padam" project Diego Grandi wished to highlight the capacity and quality of ceramics in interpreting different languages, styles and symbolic cultures, while maintaining its structural qualities under the theme of eco-sustainability. Mapei contributed to his work with two innovative, high-quality products: KERAPOXY as adhesive for mosaic and grout for joints and DURSILITE as a coating ensuring the distinctive feature of the work.

For further information <http://www.mapei.com/IT-EN/events.asp>;
www.interni-events.com; www.laceramicaitaliana.it/metamorfosi;
www.diegograndi.it.



WONDERLINE NEW ART 2011: PROJECT EXHIBITION ON COLOUR IN ARTS AND SCIENCE

Mapei was present at this exhibition about colour in art, design, research and industry, planned and organised by Studio Original Designers 6R5. The exhibition was held from the 8th to the 17th of April at the Museo Nazionale della Scienza e della Tecnologia (Museum of Science and Technology) in Milan. The Wonderline vision was proposed as colour therapy and as a new way to research about chromaticism, putting it in connection with other sciences. The theme of colour ties and puts together art, poetry, music, industry, feelings and emotions and finds new combinations, reinventing the approach to different materials and different workings. Mapei, strongly tied to the world of colour, supplied resin floorings made with MAPEFLOOR I 300 SL. The long-term attention of the Company for the world of Art and Architecture was confirmed once again.

For further information see <http://www.mapei.com/IT-EN/events.asp>;
www.interni-events.com; www.museoscienza.org.



CONCRETE MISSION, CEMENT MISSION, CONCRETE MISSION

Mapei offered its technical support as a contribution to the "Concrete Mission, Cement Mission, Concrete Mission" installation by Magnetti SpA (a famous Italian supplier of technologies for building), which was placed at n° 27 Via Tortona, Milan, in the Superstudio Più design studio from the 12th to the 17th April. The result of the partnership between Magnetti SpA and the renowned designer Ronen Joseph were the Concrete Mission concrete blocks, which played on the texture and versatile composition of the elements to create a new role for concrete, with innovative surfaces for façades. Thanks to its technical expertise and leadership in the world of adhesives, Mapei proposed the use of KERAFLEX MAXI high performance adhesive to lay the blocks on the façades.

For further information <http://www.mapei.com/IT-EN/events.asp>;
www.interni-events.com; www.magnetti.it.





Architecture and the City

Mario Botta's *Lectio Magistralis* at Milan's Statale University

“Architecture and the City” was the title of the *Lectio Magistralis* given by the architect Mario Botta in the main hall (Aula Magna) of Milan's Statale University with the backing of Mapei. Gilda Bojardi, the editor-in-chief of *Interni* magazine organised the event, also acting as the master of ceremonies in front of a big audience of attentive listeners. She presented the project and gave a brief outline of the international profiles of Mario Botta and Giorgio Squinzi, CEO of the Mapei Group, who were both on stage. During her introduction she focused on the central importance of Milan on the international architecture and design scene, whose leading players include Mapei and this famous architect from the Ticino region of Switzerland.

Giorgio Squinzi stressed his personal and professional friendship with Mario Botta. “A friendship that goes back decades based on the same vision of life and hinging around – so Squinzi said – such a fundamental value as the family. It is no coincidence that we both have children working for our companies”. “I like Botta's architecture – so Squinzi added – because it is “enduring”: for example, Gottardo Bank in Lugano (Switzerland), built over 20 years ago, still looks brand-new in every respect”.

The same reliability and durability that Mapei products guarantee in all their constructions around the world and, for this reason, they are

chosen by the most expert architectural designers. “Architectural functionality and the freedom to express one's own creativity”: according to Squinzi these are that something extra Mapei products have to offer.

Botta's architectural principles will soon be applied to the new world headquarters of the Mapei Group to be built just outside Milan in Mediglia, close to the Group's main manufacturing plant.

It is hard not to share Squinzi's hope that “like lots of the buildings Botta has designed, this new one will be remembered in the history of architecture”.

Architecture and the City

An extremely clear-thinking and

sober presentation, a far cry from any kind of rhetoric: this was the basic impression people got when listening to Mario Botta's *Lectio Magistralis*. Theories all backed up by concrete examples to demonstrate the way his abstract thinking is closely tied to his work and how his pure architectural thoughts are actually embodied in real constructions.

“All works of architecture aspire to become cities”, is how Botta began his speech, and “the city is a combination of intelligence, places for interacting where solitude is overcome by communicating with other people”.

According to Botta, the city appears to be going through a crisis “because globalisation has

Above. Some details of projects designed by Mario Botta. From left, Watari-Um Art Gallery in Tokyo (Japan); MoMa Museum of Modern Art in San Francisco (USA); the Mart, Trento and Rovereto Museum of Modern and Contemporary Art, and the Leeum-Samsung Ceramics Museum in Seoul (South Korea).

Below. The architect Mario Botta described some of his most famous projects held during the *Lectio Magistralis* in Milan.





made its value more relative". An anecdote to this general trend comes from the "search for identity, an antibody and means of resisting the culture of consensus and globalisation. Working on the city without this assumption could turn out to be dangerous".

"Us old Europeans – so Botta went on – have this identifying vision of the city, but that is not the case with Asians and Americans. It is important to realise that building can be for the city or against the city, because the city represents

Above. From left, the architect Mario Botta, Gilda Bojardi, editor-in-chief of *Interni* magazine, and Giorgio Squinzi, CEO of the Mapei Group.

communal values reinforcing the past and history".

"So the territory is a kind of memory, whose physical construction is a legacy to future generations. An architect has the fortune of leaving behind works that outlive him".

His sense of responsibility towards his own profession combined with his own personal European cultural background (although he certainly is not embarrassed to refer back to his Italian and even Lombard roots) allowed Botta to claim to state that: "in Europe and

particularly in Italy there is a widespread awareness that the quality of life is higher in the old centres of medium-small size towns and cities, because that is where we can enjoy symbolic as well as material values".

Cities instil the world with identity and they will continue to do so even more in future: "nowadays, there are more people around the world living in cities than outside them and, according to forecasts, by 2050 almost everybody on this planet inhabited by over 7 billion people will live in cities". This relentless transformation is already bringing about mental and spatial changes through a "sense of changing limits and boundaries".

Concluding the first part of his *Lectio*, he claimed that "an architect has the privilege and honour of working with the space people live in. This is why he must understand what is happening around the world and necessarily have non-nostalgic perspectives".

Working on the assumption of a certain sociological theory that claims that the accidental, taken as an exception, is the actual form progress takes, Botta concluded by saying that "the recent nuclear disaster in Japan is a striking example of this concept. Technical developments emerge



like a sort of rupture calling for a new order. The accidental is a rule of history, but the equilibrium must be maintained”.

Botta could not go into fine detail without referring to the architectural projects he has built in countries all around the world. The architect outlined thirteen of his constructions, showing lots of slides to illustrate the guidelines inspiring his philosophy of design and to make people realise the difficulties he encountered and the successes he achieved through his various building projects: from Watari-Um Art Gallery in Tokyo (Japan), MoMa Museum of Modern Art in San Francisco (USA) and Cymbalist Synagogue and Hebrew Heritage Centre in Tel Aviv (Israel) right through to the latest projects he has completed, such as Santo Volto Church in Turin (Italy), the former Campari plant in Sesto San Giovanni (near Milan, Italy) – partly used for offices and partly for housing –, Bechtler Museum in Charlotte (USA) and the former Appiani ceramic manufacturing plant in Treviso (Italy).

Concluding his *Lectio Magistralis*, Mario Botta emphasised an issue that is particularly important to him: the question of light which, undoubtedly, is a real tool in architecture. This is the leitmotif that ran through the presentation of all his works.

As Botta himself said, “In a work of architecture light will increasingly be an authentic generator of space: there will be no space without light. The construction of the environments in which people live is based around this natural element destined to become the primary compositional tool in architectural design, assisted on a subordinate basis by geometry that instils control and balance into the composition. The manifestation of light brings with it, by contrast, the emergence of shadows: it only takes a few centimetres of relief to create important sculptural and chiaroscuro effects”.

Zenith light in particular has a definite meaning for Botta, and we frequently come across it in his most successful projects. “Take, for example, the extraordinary expressive force of the Pantheon in Rome – so Botta pointed out – the emotions generated by one single aperture, the zenith aperture that opens up to embrace the immensity of the skies.

The fascinating charm of this work of architecture lies in the exclusive nature of this particular source, as all the various features of the composition (static structures, geometric composition, proportions and hierarchies of finishes) support the ingenious idea of this unique source of light. And hence light comes to symbolise the kind of infinity that moves beyond the physical boundaries of the earth’s crust, within which architecture shapes the places in which man seeks shelter”.

