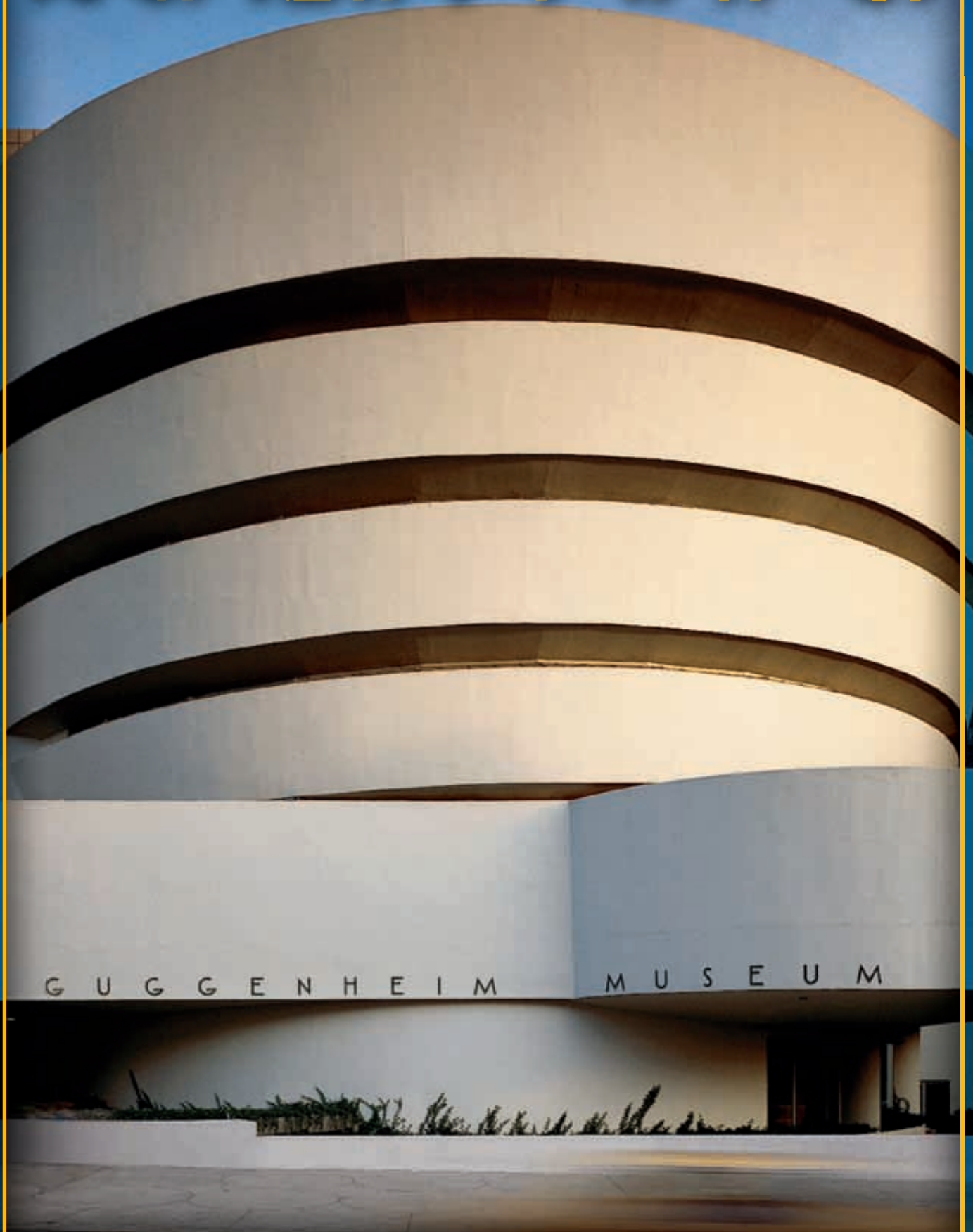


INTERNATIONAL

# REALTÁ MAPEI



Year XI - No. 27 - January 2009

# A POSITIVE CHALLENGE

Dear *Realtà Mapei International* readers, Mapei's leading role in Italy and all around the world in the chemical products for building industry allows us to take a particularly long-range view of market developments. This has enabled Mapei to act positively even during a year which will be remembered as the year of the great crisis, confirming its status as a solid and constantly growing company based on continual innovation.

Let's remember, for example, the announcement, right in the heart of the financial storm, that it was taking over the international group Polyglass and also the extensions Mapei has made to numerous production units, starting with the Group's biggest manufacturing plant in Robbiano di Mediglia near Milan. Without forgetting, as regards its international growth, the new production units it set up last year in Russia and Dubai, which are now fully operational.

The secret behind Mapei's constant growth lies, as always, in very concrete values, such as constant commitment to achieve excellence in its work and an ability to plan for the future with a great sense of responsibility towards its own business partners.

The real challenge in this respect lies in innovation with a view to developing increasingly less hazardous products, which are less and less dangerous for both people and the environment and more and more suc-

cessful in meeting the needs of modern building. A goal which requires Mapei to make great efforts in terms of employing its resources, but which, according to experts, will pay off even in the medium term.

In addition to this, its corporate policy focuses on concentrating its efforts on Research & Development into new products, strengthening its internationalisation by building new production units and extending its existing plants.

This means that Mapei will be able to take on the challenges which lie ahead in the future with great clarity, successfully transforming them into positive opportunities to grow for the entire building industry.

It is to be hoped that over the forthcoming year Italian businesses will show the same kind of reaction they demonstrated, for example, during those dark days after the

war. This is a very delicate moment requiring everybody to really pull together and all the various parties in play to co-operate much more closely. Right through its history Mapei has managed to overcome some tricky periods, always emerging stronger than before. Courage and a commitment to tackle such situations are part of its DNA. And with your help we are certain we will succeed once again.



*Giorgio Squinzi*  
CEO of the Mapei Group

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**Main cover photo:**

Mapei products rose to the challenges of one more prestigious renovation project and contributed to restore a masterpiece of modern architecture: the Solomon R. Guggenheim Museum in New York (see article at page 24).



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[www.mapei.com](http://www.mapei.com)

The Mapei web site contains all the information about the Group's products, its organisation in Italy and overseas, its involvement in the sector's main trade fairs and lots more.

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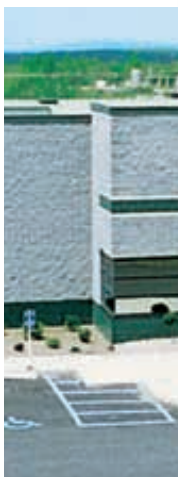
# POLYGLASS joins



## The Family has grown bigger

It was made official at Saie 2008: Polyglass and Mapei have joined forces to create a "hurricane-proof" team. The Mapei Group has bought the Polyglass Group, a company at the very top of the market for manufacturing waterproof membranes and insulating systems for the building industry, with a turnover of 120 million Euros. This has enabled the Mapei Group to enter the market for bituminous membranes and it also completes its range of waterproofing products for this particular sector. The Polyglass Group has 5 manufacturing plants around the world and employs a total of 400 staff, who have all been taken on by the new owners. The Mapei Group, which has been run by the Squinzi family since 1937, aims to reach a turnover of 2 billion Euros by 2010. "Thinking big and expanding around the world while hanging on to the characteristics of a family-run business" is the philosophy of Giorgio Squinzi, who now heads the Company founded by his father Rodolfo.