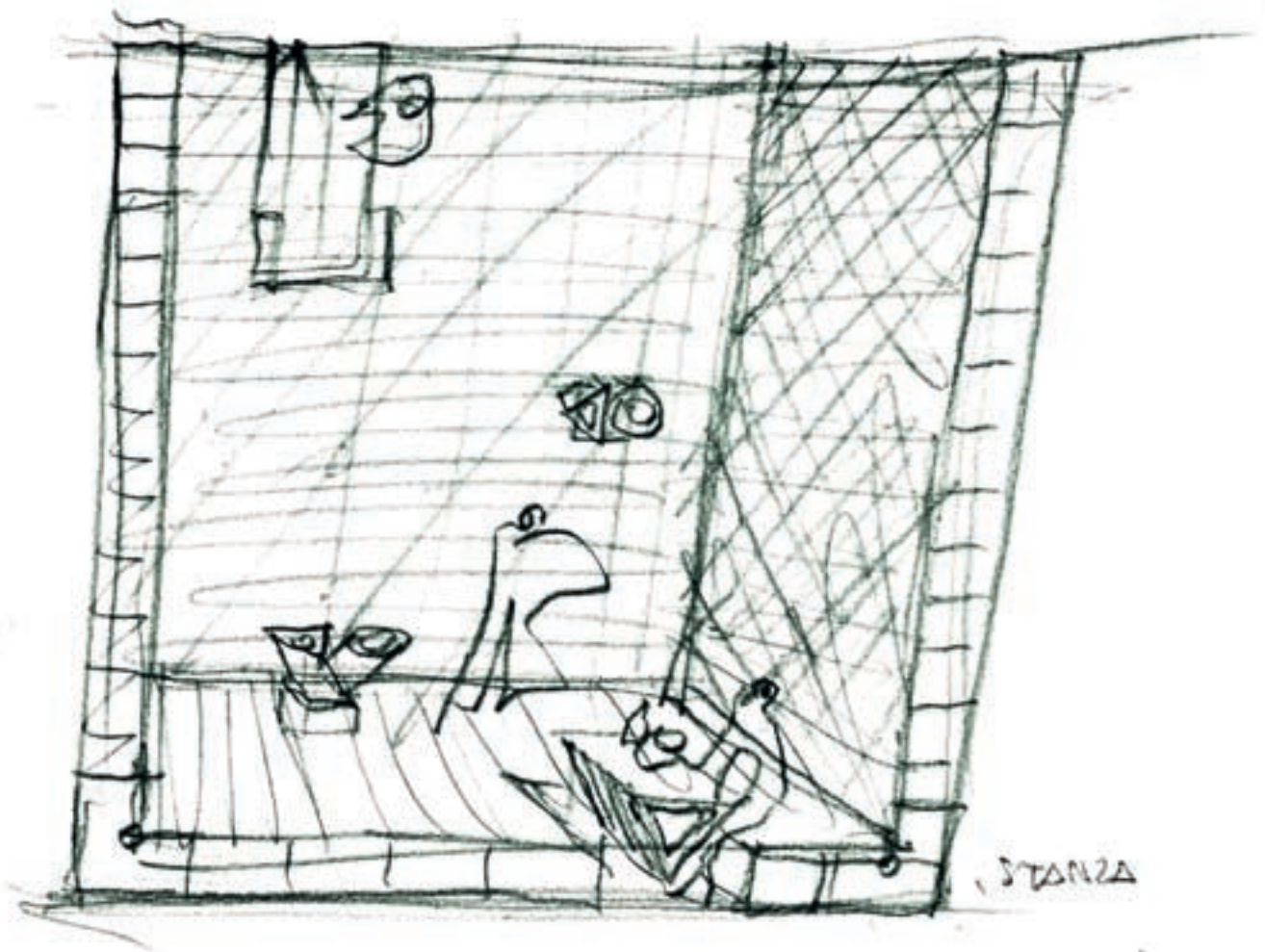


MARIO BOTTA

After a period of apprenticeship in Lugano (Switzerland), he attended an arts-oriented high school in Milan (Italy) and then continued his studies at the Venice University Institute of Architecture, where he graduated in 1969 under the tutorship of Carlo Scarpa and Giuseppe Mazzariol. During the time he spent in Venice, he got the chance to meet and work for Le Corbusier and Louis I. Kahn. He opened his own architectural studio in Lugano in 1970 and ever since then has had a busy and prestigious teaching schedule, holding conferences, seminars and courses at schools of architecture in Europe, Asia, the United States

and Latin America. He was appointed a visiting professor at Lausanne (Switzerland) Polytechnic in 1976 and then Yale School of Architecture in New Haven (USA), in 1987. He was appointed to be a full professor at the Swiss Polytechnic Schools in 1983, and he was a member of the Swiss Federal Commission of Fine Arts from 1982 to 1987. Starting with the detached houses in Canton Ticino (Switzerland), his work has embraced every kind of building: schools, banks, administration buildings, libraries, museums and places of worship. Over the last few years he has been busy working as the deviser and founder of the new Academy of Architecture in Mendrisio (Switzerland), where he still teaches and has had the prestigious post of director for the 2002-2003 academic year. His work has received relevant international recognition, including the Merit Award for Excellence in Design from the AIA (American Institute of Architects) for the MoMa Museum of Modern Art in San Francisco and vast number of exhibitions have been devoted to his research and experimentation. The MART Museum commemorated the architect’s 50-year career in 2010 with a major retrospective. Among the works worth remembering are: the Theatre and House of Culture in Chambéry (France); the Media Library in Villeurbanne (France); the SF MoMa Museum of Modern Art in San Francisco (USA); the Jean Tinguely Museum in Basel (Switzerland); the Cymbalist Synagogue and Hebrew Heritage Centre in Tel Aviv (Israel); the City Library in Dortmund (Germany); the Dürrenmatt Centre in Neuchâtel (Switzerland); MART Trento and Rovereto Museum of Modern and Contemporary Art in Italy; the Kyobo Tower and Leeum-Samsung Ceramics Museum in Seoul (Korea); the administration buildings of the Tata Consultancy Services in New Delhi and Hyderabad (India); the reconstruction of La Scala Opera House in Milan; and the Santo Volto Church in Turin (Italy).

Mario Botta
“STANZA”



13th April, 4.00 p.m. – Lectio Magistralis by
Mario Botta
ARCHITECTURE AND THE CITY

The “Stanza” by Mario Botta

An installation for the Interni Mutant Architecture & Design exhibition



Interni Mutant Architecture & Design exhibition was organized by the *Interni* magazine's editor-in-chief Gilda Bojardi, under the aegis of the Milan City Council. The exhibition, part of the *FuoriSalone* 2011 design events, was on display in the Cortile

d'Onore courtyard of the Statale University of Milan from the 11th to the 17th of April.

By placing installations in the loggia of the 17th-century courtyard, the exhibition created an imposing and eye-catching work which made the most of the help pro-

Mapei supplied VAGA's CALCESTRUZZO STRUTTURALE for the concrete base where the installation was placed. The surfaces were finished with ELASTOCOLOR PAINT.

vided by important companies working in the field of design and architecture.

Mapei was among them and contributed to the installation designed by the famous architect Mario Botta called “Stanza” (room).



The Project

Mario Botta conceived the “Stanza” installation as a an opportunity to think about our ways of living and building. For the architect, coming to terms with a prototype means exploring a utopian thrust that links up with the archetypal forms of the past. This is the key to the interpretation of this “minimalist” design that worked with a single material: marble. The marble surfaces seemed to come alive thanks to light and a physical presence that anchors them to the earth, expressing the idea of gravity and weight. The rigor of the pure surfaces of the single piece of stone – and its various combinations – take architecture back to primordial values. A relationship has been created with the existing architecture that, in its more courtly form, became a part of the project, forming the backdrop for this new “stanza”.

“Stanza” was composed of 115 marble L-shaped modules, with criss-crossed vertical and transversal threaded pre-compression rods inserted inside, for a total weight of 45 tons.

The modules were supplied by the Carrara-based marble manufacturer GVM.

The composition of these blocks, which can be combined and rearranged in different solutions, led to the final volume, measuring 516x473x473 cm. The fourth wall was formed by the loggia of the Cortile d’Onore court yard that hosted the installation.

Marble has great natural resistance to compression. The cutting of the L-shaped modules was done starting at the center of the block, moving toward the perimeter to avoid breakage. The only exceptions to this modular rule were the table and the 7 vases, also in marble, that contributed to create different conditions inside “stanza”.

Mapei’s Solutions

Mapei contributed to this installation by supplying products able to fully meet Botta’s requirements and ensure its structural performances.

The concrete foundation where the installation was placed was built using the CALCESTRUZZO STRUTTURALE concrete supplied by Mapei’s subsidiary VAGA. The concrete surfaces were then protected and finished with ELASTOCOLOR PAINT elastomeric, crack-bridging, permanently flexible, protective paint with high resistance to chemicals for internal and external surfaces.

ADESILEX PG1, two-component, rapid-setting thixotropic adhesive, was instead used for bonding some structural elements of the installation, as well as for bonding the 115 marble blocks with one another. A simple work, which nevertheless embodies the main principles behind all Mario Botta’s works: the beauty and efficiency of natural elements and the mark left by the human kind on the surrounding environment.



ADESILEX PG1 adhesive was used for bonding the 115 marble blocks of the installation.

Below, on the right: architect Mario Botta with his wife Maria.





Quadrante Quattro

A soundproofing problem successfully solved in a building in Northern Italy

A pre-fabricated business and commercial centre called “Quadrante Quattro” has been built in the town of Occhiobello, near Rovigo (Italy). The first floor covers an area of around 600 m² and is used for offices. The designer asked the Mapei Technical Service Department to

recommend an efficient, guaranteed soundproofing system to cut out the noise made by footsteps. After carrying out a number of on-site surveys, the Mapei experts proposed a floating screed incorporating the MAPESILENT soundproofing system. Because of the acoustic performance specified for the type of final use of the building, the design-

er opted for a double layer of MAPESILENT ROLL, as had been previously suggested by the Mapei Technical Service Department. MAPESILENT ROLL is a sheet made up of a bitumen and special polymer-based elasto-plastomeric membrane sandwiched together with a resilient layer of polyester fibre and a surface coated with a layer of blue non-woven polypro-

Photos 1 and 2. After cleaning the existing concrete surface, the first layer of MAPESILENT ROLL was laid with the fibre side facing upwards. The sheets at the foot of the wall were overlapped by at least 5 cm with the adjacent ones.



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pylene fabric. It was laid on the surface of the load-bearing floor, which was dry, perfectly flat and strong, as per requirements.

It was placed at the foot of one of the walls and then rolled lengthways following the longer side of the room with the fibre layer (the lighter side) facing upwards. Other rolls were then laid by placing them again at the foot of the same wall and rolling them out, with each roll overlapping the adjacent one by at least 5 cm.

The fibre side of the rolls only has to face upwards if two layers of the product need to be laid. If only one layer is applied, on the other hand, the fibre side must face downwards.

The second layer of MAPESILENT ROLL was then laid, but this time with the fibre side (the lighter side) facing downwards. To avoid the risk of acoustic bridges, the sheets forming the second layer were applied with respect to the overlaps in the first layer.

After making sure that all the MAPESILENT ROLL sheets were perfectly in position, all the overlaps were closed and sealed using MAPESILENT TAPE adhesive sealing tape made in closed-cell expanded polyethylene. The tape was then pressed down firmly and evenly to guarantee that it had formed a perfect bond.

MAPESILENT BAND R closed-cell, expanded polyethylene adhesive strip was then laid around the perimeter of the walls and in correspondence with all the elements which pass through the screed to avoid the formation of acoustic bridges. The laying phase of the MAPESILENT BAND R was then completed by pressing down firmly over the entire length to guarantee that it was in direct contact with the substrate and that the adhesive had transferred correctly.

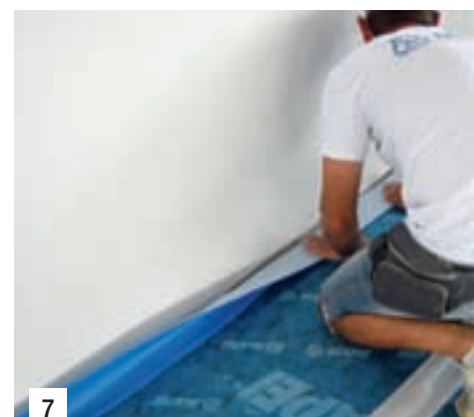
Portions of MAPESILENT TAPE were then cut to shape and applied in the corners and in the

Photo 3. MAPESILENT ROLL was trimmed and sealed in correspondence with all the through elements.

Photo 4. The second layer of MAPESILENT ROLL was laid, but this time with the fibre side facing downwards. To avoid the risk of acoustic bridges, the sheets forming the second layer were applied with respect to the overlaps in the first layer.

Photos 5 and 6. After making sure that all the MAPESILENT ROLL sheets were perfectly in position, all the overlaps were sealed using MAPESILENT TAPE adhesive tape.

Photos 7 and 8. MAPESILENT BAND R adhesive strip was laid around the perimeter of the walls and in correspondence with all the through elements. The overlaps between the strip and MAPESILENT ROLL were taped over with MAPESILENT TAPE.



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fillets between the various strips of MAPESILENT BAND R to guarantee that the joints were perfectly protected. The adhesive tape was also applied on the overlaps between the MAPESILENT ROLL and MAPESILENT BAND R.

Once work had been completed, the MAPESILENT TAPE had to be visible on all the overlaps between the MAPESILENT ROLL and the MAPESILENT BAND R.

There had to be absolutely no points in which the substrate was visible, otherwise acoustic bridges would have been formed.

IN THE SPOTLIGHT

MAPESILENT SYSTEM

It is a modular system of special panels, sheets and soundproofing accessories to be directly installed on the floor slab and prior to laying the screed. It encloses MAPESILENT ROLL and MAPESILENT PANEL. MAPESILENT conforms to Italian legal requirements in terms of soundproofing against noise caused by footstep and creates screeds which are perfectly isolated from the substrate, in accordance with the Italian Decree DPCM 5.12.1997.

It can also be used on floating screeds before installing any type of covering materials (ceramics, stone materials, parquet, PVC, linoleum, rubber, etc.).



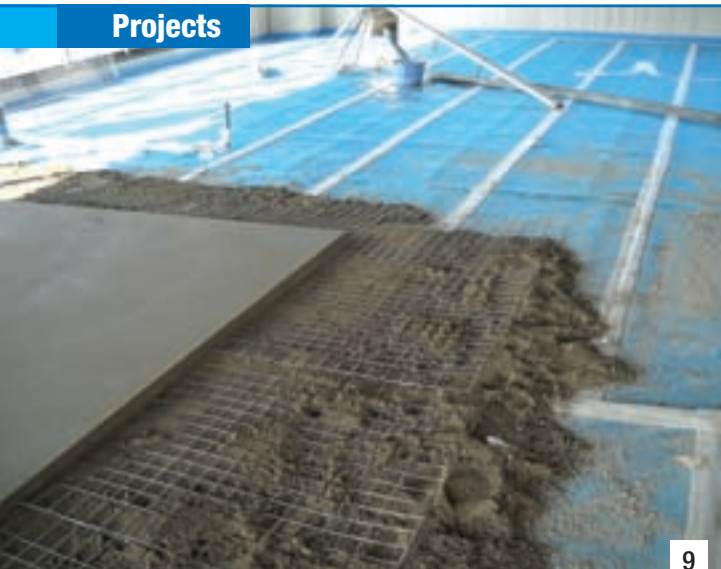
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Installing the Screed and Laying the Porcelain Tile Floors

After the MAPESILENT soundproofing had been laid, a 5 cm-thick, self-bearing floating screed made from TOPCEM PRONTO ready-to-use, quick-drying, normal-setting mortar was installed. The screed was reinforced with a galvanized steel mesh of 50x50 mm and a diameter of 3 mm. After curing the screed (approximately 5 days), the porcelain

Photo 9. The screed was made from TOPCEM PRONTO reinforced with electro-welded mesh.

Photo 10. Smoothing over the surface with a buffer machine.

Photo 11. The porcelain tiles were laid with KERAFLEX MAXI S1 and joints were grouted with KERACOLOR GG.



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tiles (size 60x60 cm) were bonded in place using KERAFLEX MAXI S1 high-performance, deformable adhesive with Low Dust technology and extended open time, classified as C2TE S1 according to EN 12004 standard. KERACOLOR GG high-performance, polymer-modified cementitious mortar was then used to grout the joints. After laying and grouting the porcelain tiles, the excess pieces of MAPESILENT BAND R were

trimmed. Skirtings were then placed around the perimeter of the walls with a small gap between the skirtings and the floor. The gap was sealed with MAPESIL AC silicone sealant to avoid the transmission of vibrations. The successful application of the MAPESILENT soundproofing system has played a vital part in the comfort and wellbeing of all those who work in this new business centre.



TECHNICAL DATA

“Quadrante Quattro” Building, Occhiobello (Province of Rovigo, Italy)
Designer: Alessandro Prearo
Period of Construction: 2009-2010

Period of the Intervention: 2009-2010
Intervention by Mapei: supplying products for building soundproofing and floating screeds, laying porcelain tiles and grouting the joints

Client: Costruzioni Generali Italia
Works Director: Alessandro Prearo
Contractor: Edil 2000, Fiesso Umbertino (Italy)
Laying Company: Natalino Ruzza
Laid Materials: porcelain tiles
Mapei Distributor: 3 Emme Srl, Occhiobello
Mapei Co-ordinator: Antonino Munafò and Gianpaolo Grillenzoni, Mapei SpA (Italy)

MAPEI PRODUCTS

The products mentioned in the article belong to the “Products for Ceramic Tiles and Stone Materials” and “Building Speciality Line” ranges. The technical data sheets are available at the web site: www.mapei.com. Mapei 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. Mapei’s adhesives for ceramics and stone materials conform to EN 12004 standard and have been awarded the CE mark in compliance with Annex ZA, standard EN 12004. Mapei grouts for ceramics and stone materials conform to EN 13888 standard. Almost all the Mapei products for laying floors and walls are also GEV-certified and have been awarded the EMICODE EC1 (“very low emission level of volatile organic compounds”) mark, by GEV. Mapei sealants comply with standard ISO 11600 standard. More than 150 Mapei products contribute points to obtain the LEED (Leadership in Energy and Environmental Design) certification.

Installing soundproofing system

Mapesilent Band R: closed-cell, expanded polyethylene adhesive strip applied to perimeter walls and around the edges of elements which pass through screeds to avoid the formation of acoustic bridges.

Mapesilent Roll: sheet made up of a bitumen and special polymer-based elasto-plastomeric membrane sandwiched together with a resilient layer of polyester fibre and a surface coated with a layer of blue non-woven polypropylene fabric.

Mapesilent Tape: adhesive sealing tape made in closed-cell expanded polyethylene.

Building the screeds

Topcem Pronto (CE EN 13813, CT-C30-F6 A1, EC1 R): ready-to-use, normal-setting, controlled-shrinkage mortar for quick-drying (4 days) screeds.

Laying porcelain tile floors

Keracolor GG (GG2, EC1 R): pre-blended, high-performance polymer-modified cementitious mortar for grouting joints from 4 to 15 mm wide.

Keraflex Maxi S1 (CE EN 12004, C2TE S1): high-performance deformable cementitious adhesive with no vertical slip, extended open time and Low Dust technology for ceramic tiles, particularly recommended for laying large porcelain tiles and natural stone slabs.

Mapesil AC (F 12.5P up): pure, anti-mould, acetic silicone sealant for movements up to 25%.

Silence is golden,
a treasure brought
to you by **Mapesilent**

Mapei offers **Mapesilent**, the easy-to-use,
sophisticated soundproofing system **against
noise caused by footstep.**



Foto Miro Zagnoli



The new Lombardy Region complex in Milan

An innovative project for the new Lombardy Region headquarters

After publishing an international tender in 2003 to choose the most suitable project, which was then selected in 2004, excavation work on the foundations for the new headquarters of the Lombardy Region commenced in the Spring of 2007 in Milan. Work was completed in the Autumn of 2010 after a year of round-the-clock construction work. And after just a few months, and precisely on the 15th of February this year, relocation of the entire staff of almost 3,000 employees, to the new home for all the offices of the Lombardy Region was completed.

At the same time, in the presence of the then Mayoress of Milan, Letizia Moratti and the President of the Lombardy Region, Roberto Formigoni, the large covered square dedicated to the Cities of Lombardy was also inaugurated. This was just an appetizer for the official inauguration of the highest skyscraper in Italy, in the presence of the President of the Republic of Italy, Giorgio Napolitano, which took place on the 21st of March.

We are talking about Palazzo Lombardia, the name chosen by the citizens of Milan (the other two names in the race were Ca' Longa e Altra Sede), with 52.5% of the on-line votes in the final phase of the poll held by the Lombardy Region on its web site.

But for many Italians it is still known, and maybe will forever be known, as "the Pirellone twin", to distinguish it from the famous Pirelli skyscraper inaugurated in 1960.

During the ribbon-cutting ceremony of the Città di Lombardia (Cities of Lombardy) square, we were reminded that for almost 500

years, that is from the construction of Castello Sforzesco (Milan's castle), there had never been such an important public building, and not only from an architectural point of view, but also from an urban planning point of view, a building which has the capacity of expressing the new image of Milan as the hub of a polycentric system of cities, the peak which rises up from what is known as the "spreading city".

How is a Large-scale Plan Conceived?

The tower and the entire architectural complex of the new Lombardy Region headquarters are part of a more widespread reclamation project for the entire Garibaldi-Repubblica district, and this is the first project in this area in Milan. The new building has allowed the Region to unite all the offices, which were previously dotted around in various parts of the city, into one single complex while, at the same time offering spaces which may be used by the citizens of Milan and all the visitors.