"This take-over is in line with our strat-



egy - so Giorgio Squinzi commented - which focuses on structural growth on markets but is also ready to make interesting purchases when the opportunity presents itself, as in this case." "A marriage between two companies which, leaving aside the differences in size, share a number of values - so Pierluigi Ciferri, the Managing Director of Polyglass Europe, noted - and which now makes it possible to create an

entirely Italian technological research centre of the very highest standard in the field of waterproofing, making Italy one of the key players in this sector. Our entry onto such an important enterprise will allow some extraordinary synergies, which will stimulate growth on world markets which otherwise would have been difficult to reach." The Mapei Group, which now has 8 central R&D Laboratories and 53 Quality

# the MAPEI GROUP



Above: Giorgio Squinzi (left) and Pierluigi Ciferni, Managing Director of Polyglass Europe, during a press conference held at the 2008 edition of the Saie exhibition announcing that Mapei had taken over the Polyglass Group.

Opposite page: the plant and headquarters of Polyglass Europa in Ponte di Piave (in the province of Treviso in northern Italy).

Below: the three Polyglass plants in the United States; from left, Fernley (Nevada), Hazleton (Pennsylvania) and Winter Haven (Florida).

## Polyglass Under the Microscope

Polyglass is an international research and development group which manufactures waterproofing products with bitumen-polymer membranes and thermal and sound insulating systems. Polyglass's headquarters are in Ponte di Piave in the province of Treviso (northern Italy), where the Group's biggest plant is also located covering 90,000 m<sup>2</sup>, 25,000 of which are covered. There are four lines for manufacturing membranes here (and a fifth at the plant in Bari), plus a line for manufacturing heat and sound insulators.

The Polyglass Group now has five manufacturing plants, two in Italy (Ponte di Piave and Bari in southern Italy) and three in the United States (Fernley in Nevada, Hazleton in Pennsylvania and Winter Haven in Florida). Four manufacturing lines for membranes and three for coatings are currently being built in the USA. The Polyglass Group currently employs about 300 people



Control Laboratories, allocates about 5% of its yearly turnover and 12% of its staff to Research and Development. For its part, Polyglass's "dowry" is powerful technological leadership in this industry and a notable manufacturing capacity at its plants in Italy and the USA, without forgetting its subsidiaries in the UK and Romania. As Mr Ciferni noted: "Despite the current situation, we expect to do well on the American

market thanks to our innovative technology. The third of our plants, which opened in Florida in 2006, is running at full capacity and can manufacture up to 10 million m<sup>2</sup> of waterproofing materials a year". The success is partly due to the development of a new self-adhesive membrane, covered by numerous patents and certified as "hurricane-proof" by the US State of Florida's Building Code.

around the world, plus 100 agents-reps in Italy and the USA.

## Research & Development and Training

As in the case of Mapei, one of the key words for the Polyglass Group is innovation. Research & Development focuses on new liquid products for coatings, SONIC sound insulation products and POLYKOOOL eco-compatible solutions,



Left: a stage in controlling the bituminous layers and studying their properties under a microscope.

Right: partial view of one of the production lines for the membranes at the plant in Ponte di Piave (Treviso) and a stage in the application of an ADESO® membrane on the roof of a warehouse.

Below: the full range of Polyglass products.

which are now distributed on the US market, for reducing emissions and heating in the air (bitumen-polymer membranes, self-adhesives and non self-adhesives, highly reflective to reduce heat exchange due to radiation to the maximum).

Alongside cutting-edge research, training is also another sector of fundamental importance for the Company. Polyglass organises specialist training courses for technicians and application, held in a spacious and well-equipped hall at its headquarters in Ponte di Piave since 1995, and is also equipped with multimedia tools for spreading its know-how.

**An Example of Applied Research: the NAT® (No Ageing Technology) Project**

The NAT® (No Ageing Technology) project was set up five years ago in conjunction with the Polyglass factories in Hazleton (Pennsylvania) and Fernley (Nevada). Polyglass researchers, working in partnership with leading universities, were attempting to discover the polymeric ageing processes affecting bituminous membranes and, at the same time, to create products which are not affected by environmental factors connected with the different times of the year and application conditions in general. Scientific research was based on studying traditional modification technology based on APP (atactic polypropylene) and IPP (isotactic polypropylene), ready to bring together new thermal polyolefin resins and polymeric synthesis additives, which are not affected by the effects of polymeric decay.

In order to make the best possible use



of new NAT® technology, Polyglass has made notable industrial investments now enabling more effective use to be made of NAT® technology, thanks to the totally mechanical system for mixing the resins and loading during the mixing phases, controlled by PLC.

In addition to guaranteeing manufacturing consistency, this also avoids problems connected with the decay of raw materials, inevitable with the old open-air storage systems.

**ADESO®, Innovation in Self-Adhesive Membranes**

Polyglass products have developed considerably down the years. But now let's take a closer look at ADESO®, a particularly cutting-edge line of Polyglass's production range. In forth-





coming issues of our magazine we will inform you about all the other leading products manufactured by this new subsidiary of Mapei. The latest generation of self-adhesive membranes using ADESO® technology is actually the most innovative bituminous waterproofing product on the market. These membranes are created using innova-

tive technology allowing the stratification of more bituminous layers and hence the construction of membranes of varying thicknesses with self-adhesion properties.

The following are some of the distinctive features of ADESO®: self-adhesive membranes using this technology are applied without the use of flames and specific parts or non-adhesive areas can be treated using hot-air leister, rubber cement or propane gas flamless blow torch. Self-adhesive ADESO® mem-

branes also respect the environment and do not generate fumes, odours or noise during application. Finally, they are also particularly easy and quick to install in vertical structures.

#### The Future Together

For Polyglass, just like Mapei, internationalisation moves hand-in-hand with scientific research and the attempt to provide brand-new solutions, which are increasingly simple and effective, meaning technological progress connected with attention to the environment and working conditions. In actual fact Polyglass, just like Mapei, follows the "LEED" (Leadership in Energy and Environmental Design) certification system, sharing the same basic goals as the Green Building Council it also belongs to: helping spread a culture of sustainable building, informing public opinion and the institutions about the impact methods of designing and constructing buildings have on people's quality of life, and setting clear guidelines for people working in this industry.


It is over 35 years since Polyglass was founded in 1969 and over 70 years since Mapei was first established. There have been lots of changes down the years, but both companies still have the same basic spirit. Their desire to grow is as strong as ever and, instead of being afraid of the future, they see it as an opportunity to constantly improve. Research, innovation and internationalisation have always been part of both Companies' DNA. Let the hurricane blow... this marriage will not feel its effects.



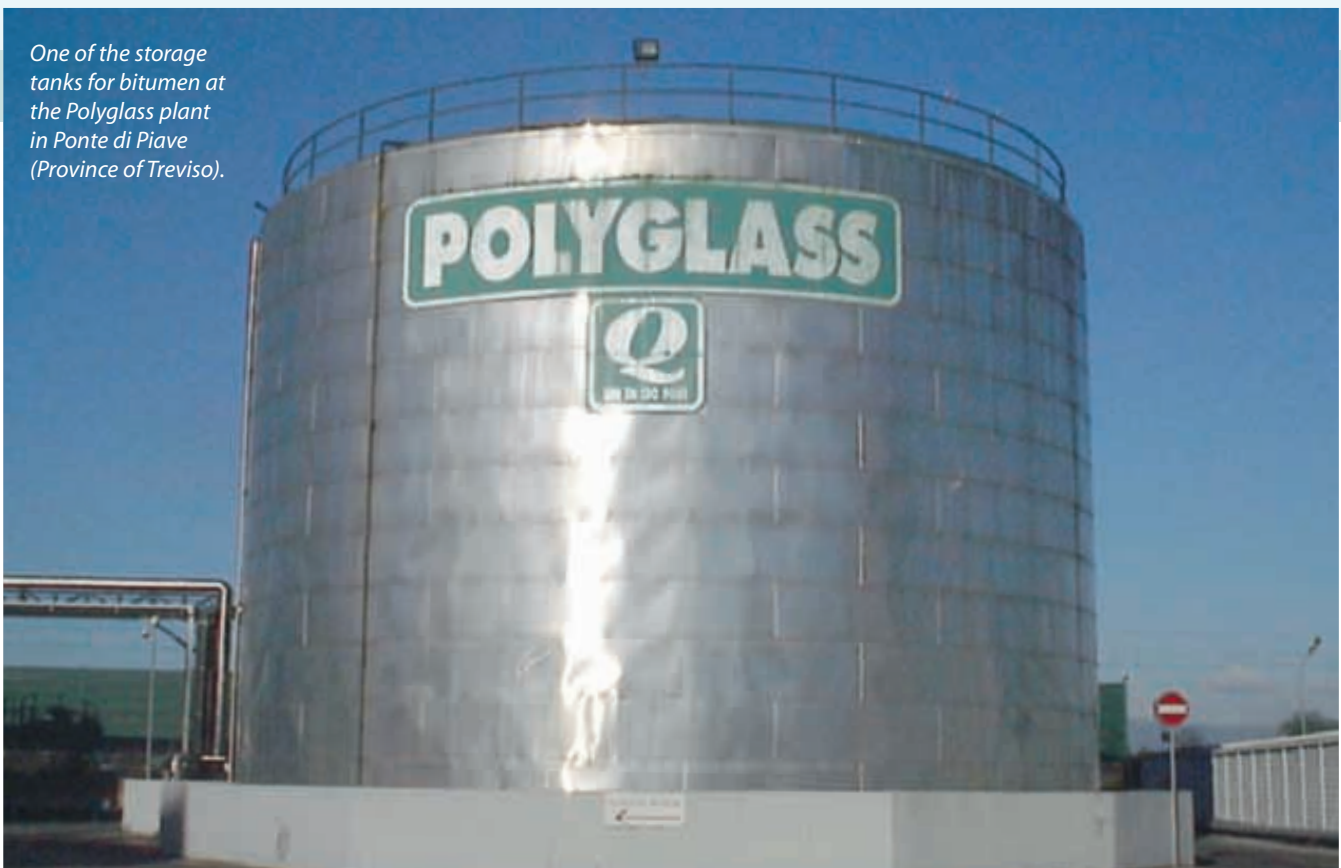
## SHARED ROOTS FOR TWO BIG COMPANIES

Mapei and Polyglass are two big Companies sharing the same family roots: Rodolfo Squinzi founded this great Milanese Company in 1937, which is still growing thanks to the work of later generations. Polyglass was established in the Veneto region thanks to the foresight and work of the Zanchetta brothers in the 1950s and numerous members of the family were, and still are, involved in the business. These are two exemplary business enterprises connected with a form of growth starting from the bottom, drawing on a vision based on shared values: hard work, ethics and close ties with the surrounding territory, but with an eye for the international scene.

Pierluigi Ciferni himself tells us Polyglass's fascinating story of Italian excellence: "Everything began just after the war in the 1950s in a place, the Veneto region, in which poverty and immigration were rife at the time. Here, two brothers from Ponte di Piave in the Treviso area, Luigi and Romano Zanchetta, invented their own business – in the field of waterproofing. Romano - the elder of the two - emigrated: he set up near Varese in order to work on waterproofed roofs in Switzerland. It was actually a terrible disaster which provided him with the chance to return home: in 1963 part of the mountainside above the town of Longarone collapsed and tumbled into the basin of Vajont dam, destroying an entire valley and carrying off with it the inhabitants of Longarone and other entire villages. The reconstruction process which followed drew in both capital and labour. The Zanchetta brothers also did their bit. And after that they successfully continued their business applying bituminous membranes. But those were extraordinary days for the entire nation: new housing, new standards of living and new objects, like cars and household electrical goods,

became popular mass products. New materials also became available to industry, such as Moplen, the brand name of a new plastic material obtained from isotactic polypropylene discovered by Giulio Natta a few years earlier. A discovery which led to studies into the polymerisation of isotactic polypropylene which resulted in new polymer, atactic polypropylene (APP). It was another Italian, the engineer Mr Breitner, who discovered that APP could be used to alter a bituminous matrix making it flexible at room temperature and hence suitable to be used in the manufacture of a "pre-cast" membrane. The availability of fibreglass meshes and the possibility of altering the properties of bitumen using polymers made it possible to manufacture bitumen-polymer membranes in factories in the form of strips measuring 1 m in width and, generally speaking, 10 m in length, wrapped into rolls. This was a giant step forward: a well-developed piece of technology was replaced by another to create a new market, featuring ready-to-use products and a new method of application still in use today. At that point in 1969 the Zanchetta brothers decided to transform themselves from users to manufacturers of these new prefabricated membranes made possible by the new materials available. This resulted in the creation of Polyglass, whose name also sums up the basis of this new technology: "Poly" referring to the polymers used for altering the bitumen, "glass" to point out the presence of a new kind of fibreglass meshes. The "Q" appearing in the logo refers to the quality of Polyglass products and was introduced in 1997 after being awarded ISO 9001 certification. From the 1970s onwards, Polyglass grew from being a small craft business into an international group. A story of excellence, Italian excellence", so Mr Ciferni concludes. 

*One of the storage tanks for bitumen at the Polyglass plant in Ponte di Piave (Province of Treviso).*







# The family has grown bigger



Everybody grows, **but not as much as us!**

Polyglass, a leading manufacturer of bituminous waterproofing products, has joined the Mapei Group, the world's leading manufacturer of adhesives for the building industry.

**RESEARCH, INNOVATION, OPPORTUNITY-TAKING  
AND INTERNATIONALISATION HAVE ALWAYS BEEN THE GREAT  
STRENGTHS OF BIG COMPANIES.**



*Adds value!*

**POLYGLASS EUROPA SPA**

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# MAPEI AWARDED AS 2008 BEST FAMILY-RUN BUSINESS

**M**r Giorgio Squinzi, President of the Mapei Group, has again received a prestigious award. This time Mapei has won the 2008 edition of the Alberto Falck Prize promoted by AldAF (the Italian Association of family-run businesses). The prize was awarded to Giorgio Squinzi at the 4<sup>th</sup> National Convention of AldAF held at the Naples Maritime Station last year.

This edition's award was entitled "Young people and women: resources to be drawn on by family-run businesses", and it was based on the actual experiences of businessmen and women and theoretical developments by people studying these issues in Italy, including Cristiana Coppola, Vice President of Confindustria (the Confederation of Italian Industry), Giuseppe De Rita, President of Censis (Italian Social Study and Research Institute), and Marco Vitale, President of the Italian business school Istdu Foundation.