Amongst the 98 projects presented for the international design compe-

titition by the Lombardy region in 2004, the choice went to the prestigious New York design studio Pei Cobb Freed & Partners (also designers of the Grand Louvre in Paris, the National Gallery of Art in Washington and the Fountain Place in Dallas), along with Caputo Partnership and Sistema Duemila, which are both design studios from Milan itself.

The headquarters comprises a complex which covers an area of 33,700 m² between the Milanese streets of Via Pola, Via Algarotti, Via Melchiorre Gioia, Largo de Benedetti and Viale Restelli. The structure includes a system of four curved buildings, each one with 9 storeys above ground and 3 storeys below ground level, and a central 39-storey tower in reinforced concrete, glass and steel. The tower is 161.3 metres high, which makes it 33 metres higher than the historical Pirelli skyscraper designed by Gio Ponti, and was inspired by the principles of quality, beauty, accessibility and savings. A curious detail: traditionally, the tallest building in Milan must have a statuette of the Madonna at

THE FIGURES OF PALAZZO LOMBARDIA

33,700 m²: the surface area of the complex

27,000 m²: the area of green and wooded zones

161.3 m: the height of the tower (the Pirelli skyscraper is 127.4 metres high and the statuette of the Madonna on the Milan's Duomo is 108.5 metres high)

39: the number of floors in the tower

115,000 m²: the area of the windows

32: the number of lifts, which run at a speed of 8 metres per second

4000 m²: the area of the Cities of Lombardy square

2850: the number of workplaces



A model of the new Lombardy Region complex in Milan (image taken from the Infrastrutture Lombarde SpA archives).



Photos 1 and 2. The tower during and after the construction phase.



1

the summit. And so a copy of the original Madonna, which is on top of Milan's Duomo, was blessed by the Archbishop of Milan Dionigi Tettamanzi and placed on top of the new skyscraper.

The tower is home for the political and administration offices, salons and offices used for receptions and meetings, the registry offices, the President's staff and a "Region Zone" used to promote the activities and services of the Lombardy Region administration.

The top floors of the tower are for public use, with a panoramic restaurant and a garden terrace.

The lowest buildings host the cultural, entertainment and service activities, and are connected together by an oval square with a large cover in plastic. The designers' idea was to create an area which, apart from its role of serving the public, could be lived in, visited and used by the citizens of Milan.

The central zone is also characterised by an area which is for pedestrian use only, made up of a series of internal squares to connect the new commercial activities which are at the service of the community as a whole. In fact, the new-born Città di Lombardia square (covering an area of approximately 4000 m²) is the home of various activities, such as a post office, a maternity school, an auditorium and a number of restaurants and bars.

The whole surface includes more than 26.000 m² of underground parking, 3300 m² of wooded areas and 7000 m² of hanging gardens.

There are two underground railway lines from the railway link which stop here, together with a number of bus routes and it is also close to the main railway station (Centrale) and the Porta Garibaldi railway station.

A total of around 400 million Euros have been invested in the area, but the Lombardy Region will save a considerable amount of money compared with before (almost 4 million a year), for the rents it will no longer have to pay for the various de-centralised offices around the city (councillors' offices, the City Council and various com-



Palazzo Lombardia floor by floor

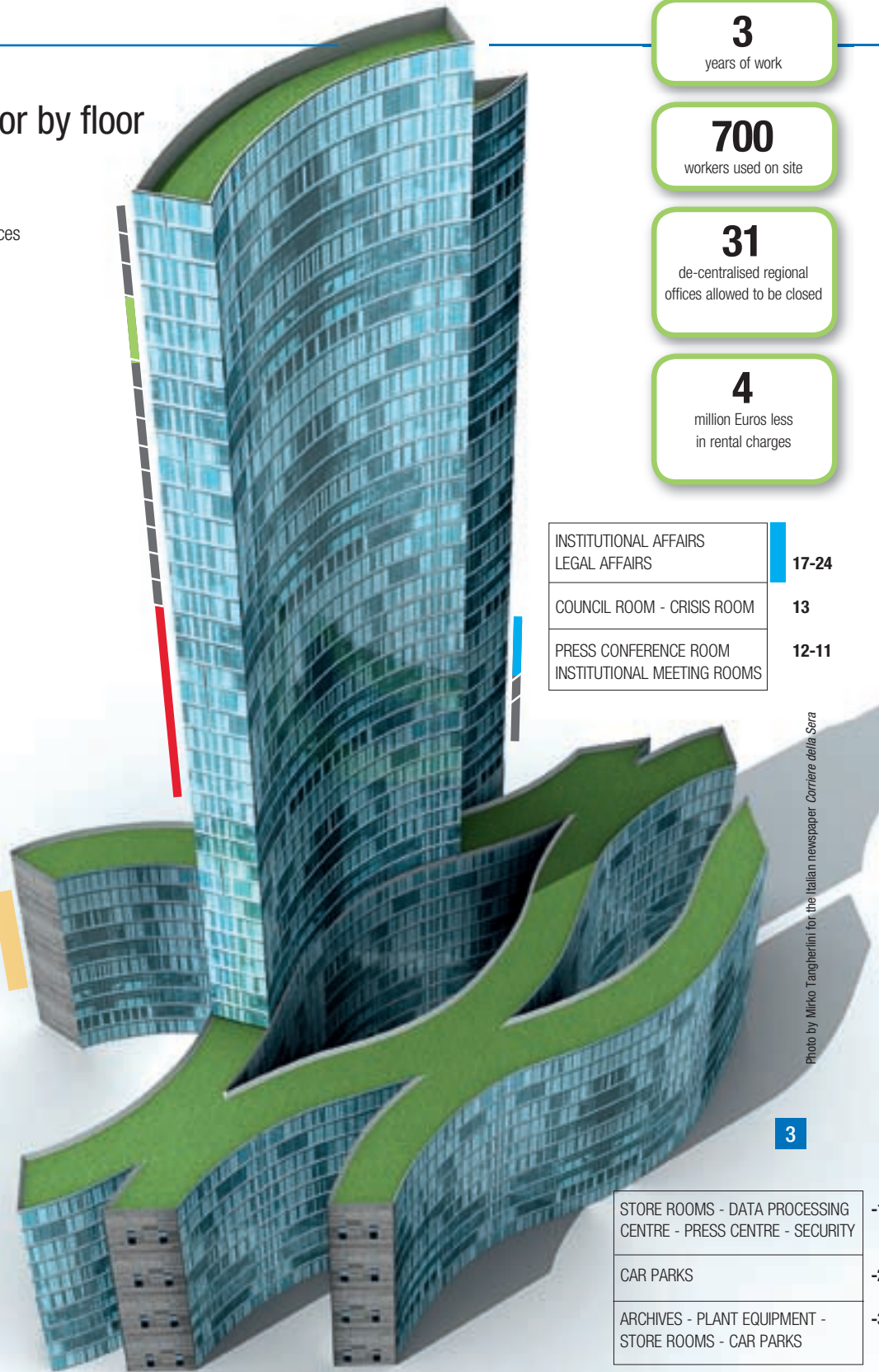
Key

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- Legal offices
- Managerial offices
- Councillors' offices

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BARS/RESTAURANTS - AUDITORIUM CRÈCHE - POST OFFICE REGION INFO POINT - REGISTRY	Ground floor



3
years of work

700
workers used on site

31
de-centralised regional
offices allowed to be closed

4
million Euros less
in rental charges

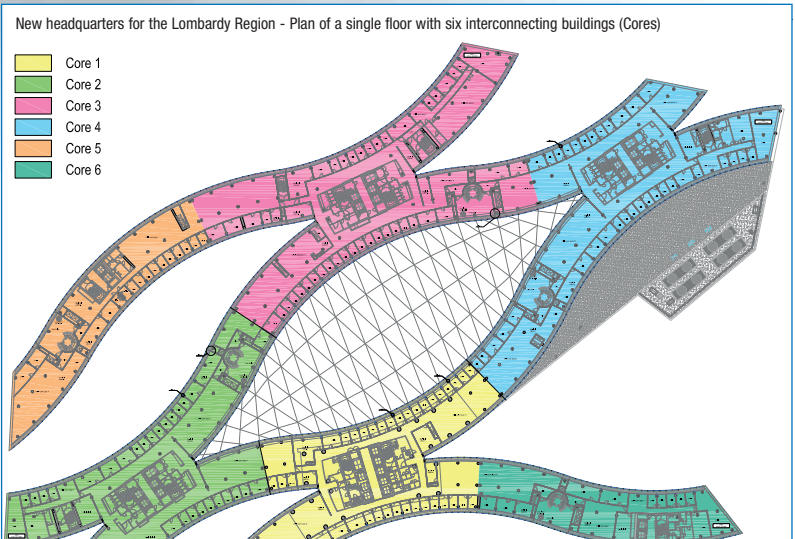
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Photo by Mirko Tangherlini for the Italian newspaper Corriere della Sera

3

Picture 3. A drawing of how a single floor of Palazzo Lombardia is divided according to functions.



panies and bodies connected to the Region).

An Eco-compatible Building

Palazzo Lombardia does not use any form of polluting combustible to run the building and very high attention to the concepts of low energy consumption and environmental sustainability were paid during the design phase, with the use of innovative, avant-garde technologies.

One of these is the so-called "cold beams" system. With this system, all the thermal energy required to heat the buildings is obtained by heating the groundwater pumped into underground wells with a heat pump, which is then discharged into the Martesana canal. The same groundwater will also be used in the Summer for the air conditioning system.

Part of the electrical energy required to run the structure is produced by photovoltaic panels positioned on the south-facing walls of the tower, and in order to maintain the tower's symmetry, etched panels which look like the panels on the south-facing walls have also been inserted on the north-facing walls. Also a "climatic wall", formed in the gap between the external façade and internal glass panels, collects heat from the sun and is used according to need in each season. And thanks to the use of these energy-saving concepts, an application has already been forwarded for LEED (Leadership in Energy and Environmental Design) certification.

The Design Concept for the Internal Spaces

The architectural form chosen for the entire structure was predominantly curved, with a series of circular sectors with the same radius which develop around the large Città di Lombardia square.