According to the President of AldAF, Mr Maurizio Sella: "Nowadays we need to reflect on the role young people and women ought to have, in order to allow that leap forward in quality that a nation committed to competing on a worldwide scale needs to take. Projecting into the future means drawing on the ideas, energy and innovations which young people have to offer".

During the gala evening held at the Grand Hotel Vesuvio in Naples on Friday, 12<sup>th</sup> September, Giorgio Squinzi was awarded the 4<sup>th</sup> edition of this important prize by the Italian Minister of Economic Development, Mr Claudio Scajola. The prize is actually a white marble hemisphere, which rests on and rocks on its rounded side to represent "life" in all its variability and instability. The central groove is the trace or mark

which the Italian entrepreneur Alberto Falck has engraved in the name of professionalism, humanity, ethics and love. Reading out the reasons for awarding the Prize clearly explains why the panel of judges decided to present this award to Mapei, neatly summing up what the Company has so far achieved and genuinely grasping its underlying philosophy.

"The Squinzi family", so it says in the motivation, "which has now reached its third generation, has shown that hard work and faith enable you to achieve

ate in dozens of countries, drawing on local industrial culture while adopting the most rigorous international standards for quality, workers' safety, and respect for the environment.

We are also rewarding a family which has devoted so much energy to business partnerships with other entrepreneurs and invested large amounts of money to promote both sports and important artistic and cultural enterprises, paying such careful attention to bringing out the very best traditions which Italy has to offer."



important goals, bravely overcoming all the inevitable obstacles and pursuing success with modesty.

Today we are rewarding a family business which has set the benchmark for lots of other family-run businesses in Italy and abroad.

A model based on farsighted leadership, working relations with trusted professional partners, a focusing on research and innovation, and the ability to oper-

Minister Scajola also had some highly significant and heartfelt words to say when he announced that he was delighted to hand over such a fitting tribute to the Mapei Group and the Squinzi family, which, according to the Minister, "in over 70 years of business operations, thanks to the hard work and dedication of three generations, has turned a small craft industry employing just three people into



## Associazione Italiana delle Aziende Familiari



*Above. From left: Laura Squinzi Giorgetta, Marco and Veronica Squinzi, Simona Giorgetta, Giorgio Squinzi and Adriana Spazzoli Squinzi.*


*Opposite. From left: Giorgio Squinzi, Maurizio Sella (President of AldAF), Cecilia Falck and the Italian Minister of Economic Development, Claudio Scajola.*

*Left. Giorgio Squinzi together with his wife Adriana Spazzoli are awarded the Alberto Falck Prize by Minister Claudio Scajola; right, Ms Cecilia Falck from the Prize's Organising Committee.*

and the numerous family-run businesses represented here is highly significant and reassuring: it proves just how much families, with their bonds of solidarity, carefully balanced combination of old and new generations, and a willingness to upgrade the role of women, can help our society to grow and contribute to the Italian economic development."

When receiving the award, Giorgio Squinzi was keen to emphasise that both young people and women are an integral part of Mapei's booming growth.

The 2008 Alberto Falck Prize, so he added, is "an important acknowledgement of the silent day-to-day work carried out by the over 5000 people employed at Mapei".

It is also worth pointing out that during over 70 years in business Mapei has never fired anybody to reduce the number of staff, nor has it ever applied for state-sponsored redundancy pay. Congratulations to Mr Squinzi and, as is only fitting on this occasion, to the whole of his big family. 

one of the world's leading companies operating on five continents and in 24 countries."

According to Mr Scajola, the motivations for awarding the Prize truly grasp why the Group has been so incredibly successful: close attention to research and development; a vast range of professional products featuring a high level of innovation to meet all kinds of customers' needs; an international

strategy geared to the demands of different markets, focusing on quality and growth with careful respect for workers and the environment.

"Above all", so Mr Scajola went on, "the proud passion with which the Squinzi family identifies with the Company business stands out most all, dedicating itself to managing the Company and striving to constantly improve its products. The example set by Mapei

# TECHNOLOGY YOU CAN BUILD ON



**B**lue, white and green. These were the colours which immediately struck the eye of all the visitors to the spectacular Mapei display stand at Cersaie, 2008. On a carefully-chosen white background used to spotlight the numerous new products, showcased in an elegant, refined atmosphere, this year's Mapei company blue was enriched by the green colour of its products, which are becoming more and more eco-sustainable, LEED-compliant and bearing the Green Innovation mark.

The colours were chosen with the intention of evoking, simply and clearly, all the force of a company which is the sector leader and which continues its growth all over the world, year in year out. A large banner in English

displayed the Mapei saying, to boldly express the importance of the philosophy and concept around which Mapei's presence at Cersaie hinged, and which summed up in an instant who Mapei really is: Technology You Can Build On.

The XXVI edition of Cersaie, the international exhibition of ceramic tiles and bathroom furnishings, was held in Bologna from the 30<sup>th</sup> of September to the 4<sup>th</sup> of October, and coincided with one of the most difficult phases of the world-wide financial and real estate crisis. In spite of that, the overall number of visitors confirmed that the sector seems to be holding its ground, which is further confirmation of the importance of this event.

The difficult conjuncture the world is

going through had an effect on the number of visitors. In spite of the confirmation that Cersaie is considered the reference exhibition for ceramics and bathroom furnishings, the number of visitors were 84,537, 8% less than the record event in 2007 which broke the threshold of 90,000 visitors.

The results are worth a more in-depth analysis: the categories most effected by the drop in visitors were the Italian paying visitors and representatives from the sector in Italy, further proof of the difficult moment for the Italian domestic market.

A particularly important result was the presence of overseas visitors, which for the first time broke the barrier of 30% at the XXVI edition of the exhibition. In fact, the number of sector operators

# BUILD ON™

# CERSAIE 2008

## Mapei: Technology You Can Build On

Cersaie was again an occasion to give a concrete demonstration to the building world that, for numerous reasons, "you can really count on Mapei".

Preparation was started months in advance, as it always happens every year.

Cersaie has always been the exhibition which witnesses the entire Group getting together with Giorgio Squinzi.

And, as per tradition, the presence of Mapei in Bologna this year was particularly important. In fact, for Mapei the appointment with the international ceramics world is like celebrating the start of a new year. It is a useful occasion to take stock of the work carried out in the previous months, to present new commercial strategies and new products and, last but not least, to simply get together and celebrate.

All this, of course, without losing sight of the main objective of taking part in an exhibition: to give the world a close up view of its products in an ideal setting, and to create new, rewarding commercial relationships.

Highly technological, reliable, certified systems for laying ceramics; attention for their environmental impact with eco-sustainable products in conformity with the most stringent international standards; new products which satisfy specific requirements of both designers and installers. These are the main themes upon which Mapei, the world's leading Company for the production of adhesives for ceramics, based its presence at Cersaie 2008.

The new Mapei exhibition stand, erected on two levels for a total display area of more than 800 m<sup>2</sup>, presented a series of practical demonstrations and multimedia tools which illustrated clearly and simply the continuous growth of the product range of the Group and a series of industrial results: 1.7 billion Euro turnover in 2007 (+13.5% compared with the previous year), an increase of the workforce over the last year (today, there are more than 6,000 employees) and now 53 production

facilities in 24 countries in all five continents, with 9 main R&D laboratories.

A success story driven by three unrivalled driving forces: specialisation, internationalisation and, above all, research.

Mapei's commitment to the environment means that R&D activities are focused on the development of eco-sustainable products and systems to eliminate solvents and substances which pollute the environment. In fact, Mapei invests 70% of the budget for research work in the development of eco-sustainable products (more than 80 million Euros per year).

Cersaie was the perfect occasion to highlight the more than 110 products with the "Green Innovation" symbol to the international public, products which comply with the LEED (Leadership in Energy and Environmental Design) standard's guidelines. An occasion to illustrate the widest range of products available for the building sector which respect the environment with "EMICODE-EC1 – extremely low emission level of volatile organic compounds" certification, awarded by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), and already awarded to the Mapei products from the ECO Range for laying resilient, textile and wooden floors.

Amongst the new documentation illustrated for the first time at Cersaie, there was the new "Products for Ceramic Tiles and Stone Material" catalogue, and a brochure dedicated to "Eco-sustainable systems for the installation of ceramic and stone material", highlighting other new certification awarded to distinguish numerous Mapei products from this range.

Amongst the numerous products introduced by Mapei at the Bologna trade fair, a number of them are worth pointing out, divided into four main groups: cementitious adhesives, paste adhesives, grouts, and waterproofers. Amongst the new cementitious adhesives presented at the Bologna

from abroad was 25,675, 32.3% of the total of sector operators which visited the exhibition.

Thanks to the opening of the new N° 14 and N° 15 two storey exhibition halls, the total surface area for this edition of Cersaie was increased by 20,000 m<sup>2</sup>, a new record for the amount of display space available and a record number of exhibitors: 1074, (with 230 from abroad) representing 34 different countries. These numbers are particularly important, which was further demonstrated during the meetings organised by various companies, and the gala events organised by Cersaie, in particular the International Press Conference held on Tuesday, the 30<sup>th</sup> of September in the Palazzo Re Enzo, attended by around 250 journalists.

trade fair, the starting point must be ULTRALITE S1, which contains more than 30% of recycled materials and completes the range of Mapei lightweight cementitious adhesives.

This is a one-component, high-performance, deformable, lightweight adhesive with no vertical slip and extended open time (C2TE, S1).

It also contains Dust Free technology, has an extremely high yield and is easy to apply by trowel, and is used for bonding ceramic tiles and stone slabs. The ULTRALITE technology gives this adhesive a low density, which leads to two main advantages: consumption is approximately 60% lower compared with traditional cementitious adhesives, and because it weighs less (15 kg) than conventional cementitious adhesives (25 kg), transport and handling are more simple.

To complete the "historic" family of KERAFLEX cementitious adhesives, the result of Mapei's continuous research is also KERAFLEX EASY high-performance cementitious adhesive with extended open time and which transfers easily onto the back of the tiles (C2E). It is easy to apply and has an extremely low emission level of volatile organic compounds (with the EC1 and Green Innovation symbols). This adhesive is particularly suitable for laying porcelain tiles on large, indoor and outdoor floor areas, at a thickness of up to 10 mm.

There were two new products regarding paste adhesives presented at Cersaie: ULTRAMASTIC 2 and ULTRAMASTIC 5. ULTRAMASTIC 2 is a ready-to-use, high-performance paste adhesive with no vertical slip, for laying ceramic tiles on walls (D2T). ULTRAMASTIC 5 is a ready-to-use, high-performance adhesive paste with extended open and long adjustment times and no vertical slip, particularly suitable for laying on absorbent, elastic and deformable non-metallic substrates (D2TE).

A number of new, technologically-advanced products for the grouting sector were also presented. The list starts with FLEXCOLOR ready-to-use polymeric paste, water-repellent with DropEffect® and anti-mould with BioBlock® technology, for grouting joints of from 2 to 10 mm in ceramic tiles (with the Green Innovation symbol).

Very high performance is also offered by the new FIX & GROUT BRICK ready-to-use adhesive paste, with no vertical slip and anti-mould with BioBlock® technology, for bonding brick slips and





**Mapelastic**  
with **Mapelastix Smart**  
enhanced with **Mapetex Sel**

**MAPEI**

**MAPEI**

**Membrane cementizie impermeabilizzanti monocomponenti**

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**LOVING CEMENTITILES**

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**The MAPEI Class S**  
An extremely Strong connection

**MAPEI**

**Lightweight cementitious adhesives**

**MAPEI**

**Eco-sustainable systems for the installation of ceramic and stone material**

**MAPEI**

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**MAPEI**

**verde\* in tutto il mondo**  
**green\* worldwide**

**concrete della natura verde di Maape**  
Maape's Greenness

1. Green concrete
2. Green concrete
3. Green concrete
4. Green concrete
5. Green concrete
6. Green concrete
7. Green concrete
8. Green concrete
9. Green concrete
10. Green concrete
11. Green concrete

**MAPEI**

**Costruire in verde\* - Maape & LEED**  
**Maape and LEED - Making green\* better**

**GREEN INNOVATION**

**MAPEI**



lightweight cementitious and synthetic resin conglomerate decorative elements (D2T, with the Green Innovation symbol). While penetrating into the joints, this product has to be finished off with a damp brush within 20 minutes. It works as a grout as well. And to finish, two new eye-catching products, one for the industrial flooring sector and the other for architects and designers.

KERAPOXY CQ is a two-component, acid-resistant epoxy mortar which is particularly easy to apply and clean, for grouting tile joints wider than 2 mm (RG). It is ideal for tiled floors and coverings in industrial applications where there is a high risk of acid-damage (industrial kitchens, dairies, etc.).

And finally, KERAPOXY DESIGN, a two-component, acid-resistant decorative epoxy mortar for tile joints (available in 8 different colours), which is ideal for glass mosaic and for use as an adhesive (R2, RG).

Progress slabs, display panels, video clips and a refined atmosphere were the characteristics of Mapei's new exhibition area. It really was the perfect occasion to find out more and see up close all the potential of a Company which "you can build on"!

The next edition of Cersaie will also be held in Bologna from the 29<sup>th</sup> of September to the 3<sup>rd</sup> of October, 2009.