The built part of the structure comprises six interconnecting buildings: four of them (Cores 2, 3, 4 and 6) are 9 storeys high, one (Core 5) is 7 storeys high and the last one (Core 1) is the tower. The six main bodies of the complex generate the 4 "waves" which can

be seen in the plan view, joined together in correspondence with 4 stair wells (see picture 3). The first two floors, the ground floor and the first floor, are intended for a mixture of general public use and public-private use, such as an auditorium, a crèche, a gymnasium, a post office, exhibition areas, archives, media services and a library. From the second to the eighth floors, the areas are for office use only with around 500 work places per floor, divided between the City councillors' offices and the management offices. The great tower hosts the boardroom, various meeting rooms, the press office and further managerial positions, with the President's office at the 35th floor, a panoramic view from the 38th floor and a terrace at the top floor.

For the internal work spaces, the designers were looking for high organisational and distributional flexibility. A typical layout on the floors in the lower buildings includes offices for one, two and three people. The offices in the tower are of the open-space type: the regional offices of Palazzo Lombardia is amongst the first public offices in which certain functions are carried out in both open and shared spaces.

And Mapei is There Too....

Mapei has always had a close bond with its home city and has taken part in the construction and requalification of a number of the city's historical landmarks.

Between 2002 and 2005, Mapei took an active part in the restoration of the Pirelli skyscraper by supplying a series of leading-edge products and hands-on collaboration through its Technical Service Department (see *Realtà Mapei International* n. 17).

And Mapei certainly did not want to miss out on the Palazzo Lombardia project, by recommending the most suitable, leading-edge products for smoothing surfaces and for laying resilient coverings on the floors and stairs.

The sand and cement substrates were smoothed with NIVORAPID thixotropic cementitious smoothing compound for layers from 1 to

Photo 4. The vinyl fabric tiles were laid using ULTRABOND ECO FIX solvent-free adhesive based on acrylic resins in water dispersion.

Photo 5. The stairs were covered with PVC protective profiles laid using MAPECONTACT reinforced adhesive strip.

20 mm thick, to obtain perfectly flat surfaces.

Tatami Now vinyl fabric tiles produced by Liuni (for a total of 64.000 m²) were used to cover the floors of the office areas. Mapei's Technical Service Department recommended ULTRABOND ECO FIX solvent-free adhesive based on acrylic resins in water dispersion, which remains permanently tacking. The adhesive is not inflammable and has a very low emission level of volatile organic compounds (and, therefore, is EMICODE EC1-certified),





6




7

which is why it is absolutely harmless for floor layers when using the product or for the final users of the areas where it is applied.

PVC protective guards and skirtings were applied around the edges of the steps of the emergency stairs (for a surface of around 6000 m²) using 35 mm wide MAPECONTACT reinforced adhesive strip.

The product is completely free of solvents and odours, is supplied ready for use and may be applied and used very quickly.

An important project with a challenging, avant-garde design has now reshaped the skyline of a part of the Lombardy capital. And Mapei did not want to miss out on this important appointment with the city hosting its headquarters and gave its contribution. 

Photos 2 and 8 have been taken from issue n° 257/April 2010 of the magazine L'Arca, whom we kindly thank.



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IN THE SPOTLIGHT

ULTRABOND ECO FIX

It is an adhesive in water dispersion for bonding of textile floors with dry-lay floor tiles, as well as bonding of resilient floors with dry-lay floor tiles on all normal substrates used in building (as long as they are moisture-stable), on existing floors of every type (wood, PVC, rubber, semi-flexible vinyl, linoleum, ceramic, marble, etc.) and raised floors of every type. ULTRABOND ECO FIX is based on acrylic resins and formulated as an easily trowelable light cream paste, for application by roller, brush or trowel. When dry, the ULTRABOND ECO FIX

film remains permanently tacky, even after repeated removal and successive relaying of the floor tiles, it is therefore possible to remove or substitute the flooring easily. ULTRABOND ECO FIX can be used in areas with heavy foot and normal wheeled chair traffic. It is not inflammable with very low emissions of volatile organic compounds (it is **EMICODE EC1** certified), so it is absolutely harmless to the health of the installer and the end-user. It can contribute up to **3 points** to obtain the **LEED certification**.

MAPECONTACT

It is a reinforced adhesive strip for laying profiles, baseboards, covings and resilient and textile coverings. It is ideal for laying skirtings and rubber and PVC profiles, angular pieces and protective profiles for the edges of steps and sharp edges; for bonding resilient and textile coverings on steps and curved surfaces and in all the cases when bonding must be immediate. MAPECONTACT can be used on cementitious substrates, old ceramic, terrazzo and stone coverings, wooden substrates, old paintwork, wallpaper and glass fibre fabrics.





Photos 6 and 7. In the corridors and work areas the vinyl fabric tiles were laid using ULTRABOND ECO FIX. The surface had been previously smoothed with NIVORAPID thixotropic cementitious smoothing compound. **Photo 8.** Installation of the cover which protects the oval square connecting the various parts of the complex.

TECHNICAL DATA

Palazzo Lombardia, Headquarters of the Lombardy Region, Milan (Italy)

Period of Construction: 2007-2010

Period of the Intervention: 2009-2010

Intervention by Mapei: supplying products for smoothing surfaces, laying vinyl fabric tiles and laying PVC skirtings and protective profiles on the stairs

Designer: Pei Cobb Freed & Partners (New York, USA), Caputo Partnership and Sistema Duemila (Milan)

Client: Lombardy Region, Milan

Project Leader: Henry N. Cobb

Project Tender by: Infrastrutture Lombarde SpA

Integrated Tender: Consorzio Torre (Impregilo, C.M.B, Consorzio Cooperative Costruzioni, Consorzio Stabile Techint Infrastrutture, Cile SpA, Costruzioni Giuseppe Montagna, Pessina Costruzioni and Sirti SpA)

Executive Design: Consorzio Torre

Structural Design: Prof. Franco Mola

Main Contractor: Consorzio Torre

Contracting Pool Leader: Impregilo SpA

Chairman and General Manager: Gaetano Salonia

Technical Director: Vinicio Scerri

Site Manager and Safety Manager: Guglielmo Fariello

Electricals and Special Plant Equipment: Sirti SpA

Sub-contractor Fire-fighting Systems: Eusebi Impianti

Works Management: Infrastrutture Lombarde SpA

Works Director: Roberta Pasinetti

Executive Project Co-ordinator: Damiano Romeo

Head of Procedures: Antonio Giulio Rognoni

Laying Company: Liuni (Milan)

Laid Material: vinyl fabric tiles, pvc skirtings and profiles

Mapei Co-ordinators: Angelo Nobili, Massimiliano Nicastro and Antonio Salomone, Mapei SpA (Italy)

MAPEI PRODUCTS

The products mentioned in the article belong to the "Products for the Installation of Resilient and Textile Floor and Wall Coverings" line.

The technical data sheets are available at the web site: www.mapei.com.

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Smoothing the substrates

Nivorapid (CE EN 13813, CT-C40-F10 A2_n-s1, EC1 R Plus): quick-drying, thixotropic, cementitious smoothing compound for thicknesses of from 1 to 20 mm, including on vertical surfaces.

Laying resilient floorings

Mapecontact: reinforced adhesive strip for laying profiles, base-boards, covings and resilient and textile coverings on steps.

Ultrabond Eco Fix (EC1): solvent-free adhesive in water dispersion which remains permanently tacky, with very low emission level of volatile organic compounds (VOC), for self-laying flooring tiles.



Mapecoat TNS - the art of playing tennis on high-performance yet “forgiving” resin

A brand new product for tennis courts by Mapei

by Angelo Nobili*

Research into increasingly efficient products suitable for a multitude of requirements from the demanding world of the building industry has always been one of the key factors for the success of Mapei all around the world.

There are many different paths to create an excellent all-round product, and the Mapei Research & Development laboratories are the driving force behind this process. It is here that ideas take their form and body, and it is here that daily life on the building site is analysed with the aim of increasing the performance of existing products and, if necessary, creating new ones.

A continuous exchange of ideas and information which, apart from the R&D Centre, counts on other important figures in the process: clients, final users, product managers for the 15 product ranges, sales managers and, when the subject involves sport and sports complexes, Mapei Sport centre located in Castellanza (in the Province of Varese, Italy).

Anything can happen from the intuition of a client which has to solve a specific problem,

from a specialised floor-laying company, a careful marketing analysis which singles out potential new market segments to explore, or else, such as the example in this article, from all of these elements together with the special performance expectations that final users are looking for.

The final obligatory step which leads to the launch of a product on the market is to immediately verify its qualities by analysing and assessing its behaviour directly on site. The chance to carry out in-depth testing, to fine tune what has been previously done and to verify at the highest levels if the work carried out in the laboratory has been profitable, makes this the most decisive phase of the entire process.

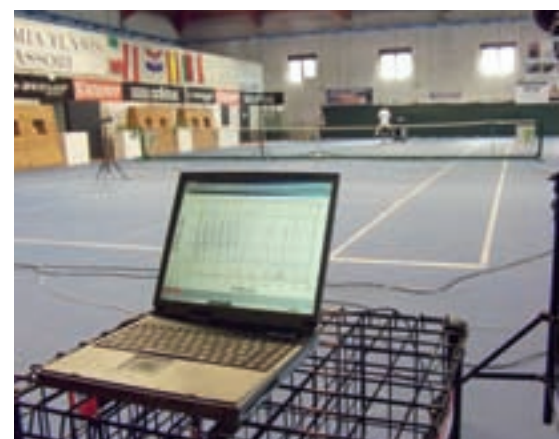
Tennis Courts: Different Surfaces

The rebuilding of a tennis court in Palazzolo sull'Oglio (Province of Brescia, Italy) in 2009, which is described in more detail over the following pages, is an emblematic case to describe exactly the synergy involved and to take a close look at the genesis of a technological product made in Mapei.