**7<sup>th</sup> Grand Prix References**

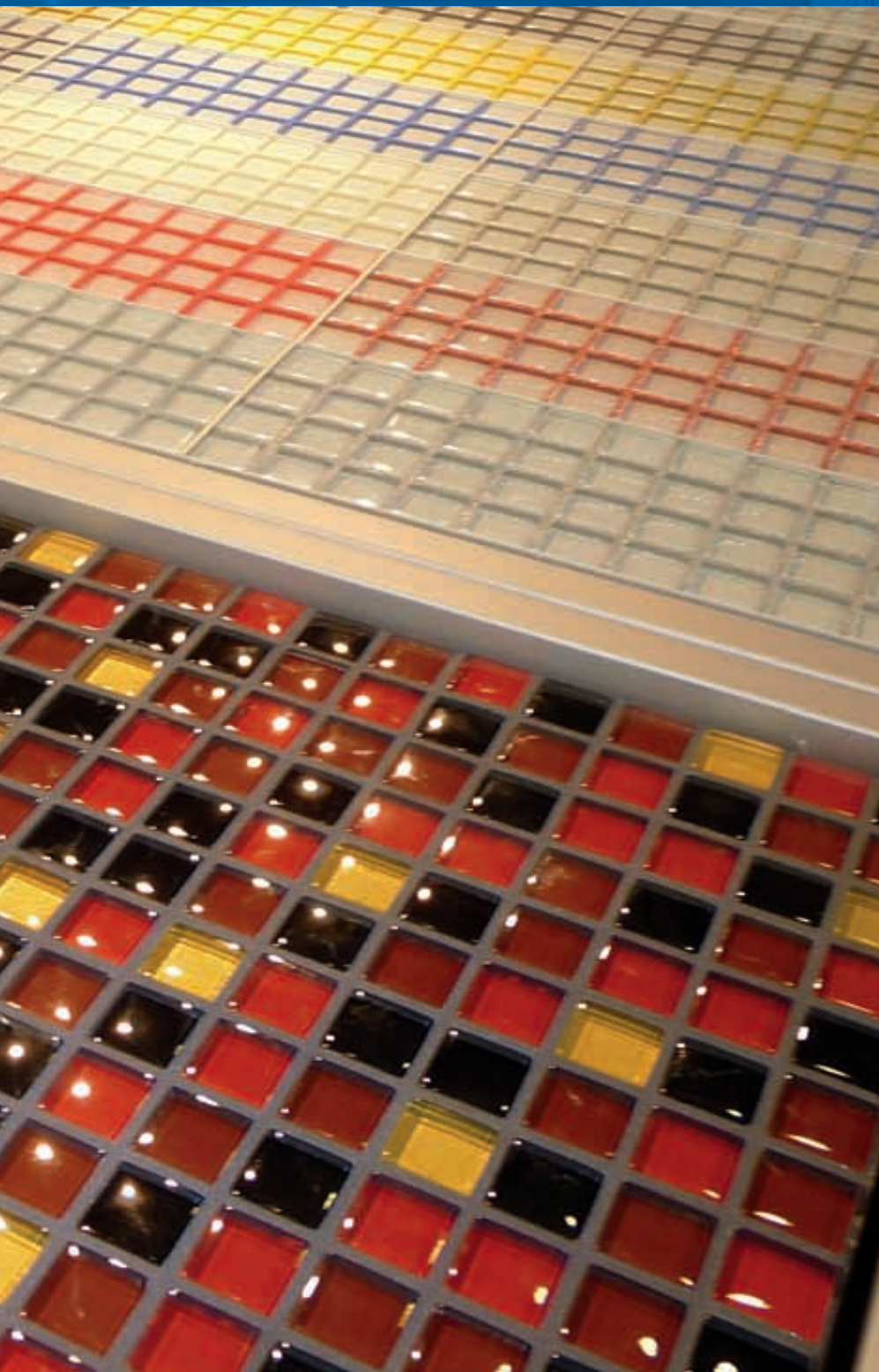
As in previous years, there was also a gala evening and banquet which rose to the occasion, with the entire Mapei world getting together on Friday, the 3<sup>rd</sup> of October. The gala was held in the Podestà Hall in the Palazzo Re Enzo in the heart of Bologna, overlooking one of the most beautiful town squares

in the world, with the entire force of the Mapei technical-commercial sector from all over the world. It was also the occasion for the awards ceremony for the most important project references of the year. Now at its seventh edition, the Grand Prix Reference Awards were fitting surroundings for the numerous prizes awarded for the most important large projects which, together with the technical personnel from the Company, included the use of Mapei products and systems. Images of the most important building sites from around the world in the past year were transmitted on a giant screen and on a number of monitors positioned around the great hall. These are large projects carried out all over the world, which was just one of the topics discussed at the dining tables during the gala. An exchange of ideas and experiences which resulted in creating an even more solid bond throughout the entire Group.

The next editions of *Realtà Mapei International* will be dedicated to more in-depth descriptions of a number of the various award-winning reference projects, so that the general public may get a clear picture of exactly what are the reasons which make Mapei a winning company, all over the world.







### THE FRIULI SCHOOL OF MOSAICS

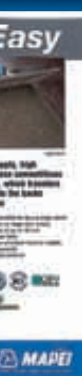
The Mapei stand was brought to life this year by the presence of an important "School of arts and crafts": the Friuli School of Mosaics.

Founded in 1922, the Friuli School of Mosaics is located in Spilimbergo (in the province of Pordenone, in the north-western area of Italy), with its aims being didactic commitment, a brotherhood of tradition and renewal, of the different realities of production and culture.

In the luminous mosaic and terrazzo laboratories, the sound of hammers on choppers and blocks still beats the rhythm of times gone by, and of work from a distant memory (the work of mosaic and terrazzo inlayers).

Inside the Mapei stand, the Friuli School of Mosaics, represented by the maestros Igor Marziali and Marco Mezzanotte (see photo above), offered a fascinating, concrete demonstration of how a mosaic is created and laid, by forming the cubes and adhesive ribs which make up the Mapei logo, and by answering questions from the experts and visitors.

Mapei has always paid great attention to art and culture, and was more than happy to collaborate with the Friuli School of Mosaics, by letting an ancient art such as that of mosaics use their technologically advanced materials, to help the artists turn their ideas into reality.





On the left. The inauguration ceremony of Cersaie 2008. From the left: Fabio Roversi Monaco (President of BolognaFiere), Sergio Cofferati (Mayor of Bologna), Emma Marcegaglia and Alfonso Panzani.

On the right. The winners of the Confindustria Ceramics Distributor Award 2008. From the left: Alfonso Panzani, the winners from Spain Angela and Federico Vidal Quadras (Neoceramica SA), Giorgio Squinzi, the French winner Lorenzo Piubello (Galeries du Carrelage), Vittorio Borelli, the German winner Manfred Hagen (Schmidt-Rudersdorf Handel und Dienstleistungen GmbH & Co), the Italian winner Giovanni Pierfederici (Nuova Comes srl) and Marco Cimini.

Below. The conference table and speakers at the International Press Conference on the opening day of Cersaie 2008.



At the end of the work, the Chairman of Confindustria Ceramica Alfonso Panzani, after stating that globalisation had caused a more widespread sense of fear, also underlined that "this must not undermine the trust which leads Italy to exporting goods in more than 150 countries all around the world. This means that, as far as industry leaders in the Italian ceramic tile sector are concerned, there is the capacity to overcome the problems, because for us competition is our daily bread, a work culture which permeates through every one of our actions".

**Cersaie, an International Press Conference Rich with Guests and Prizes**

The first day of the XXVI edition of Cersaie ended in the evening of the 30<sup>th</sup> of September with the International Press Conference, a meeting at which approximately two hundred and fifty journalists and guests took part from all five continents.

In the picturesque surroundings of the Palazzo Re Enzo, the Chairman of Confindustria Ceramica Alfonso Panzani, the Chairman of the Association's Promotional Activities Committee Vittorio Borelli, the Chairman of Federchimica (the Federation for the Italian Chemical Industry) and CEO of Mapei Giorgio Squinzi and Marco Cimini, Director of Promotional and International Cooperation of ICE (Italian Trade Commission), illustrated a detailed picture of the trends in the ceramics sector, and the context in which the Italian ceramics industry is currently operating. The coordinator was the General Manager of Confindustria Ceramica Armando

**"Lost development": the Opening Convention at Cersaie 2008**

Around six hundred people were present for the inauguration of the XXVI edition of Cersaie, the international exhibition of ceramic tiles and bathroom furnishings, promoted by Confindustria Ceramica (the Association of Italian Ceramic Tile and Refractory Material Manufacturers) in collaboration with BolognaFiere.

"Lost development: causes and objectives" was the title of the convention held in the morning on the 30<sup>th</sup> of September, in the Congress Centre. Participants at the round table, chaired by the head of the Italian national television news programme "TG1" Gianni Riotta, included the Chairman of Confindustria (the Confederation of Italian Industry) Emma Marcegaglia, the Italian Minister of Employment, Health and Social Policy Maurizio Sacconi – in vid-

eo-conference from Rome – the Chairman of Censis (Italian Social Study and Research Institute) Giuseppe De Rita and the Chairman of Confindustria Ceramica Alfonso Panzani.

Emma Marcegaglia, Chairman of Confindustria, opened proceedings by announcing that "today, we are here to talk about the real economy for the companies which are the driving force of the Italian nation. We must return to a financial system which supports plans for the growth of these companies, and which creates competitive conditions".

During his speech, Minister Sacconi, while admitting that we are going through a particularly difficult period, underlined the need for deep change, stating that the Italian government is concentrating its efforts and resources into a new energy policy and by investing in human resources.



Cafiero. In his welcoming speech, he underlined the success on a worldwide scale of the event, which has now been repeated for 26 years.

During his speech, the Chairman of Confindustria Ceramica Alfonso Panzani listed the critical factors regarding the international financial and real estate crisis, and stated that: "if it is true that the United States has been driving the world economy for 15 years, it is just as true to say that today we must look towards other markets". Promotional strategies to help the Italian ceramic tiles industry were illustrated by Vittorio Borelli.

Promoting "Made in Italy" in the world. This was the final goal of ICE, presented by Marco Cimini, Director of Promotional and International Cooperation. "It is quite clear – stated Mr. Cimini – that "Made in Italy" has precise characteristics, and the only way possible to win an important share of the market is to make sure that the quality of Italian production is kept at a high level". The press conference was rounded up by a point-by-point speech by Giorgio Squinzi, a summary of which may be found on the following pages of this issue of our magazine. During his speech, Squinzi presented the LEED standard and the new achievements of Mapei research in the field of EC1-certified eco-sustainable products.

#### **Confindustria Ceramica Distributors Award 2008**

At the end of the International Press Conference, the prize-giving ceremony was held for the Ceramic Tiles of Italy Journalism Award 2008, to award the

best international article on the Italian ceramic tiles industry and Cersaie 2007. The winner was the Russian journalist, Margarita Golyandina, acting editor of *Elite Interior* magazine.

A total of 146 articles were sent in from 93 journals and magazines, from 25 different countries. Two honorary orders of merit were also awarded this year: to the English journalist Peter Hill, editorial director of the English magazine *ABC&D*, and to V. Krishna Veni, editorial director of the Malaysian magazine *Bathroom + Kitchen Today*.

The evening continued with the prize-giving ceremony for the Confindustria Ceramica Distributors Award, a recognition that the Association awards to four European importers/salesmen, chosen for promoting and divulging the culture of Italian tiles.

All four winners of the XIII edition of the award are Mapei clients: the Italian company Nuova Comes srl, the French company Galeries du Carrelage, the German company Schmidt Rudersdorf and the Spanish company Neoceramica sa. Mapei is happy to share in this recognition for excellence for which the European companies have been singled out, and is proud of their well-deserved achievement. An important, tangible sign of the internationality of Mapei, and a demonstration of how the Company is always in the front line and side by side with its clients, to propose the most advanced technological solutions for laying correctly, thus increasing the knowledge and use of made in Italy ceramic tiles. Mapei feels that it is a part of this success, and would like to congratulate its clients, and confirm its

commitment to support their business acumen and competence with efficient solutions which offer an efficient solution.

Made in Italy, and the companies which propose Italian products around the world, can count on Mapei for their success. Let's now take a brief close-up of the four winning companies.

**Nuova Comes srl** was founded in 1968 and in 2007 achieved a turnover of 18 million Euros, with 50% represented by sales of ceramic tiles. This Italian distributor has 53 employees in its two showrooms in Senigallia and Ancona, with a total display area of 3,300 m<sup>2</sup>.

**Galeries du Carrelage** was founded in 1977 and currently has 42 employees in its four showrooms in the provinces of Toulouse, Bordeaux, Albi and Montpellier, with a total display area of 2,350 m<sup>2</sup>. In 2007, the total turnover was 16 million Euros, with 98% through the sales of ceramics.

For Germany, the selected distributor was **Schmidt-Rudersdorf Handel und Dienstleistungen GmbH & Co. KG**, a commercial activity which had a turnover of 38 million Euros in 2007, 55% of which through the sales of ceramic products. With a total of 140 employees, there are six showrooms in Düsseldorf, Bergisch Gladbach, Bonn, Würselen, Leverkusen and Wesel for a total display area of 4,850 m<sup>2</sup>.

The award-winning distributor in Spain, **Neoceramica SA**, has 21 employees and turnover in 2007 was 5.8 million Euros, 83% represented by the sales of ceramic tiles. Founded in 1967, the commercial network is located in Barcelona.



# GREEN TECHNOLOGY

**Eco-sustainable products for laying tiles: a summary of the speech made by Giorgio Squinzi at the Cersaie International Press Conference**



The first day of Cersaie trade fair ended in the evening of the 30<sup>th</sup> of September with the International Press Conference, a meeting at which approximately two hundred and fifty journalists and guests from all five continents took part. In a point-by-point speech, Giorgio Squinzi, Mapei's CEO, illustrated the guidelines which will trace the path for Mapei over the coming years. Among these guidelines, special attention will be paid to eco-sustainability, a theme which has always been at the centre of Mapei's attention, and for which the Company has clearly demonstrated to be the sector leader, even in this delicate issue.

Giorgio Squinzi preliminarily underlined the importance of sustainable development and of the Company's partnership with the Italian ceramics industry. "A large part of our global growth is due to the Company being close to the world of tiles. Specialisation, internationalisation and a strong commitment to research and development are the principles which has always inspired our entrepreneurial actions".

Giorgio Squinzi's speech centred on themes regarding Mapei's "green" side. He said: "Our commitment is, above all, to the development of products which are always in line with the latest Italian and international norms and regulations in the field of eco-sustainability. This commitment is demonstrated by the fact that we are part of the LEED programme, which aims at respecting the health of both people and the environment, reducing the consumption of water resources, making efficient use of energy supplies and improving the quality of the environment".

Giorgio Squinzi continued by stating that "70% of Mapei investments (80 million Euros) into research and development is used with the aim of developing products and technology which



are compatible with the environment, by introducing products with a low environmental impact onto the market".

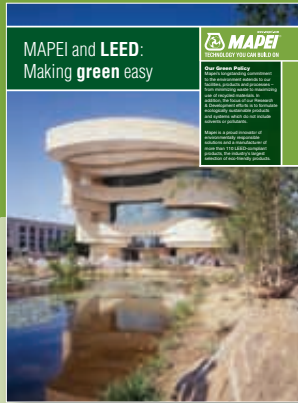
The colour green, which appears more and more frequently on the products, and which characterised Mapei's participation at this year's Cersaie exhibition, was chosen as a symbol and a reminder that Mapei has "chosen" to respect the environment. "If people (and companies) use less energy and produce less waste – declared Giorgio Squinzi – the green environment on our planet will last longer and more resources will be available for future generations".

Important figures were then presented as a subject to reflect upon. All over the world, constructions are responsible for the consumption of 17% of fresh water and 25% of the forests, 33% of CO<sub>2</sub> emissions and 40% of the use of materials and energy supplies. These statistics, drawn up by the USGBC (U.S. Green Building Council), demonstrate precisely

ly why the building sector has a binding interest in the "Green Movement".