As we know, tennis courts may have differ-

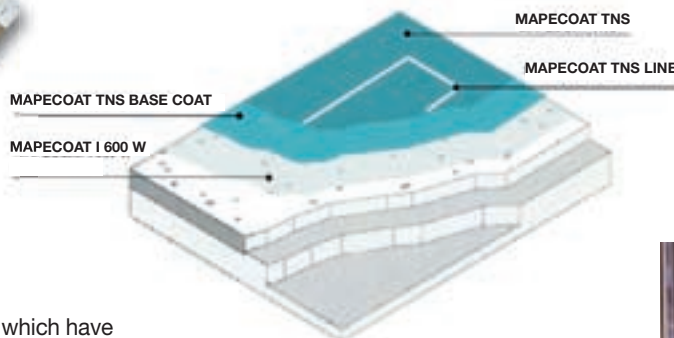
ent surfaces. Clay is the most widely used tennis surface in Europe and South America, while grass, made up of a thin grass surface over a very hard layer of ground, is widely used in the more prestigious tennis clubs which have the financial resources for their upkeep. This is the type of surface on which the Wimbledon Championships are held, the most prestigious tournament in the Grand Slam series.

The term “synthetic”, on the other hand,





MAPECOAT TNS SYSTEM



On the left. MAPECOAT TNS is available in 20 colours from the standard colour chart and according to individual samples using the automatic ColorMap® colouring system.

defines a wide array of surfaces which have their synthetic nature in common, and are used mainly for indoor courts.

And cement, finally, is a surface which is relatively quick to install and is quite common all around the world. It is mainly used for lone-standing public tennis courts and in schools, thanks to their low installation costs and the fact that they require no maintenance.

“One of the main advantages of cement (or rather resin) compared with clay or grass – says the tennis coach Renato Vavassori, who is member of the Italian tennis Federation (FIT) – is the evenness of the surface, which allows tennis balls to bounce regularly. However, because the surface is particularly hard and there is considerable friction between the surface and a player’s feet, it can cause problems to the joints in the legs”.

The Birth of MAPECOAT TNS

To get closer to the softness of clay while maintaining the speed of a resin surface were the main objectives to be achieved when developing this new product.

Technical requirements regarding the physical and athletic integrity of the players and the economical advantages of the product (quick installation and maintenance) led to the study of a new resin to satisfy all these requirements. The decades-long experience of Mapei applied successfully to the world of sport and the construction of sports complexes led to the birth of MAPECOAT TNS, which had its world preview at this year’s Domotex exhibition in Hannover (Germany), as described in *Realtà Mapei International* n. 33.

MAPECOAT TNS is made from acrylic resin in water dispersion and selected fillers which forms a flexible, moderately soft surface underfoot with excellent technical performance characteristics. Balls bounce perfectly to guarantee quick, spectacular matches, while changes in direction when running are sure and accurate, in that MAPECOAT TNS offers an excellent balance between friction and sliding.

MAPECOAT TNS, which is available in 20 colours from the Mapei colour chart or according to personal samples using the

COLOURS AVAILABLE



ColorMap® colouring system, has excellent resistance to abrasion, all types of climatic conditions, aggression from smog and sunlight and forms a hard-wearing, long-lasting protective layer.

Concrete surfaces to be treated with this product must be clean, free of loose parts and as flat as possible or with a maximum slope of 1.5%. The substrate must be sufficiently strong for the loads to which it will be subjected during tennis matches and, if the surface of the substrate is powdery, it must be treated with a suitable primer.

Mapei Sport's Contribution

And that’s not the end of the success story of this new product. The new tennis court in Palazzolo sull’Oglio, which was completed in 2009 and then successfully tested by dozens of players who expressed their appreciation for its technical characteristics and “forgiving” nature on their joints, is still under examination. In fact, Mapei Sport



centre from Castellanza, which has collaborated right from the very start with the design and development of MAPECOAT TNS, is completing a series of tests to evaluate the behaviour of the new surface (see the photos below in the previous page) regarding the bounce of the ball and the stress on players during matches, and to compare the results with other types of surface. The information available seems to indicate that the results are better than expected, so let’s just wait for the verdict of Mapei Sport to ensure a happy ending to a match whose outcome has never really been in discussion.

*Product Manager for the Mapei Line for the Installation of Resilient Materials





A Winning Player on Site

Rebuilding a tennis court using Mapecoat TNS

The Vavassori Tennis Academy, founded in Cividino (Province of Bergamo, Italy) in 1992 by the Italian tennis coach Renato Vavassori (who is also member of FIT, Italian Tennis Federation) can boast among its first apprentices champions such as Canè, Camporese, Sanguinetti, Bertolini, Meneschincheri and Bruno.

After fifteen years of experience and journeys to all the tennis courts in the world, with a number of national and international successes with Schiavone, Camerin, Weingartner, Bastl, Savolt, Vemic, Labadze and Bolelli, the Vavassori Academy has firmly maintained its initial objectives: to develop tennis players from a grass-roots level and help them develop with

Left. The pictures show the application of MAPECOAT TNS using rubber trowel. The final layer is 3 mm thick.

the healthy principles and values which sport instils in a person. The Academy is open every day around the clock to provide players with a constant reference point where they may improve their game and consider the academy a second home.

And it was exactly in one of the centres administered by the Vavassori Academy in Palazzolo sull'Oglio (Province of Bergamo, Italy) that the new product MAPECOAT TNS was used to rebuild the surface of one of the covered courts in the structure.

A New Product Put to the Test

The contribution of Arcadia Srl, a company based in Morengo



on the market, with the aim of getting the best results in terms of quality and efficiency.

The preliminary operation consisted in perfectly cleaning the old surface using high-pressure hydro-cleaning equipment.

After cleaning, the first layer of MAPECOAT TNS was applied with a rubber trowel.

MAPECOAT TNS is a coloured coating product made from acrylic resin in water dispersion and selected fillers for indoor and outdoor tennis courts (both new and already painted courts) and multi-discipline sport surfaces (used for basketball, soccer, volleyball, etc.).


A further three coats of MAPECOAT TNS were applied, respecting the recommended waiting times before applying each successive coat, to form a final layer with a thickness of 3 mm.

The impression of Pietro Gustinelli, works director, was quite flattering. "MAPECOAT TNS has shown to be a technically perfect product



(Province of Bergamo) which laid the new surface, was decisive in carrying out this important first application of MAPECOAT TNS. The idea behind the creation of Arcadia was to specialise in sports complexes, and the company has now been operating for a number of years in this sector with the best products available

– he said – with very good covering capacity and, when applied correctly, is able to even out irregularities in old surfaces extremely well".

And as they would say in tennis terms, by creating MAPECOAT TNS Mapei has replied with a winning return to a problem served by the market. 

TECHNICAL DATA

Tennis Court, Palazzolo sull'Oglio sports centre (Provincia di Brescia, Italy)
Year of Construction: 1992

Year of the Intervention: 2009

Intervention by Mapei: supplying products for renovating the tennis court's surfaces and laying a coloured acrylic resin coating

Client: Vavassori Tennis Academy, Palazzolo sull'Oglio (Province of Brescia)

Works Director: Pietro Gustinelli, Arcadia Srl

Laying Company: Arcadia Srl, Morengo (Province of Bergamo, Italy)

Mapei Co-ordinator: Angelo Nobili, Mapei SpA (Italy)

MAPEI PRODUCTS

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MAPECOAT TNS: coloured acrylic resin coating product in water dispersion with selected fillers for indoor and outdoor tennis courts and multi-discipline sports surfaces.

Mapei Sport Research Centre in Castellanza

Research, culture and services for sport

Ever since the first issue was published, *Realtà Mapei* (both in its Italian and international version) has always shown a keen interest in sport. At the beginning it was mainly cycling, of course, outlining the achievements and all the great victories by the Mapei Professional Cycling Team, but over time it has also looked at lots of other sports, which the Company has constantly supported down the years. Occasionally the magazine has talked about the Mapei Sport Research Centre in Castellanza (Province of Varese, Northern Italy), an international centre set up in 1996 to provide highly ethical, rational, scientific support for the athletes in the Mapei Professional Cycling Team and all its other satellite teams.

The Centre's "penman", who often wrote for the magazine, was Professor Aldo Sassi, the co-founder and general manager of the centre until 12th December last year, the day he passed away prematurely; *Realtà Mapei* editorial staff certainly miss his clear-sighted analyses and his concise and incisive style.

His great experience and very professional approach gradually enhanced Mapei's image as a company tied by twin threads to the world of sport, so that the corporate slogan "wherever you find Mapei you will find Sport" really was appropriate.

Origins and Mission

The Mapei Sport Research Centre, the beating heart of wide range of research and study operations which make it one of Europe's most authoritative and prestigious scientific centres dedicated to sport, lies on the cusp of this

reciprocal exchange of values between two very different realms. Initially devised by Giorgio Squinzi, CEO of the Mapei Group, who wanted "a facility capable of providing cutting-edge scientific aid for training the Mapei Professional Cycling Team, so that it could make as much progress as possible within the realms of sporting ethics and while, at the same time, safeguarding athletes' health". This idea really came to fruition when Squinzi and Sassi joined forces.

Photo 1. Sporting performance undergoes careful scientific analysis at the Mapei Sport Research Centre in Castellanza (Province of Varese, Italy).

So the Mapei Sport Service project was first devised in 1996 and the facility officially opened in 1998. Here sport turns into science, nourished by those ethical values without which no athlete and no sporting performance deserve even the slightest consideration. Because, as Dr Claudio Pecci, the new General Coordinator and Medical Director of Mapei Sport Research Centre, rightly points out: "the idea underpinning our work, deriving from a firm belief we hold and the fortunate coin-



cidence that Giorgio Squinzi and Aldo Sassi crossed paths, is to promote sporting culture at all levels. Not just exclusively along technical-scientific lines, but also in terms of training and education. We believe that the dominant view that the best possible results must be achieved at all costs needs to be counteracted along opposing lines, striving, first and foremost, to help people realise what they can achieve and how they can achieve it”.

It is worth emphasising the three key points constituting the Centre’s corporate mission, in order to really understand the targets that have been set:

- to help athletes achieve their legitimate goals (i.e. to perform to the very best of their ability);
- to transfer the knowledge acquired through experience at the very highest level of professional sport right down the chain to every other level: semi-professionals, amateurs, beginners and people practising sport for health reasons;
- to always conform to a rigorously scientific approach in absolute compliance with ethical-sporting values.

The entire Mapei team, headed by Giorgio Squinzi and Aldo Sassi, has geared the Centre’s operations to these guidelines. It will be hard to fill the gaping hole (on both a professional and personal level) left by Sassi’s premature



Photo 2. An old picture in memory of Prof. Aldo Sassi during a test with Cadel Evans.

Photo 3. The athlete Aniko Kalovics undergoing a test at the Mapei Sport Centre’s Laboratories.

Photo 4. Mapei Sport’s studies of performance-related factors are also performed out in the field, as in the case of football teams.



death, but his example and his meticulous work in training people and passing on his expertise will continue to produce great results over time.

The Centre has worked right across the board over the last fifteen years, providing notable scientific aid and knowledge, and it is currently focusing on various different sports: cycling, football, athletics (running), tennis, fencing, underwater sports, motorcycling, skiing, golf and the Paralympics sports, both by providing consultancy and advice to the staff of sports clubs to help assess individual athletes and also by individually following a number of both professional and amateur athletes.

The goals which the Centre has set itself in the near future are neatly summed up in the words of Giorgio Squinzi: “We need to carry on the work Aldo Sassi and I first began a number of years ago. Thanks also to the work being car-

ried out at the Centre our ethical vision of clean sport is beginning to make headway. By continuing obstinately along this path and widening its horizons to embrace more athletes and study new sports, the Centre can become a truly international benchmark for the world of sport”. Words which Aldo Sassi would have agreed with entirely and which, partly in his memory, are already being fulfilled here at Castellanza.

Three Precise Guidelines

The staff at the Centre is composed of researchers, doctors, sports technicians and highly qualified support staff specialising in various fields of medicine and science.

Alongside the strictly medical area, headed by Dr Claudio Pecci, which includes doctors specialising in sport, nutrition, orthopaedics, traumatology and psychology, two other departments help form





the backbone of the Centre.

We are referring to the Human Performance Laboratory run by Ermanno Rampinini and the Biomechanical Laboratory run by Andrea Morelli.

Top level staff who have always worked and continue to work along three main lines:

- assisting athletes by studying and optimising key performance-related factors:
- assessing their state of form, planning training and providing sporting medical aid (prevention, health education, assistance, rehabilitation and medical certification for taking part in competitive racing), identifying specific needs for guaranteeing healthy sporting activity, and the biomechanical study of the movements and gestures of sportsmen and women.
- research applied to individual sports events as a fundamental part of a constantly innovative and rational approach to all the various issues involved in taking part in sports at all levels, mainly focusing on the physiological side of exercise and biomechanics.

- sports culture and ethics, training and education or, in other words, information about scientifically proven knowledge designed to help promote an increasingly rational approach to sports and health as the way to achieve better results, not only on a competitive level but also, and above all, in order to safeguard and improve a person's health and physical well-being.

Training and Testing Programs for Sport and Health

Preparing for a top-level competition or simply following a lifestyle geared to movement and physical activity in order to get and stay healthy and in good shape are important targets, which need to be undertaken on a serious basis. And while "method, application and consistency" are the three keywords for anybody interested in achieving these results, the contribution of science applied to sport can now provide a winning opportunity for ensuring you really do achieve these goals.

Photo 5. Work being carried out at the Mapei Sport's Laboratory.

This is the task the Mapei Sport Centre in Castellanza has set itself in conjunction with research, providing a wide range of specific areas of assessment and planning. Examining them one by one may be useful for anybody interested in personally contacting the Centre.

• Analysis of Performance Factors

From an analysis of the factors which determine the individual's performance in the sport played, the most suitable performance assessment and optimisation routes are identified, in order to rationalise each and every aspect of training and preparation as a whole.

• Assessment of the Aerobic Aspect

Specific field tests and/or analysis of laboratory tests allow the performance or efficiency level reached in various periods of the year to be quantified (performance monitoring), to determine the optimum training and race intensity, and to establish a rational programming of physical activity.

• Assessment of the Anaerobic Aspect

These assessments allow to determine the lower limbs power by jumping on an dynamometric force platform or during the pedalling action, and to analyse the acceleration using a radar instrument, both for performance monitoring and for optimising the training programme.

• Training Programmes

According to the assessment carried out, personal training programmes for running, cycling, triathlon and specific athletic preparation programmes for all kinds of sporting disciplines are elaborated. Mapei Sport Service has been involved for a number of years in research, assistance in assessment and on a consultancy basis for various team sports, such as soccer, volleyball and basketball.





For these disciplines, dedicated assessment packages regarding both the aerobic and the anaerobic aspects have been perfected, which may be carried out directly on the training camp in a few hours.

• **Biomechanical Laboratory**

Some of the various services are available: optimisation of the position taken up when cycling, dynamic analysis (while walking, running and pedalling) of the plantar pressure, design of orthotics for sports shoes, analysis of thrust balance while pedalling or jumping, dynamic and static calibration of power-monitoring systems.

• **Wellness**

The Centre also offers specific programmes for screening and assessing those who carry out, or intend carrying out, sporting activities simply for health reasons - at any age - to single out the most suitable discipline for each person; drawing up of personalised physical activity programmes for health reasons; dedicated proposals for the development of wellness activities within companies.

• **Sports Nutrition Service and Dietology Service**

The Sports Nutrition and Dietology Service, headed by Dr Luca Mondazzi, provides nutritional advice for sportsmen and women based on three main objectives: the first involves assessing their nutritional status and body composition; the second involves optimising their body composition (fat mass and lean mass), in relation to their own specific sport based on a special diet; the third aspect concerns nutritional advice specifically geared to various stages in training and competition, in order to maintain/improve health and optimise sporting performance.

The Sports Nutrition and Dietology Service makes use, amongst other things, of diagnostic methods for



CLAUDIO PECCI

General Co-ordinator of Mapei Sport and Medical Doctor specialised in Sports Medicine

Doctor in sports medicine, who has chaired and spoken at lots of conferences and seminars in Italy in the field of sports medicine and the Organisation of the Sports Health Service, he was the team doctor of professional cycling squads including the Mapei Professional Cycling Team from 1999-2002. At the moment, as well as being the medical director at Mapei Sport, he is also President of the Como Sports-Medical Association (FMSI), a member of the FMSI Regional Committee and Regional Committee of Italian National Olympic Committee (CONI) for Lombardy, a member of the teaching staff at the CONI Sports School for Lombardy, a delegate for FMSI CONI for the Province of Como, Past President of the Panathlon International Club in Como and social doctor for territorial sports associations (cycling, athletics, football, tennis canoeing and the physically challenged). He was the team doctor for the Italian National Professional Road Cycling Team from 2005-2010 and team doctor for the Men's Olympic Italian Cycling Team at the Beijing Olympics in 2008; from 2004-2008 he was a member of the FMSI College of Professional Sports Doctors and, finally, the Italian National Track Racing Team doctor from 1979-1987 and Italian National Olympic Track Cycling team doctor for the 1980 Moscow Olympic Games and 1984 Los Angeles Olympic Games.



ERMANNO RAMPININI

Director of the Human Performance Laboratory

A sport scientist and member of the European College of Sport Science, he is author of several scientific international publications and lots of informative articles. He has been the Director of the Human Performance Laboratory since 2002, where training consultancy and assessment operations are carried out for athletes drawing on the resources of Mapei Sport. For a number of years he was responsible for the Physiological assessment of the Italian National Alpine Skiing teams. His work at the facility currently includes providing consultancy and advice for top-level Italian and European football teams.




ANDREA MORELLI

Head of the Biomechanical Laboratory

A sport scientist, researcher and sports technician, he is in charge of the Biomechanical Laboratory, mainly focusing on studying processes for optimising the cyclist's riding position.

He is currently the trainer of Cadel Evans, Ivan Basso, Damiano Cunego and Michael Rogers.

directly measuring energy expenditure both at rest and while engaging in sport. The Sports Nutrition and Dietology Service is available to a wide range of people, including those with excess weight issues (being overweight or obese) and/or metabolic alterations (dys-

lipidemia, diabetes), and aimed at improving a person's state of health and well-being based on a proper diet and correct approach to physical exercise. 

For further information please consult the website www.mapeisport.it.



A new lakeside house for Australian sport

The Australian Institute of Sport European Training Centre has opened in Gavirate (Italy)

The Australian Institute of Sport European Training Centre opened in Gavirate on Lake Varese (Italy) on 3rd March. This new sports centre will be used by Australian athletes and, as well as accommodation and a cutting-edge medical centre, will also provide training facilities for lots of different sports ranging from canoeing and cycling to swimming and basketball. We might very well call it “Australia House”, a sports centre commissioned by the Australian government with the help of the Varese Provincial Council, which embraced the idea of creating a permanent multidisciplinary training centre for athletes coming from the southern hemisphere. This actually crowns a great idea first thought up many years ago, which Mapei and the Mapei Sport Research Centre in Castellanza (Province of Varese, Italy) have played a key role in setting up, together with various local institutions.

This all began a long time ago when the “coxless four” Australian rowing team chose Lake Varese as a training camp in 1992 to prepare for the Olympic Games in Barcelona after two relatively unsuccessful seasons. The team won the Olympic gold medal and that first successful training camp led to plenty of other experiences. Following the

2000 Sydney Olympic Games, the AIS – Australian Institute of Sport – began thinking about building a permanent sports centre in Europe. Three cities were short-listed: St. Etienne, Aix les Bains (both in France) and Gavirate. “We chose Italy because it offered an excellent training environment – so Warwick Forbes pointed out, the AIS General Manager who was involved in this project from the very beginning – and its closeness to Malpensa airport is also crucial.” An important factor in swaying this decision was also the lengthy friendship and working partnership that gradually linked the Mapei Sport centre with teams and athletes from this very distant country, which is now so much closer. The close bonds and working relationship between Mapei and Australian sport – cycling in particular – began over ten years ago when the Mapei Professional Cycling Team was strengthened by taking on some promising young Australian cyclists. This was a carefully thought out decision that was not intended to make the team more international, but rather was connected with an awareness that Mapei and Australian cycling share the same sporting spirit based on an ethical approach to cycling and its values.

Ties which, grounded on these prin-

Above. A picture of the new Australian sports centre in Gavirate. This city in the Province of Varese (Italy) was chosen because of its lengthy working partnership with the Mapei Sport centre in Castellanza (Province of Varese, Italy).



principles, have only grown stronger over the years and cyclists which rode for the Mapei team back then included Michael Rogers and Cadel Evans, who converted from mountain biking to road racing. At the time Mapei was looking for somebody who could potentially win a stage race and Evans was considered as being one of those cyclists, as he went on to prove later in his career. When he joined the Mapei team in 2002, he began being trained by Aldo Sassi, the head of the Mapei Sport Research Centre, a trainer who was not a doctor, paying testimony to Cadel's desire to improve “simply” through hard training. This athlete, who is a favourite with all cycling fans, was eventually rewarded for years of hard work when he won the 2009 Road Cycling World Championship.



in Mendrisio (Switzerland).

The fact that Mapei's ethical approach to cycling is exactly the same as Australia's explains why the Company decided to back the Australian cycling program in Europe from 2003 onwards, sponsoring representatives of the Australian Institute of Sport with the Company's logo when they took part in European events. This partnership also strengthened the working relationship and bonds between the Mapei Sports Research Centre and the Australian Institute of Sport to the point where the AIS decided to base its European operations in Gavirate with the help of Mapei.

Australia House

The building constructed to accommodate sportsmen and women coming from the land of kangaroos has been officially handed over to the Canberra (Australia's capital) sports authorities, which will be based there for the next 20 years. To go into greater detail, the new facility along the lakeside has 25 double rooms, a canteen and kitchen, fitness room and rehabilitation centre, sports medicine cen-

Above. The new facility holds accommodation quarters and all kinds of sports facilities.

tre and meeting rooms. In addition, Australian athletes have access to lots of outdoor and indoor sports facilities in the province of Varese. The opening ceremony was attended by politicians, sports officials, authorities and sports people. The ceremony was deliberately performed in English to emphasise the fact that this area in the province of Varese has been taken over by Australia. The ceremony was conducted by Johan Coates, President of the Australian Olympic Committee, Mark Arbib, the Australian Minister of Sport, and Warwick Forbes, General Manager of the Australian Institute of Sport, who for three years kept track of work on this sports hub in a foreign land, the first experience of its kind on an international scale.

Important guests in attendance included the President of the Provincial Council, Dario Galli and Marco Reguzzoni, a Member of the Italian parliament who set the operation underway six years ago. Other guests included the Mayor of Gavirate, Felice Paronelli, and a number of town councillors and local officials, as well the Prefect Simonetta Vaccari and regional councillors Giangiacomo Longoni and Renzo Bossi. Sportsmen and women in attendance included Dino Meneghin, Cecco Vescovi, Noemi Cantele, Elia Luini and Fabrizio Macchi.

The first Australian athletes arrived in mid-March in the form of the table tennis team, followed by the participants in a four nations wheelchair basketball competition between Italy, Australia, South Africa and France (beginning in late April). That was followed by athletes from the sailing, rowing,

cycling and para-cycling teams. During the official speeches it was frequently pointed out that there had been a long-lasting friendship between the Italian and Australian National Olympic Committees and International Olympic Committee, a friendship which began back in 1956 when the Italian city of Cortina hosted the Winter Olympics and the Australian city of Melbourne the Summer Games. A delegate for the Italian Olympic Committee (CONI), Giovanni Petrucci, invited the local Provincial Council not to underestimate the enormous potential of this kind of undertaking, which will also allow local athletes to compete against rival sports people of the highest level.

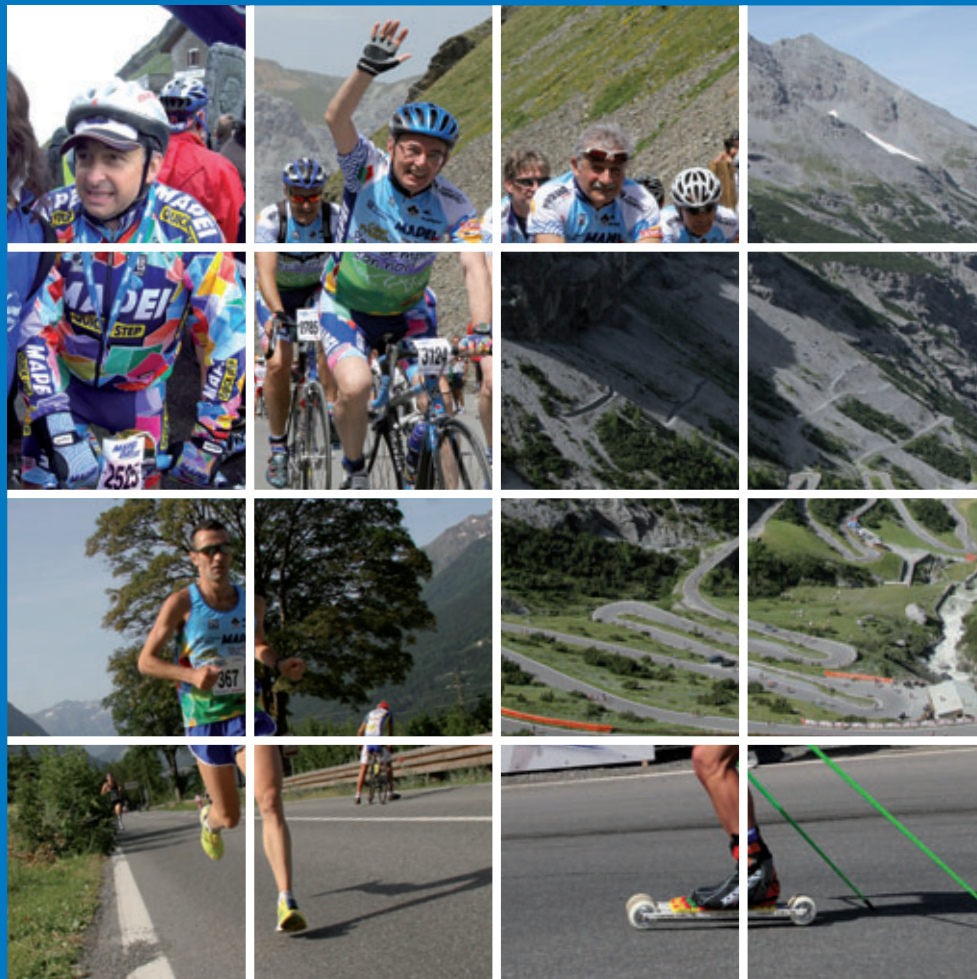
An invitation which, in any case, local teams have been taking advantage of the some time now, as sports teams of various kinds have been making use of lots of local sports centres and facilities in Gavirate and Castronno for a number of years.

Australia's sporting adventure in Italy got off to the best possible start. The Milan-San Remo road race, the important spring one-day cycling race and one of the events cyclists all over the world would love to win most, was won by the Australian cyclist Matthew Goss, who outsprinted a small breakaway group of top riders: Fabian Cancellara came second and Philippe Gilbert third.

The bond between sport and Mapei and between Australia and Mapei is being strengthened even further, while the working partnership between the Mapei Sport Research Centre and the Australian Institute of Sport European Training Centre in Gavirate is also developing further on. Mapei is proud to support sport in a country like Australia, where the feeling for sport is very similar to that within the Company. This explains why Mapei decided to be the main sponsor of last year's UCI Road Cycling World Championship held in Geelong, Australia (see *Realtà Mapei International* no. 33). Partly thanks to Mapei, Australia will no longer be so far away from Italy.

MAPEI DAY 2011

Bormio, 17th July
Stelvio Pass



Sunday 17th July

PROGRAMME

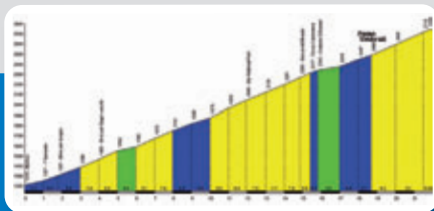
- 8.40 a.m. Ski roll race** (for members only)
- 8.50 a.m. Half Marathon** (for members of Fidal or other amateur associations only)
- 9.00 a.m. Running Race Open to All**
- 9.15 a.m. Re Stelvio - Mapei Competitive Cycle Race – 27th edition** (for Enti Consulta members only)
Female Cycle Race
By bike and with proper jersey
- 9.30 a.m. Re Stelvio - Mapei Competitive Cycle Race 27th edition** (for Enti Consulta members only)
Male Cycle Race
Mapei Bike Ride (for all those interested, alongside champions of the Mapei Professional Cycling Team and other sport VIPs)
- 2.00 p.m. Timelimit Race**
- 4.00 p.m. Prize-giving Ceremony** in Piazza Kuerc in Bormio

A free training schedule for runners and cyclists is available from: www.mapeisport.it

COURSE

A 21.097 km climb from BORMIO (1,225 m a.s.l.) to the STELVIO PASS (2,758 m a.s.l.)
Difference in level : 1,533 m.

Starting Line: via al Forte (Bormio City Centre)
From 2.00 p.m. a shuttle bus service will be available from the Stelvio Pass to Bormio.



ENTRIES

from **1st April to 12th July** at the web sites www.winningtime.it, www.usbormiese.com, www.pops0.it, or else at the Unione Sportiva Bormiese Headquarters via Manzoni - Bormio.

Maximum amount of entries: 3,000

Entry fee: 25 Euros, for entries from 1st April to 30th June.

For entries from 1st July to 12th July, the entry fee is **40 euros** including **Mapei Day jersey**, which you are kindly requested to wear

- Clothes transport service up to the Stelvio Pass
- Refreshment points alongside the course and at the finish line
- Shuttle bus service from the Stelvio Pass to Bormio (for both bicycles and athletes)
- Mapei Day medal
- Photo and race certificate (both available and downloadable at www.mapeiday.com)
- Personal time of the athletes (Winning Time)

N.B. FREE ENTRY on the website www.mapeiday.com for Mapei customers using their customer code and for readers of Realtà Mapei using their Realtà Mapei code

HOTEL INFORMATION

Apt Bormio

Phone number: +39 0342 903300 - info@aptbormio.it

Tourism Bureau: phone number: +39 0342 903300

Special hotel prices for accommodation and lunch at a number of hotels and restaurants.



The event is supported by the Bormio City Council



The event is supported by the Sondrio Provincial Council



www.mapei.com

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