In recent years, research carried out by the USGBC has demonstrated that owners will have more economic and environmental advantages with "green" buildings, and the advantages with "green buildings" are quite significant: an 8-9% reduction in operating costs; a 7.5% increase in building value; a 6.6% improvement in the return of investment; a 3.5% increase in the occupancy; 3% rent increase, because people are prepared to pay more for a better environment.

Giorgio Squinzi then stated that Mapei demonstrates its commitment to the "green building" movement in its production facilities, production processes and products. Mapei manufactures a large number of products which support and contribute to green building projects through the LEED rating system, which Mapei joined in 2001.

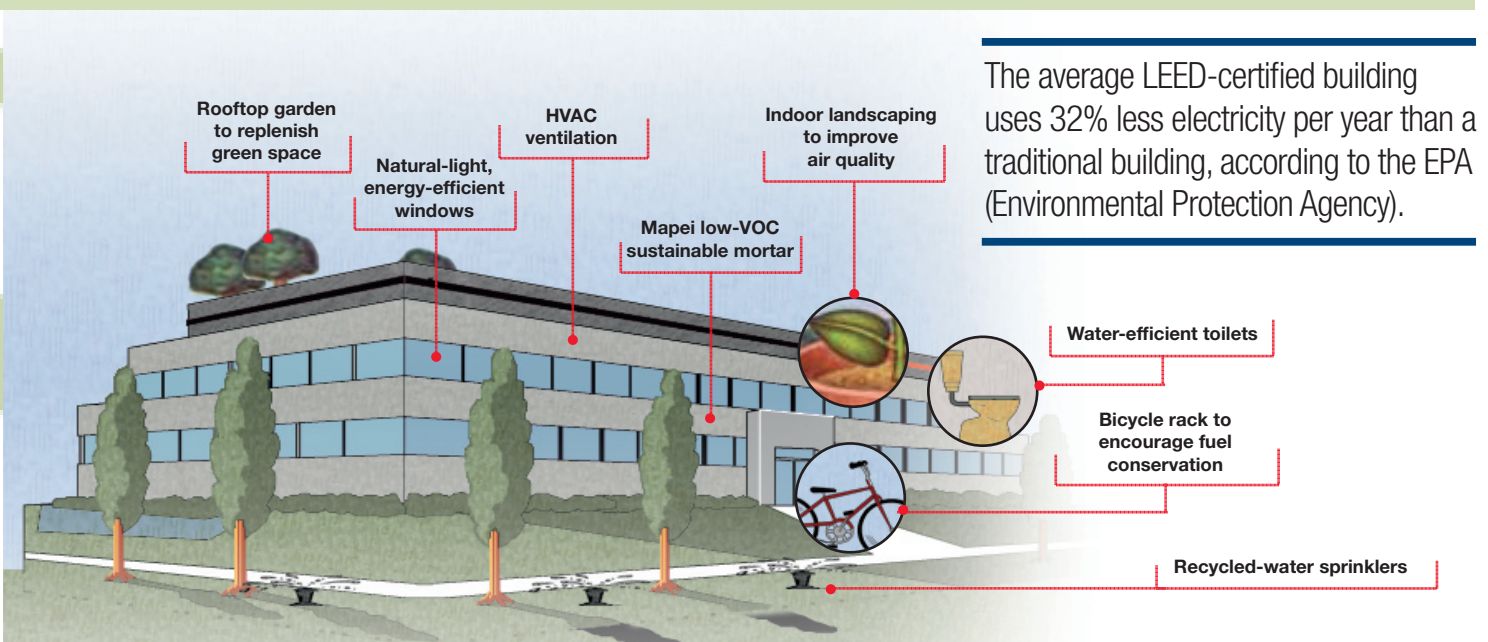


These are products with a low emission of VOC (volatile organic compounds), products which contain recycled materials, products using local raw materials and products which lead to a cleaner environment (Dust Free Technology). The LEED (Leadership in Energy and Environmental Design) Green Building Rating System encourages and accelerates the adoption of an international level of practices for an eco-sustainable building industry and development, through the creation and application of tools and performances standards which are universally accepted and shared. The LEED programme promotes a complete approach to the issue of sustainability, by taking into consideration the performance of buildings in five key areas: the health of people and the environment, savings in the consumption of water, efficient use of energy supplies, choice of materials and the quality of

indoor environments. After illustrating how a building may be created according to LEED standards using concrete examples, Giorgio Squinzi underlined that there are now more than 110 Mapei products which respect the LEED requirements in the four categories regarding floor laying. And even though it is the building itself which receives the certificate to declare that it conforms to LEED standards, rather than the products or services used to construct the building, the products contribute in the awarding of points necessary in order to obtain the "green building" certificate. The use of Mapei products which conform to LEED requirements for laying floors contributes towards the awarding of a LEED certificate in four areas: their content of recycled materials, the use of local raw materials, adhesives and sealants with a low emission level of substances which are harmful to the

health of people or the environment and the quality of the air in indoor areas before being occupied. Squinzi also declared that since October 2005 many products for laying ceramics and stone materials are certified "EMICODE EC1 - extremely low emission level of volatile organic compounds". This certification is awarded by GEV ("Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V."), the Association for the Control of Emissions in Products for Flooring Installation, Adhesives and Products for the Building Industry. Eventually, Mapei's CEO used an image with a high visual impact to stress that "everything we do to use less energy or to reduce waste makes our carbon print smaller and our green print larger." Because Mapei has always "thought green" and will continue this way even more in the future. 

### Examples of design elements that contribute to LEED points Materials and products also contribute to build LEED-certified projects



The average LEED-certified building uses 32% less electricity per year than a traditional building, according to the EPA (Environmental Protection Agency).

# ECO-SUSTAINABLE SYSTEMS FOR THE INSTA

Early in the 1970's, Mapei brought products in water dispersion and with low solvent levels onto all the markets, products which do not require fire-protection certificates for inflammable substances. Mapei's commitment was further enhanced, therefore, by research programmes for developing products with an extremely low emission level of volatile organic compounds (VOC) to improve wellbeing in the buildings where they are employed. Thus, the Mapei "Eco" range was born. The products in the Eco range were initially launched by Mapei on the American market in the 1990's. They were then introduced to the European market, and in only a short time they replaced most products with a conventional dispersion base. Since October 2005, the products in the Eco range, which had already been tested and certified by internationally recognised institutions such as the German TFI (Teppich Forschung Institut) and by the American CRI (Carpet and Rug Institute), bear the "EMICODE EC1-very low emission level of volatile organic compounds" mark, awarded by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an association which controls the emission levels of products for floors, and of which Mapei is now a member. In order to apply the EMICODE EC1 mark on dispersion or reactive adhesives, the residual emission level of organic compounds given off by the said adhesives, measured 10 days after laying, must be less than 500 mg /m<sup>3</sup> of air.



## ECO-SUSTAINABLE PRODUCTS FOR SUBSTRATE PREPARATION

### PRIMERS TO PROMOTE THE BONDING OF SMOOTHING COMPOUNDS



**ECO PRIM T**, acrylic primer in water dispersion, to improve the bonding of smoothing compounds on both absorbent and non-absorbent surfaces (cementitious, porcelain, anhydrite, tarmac, wood, terrazzo, etc.) and **EC1**.



**PRIMER G**, synthetic resin-based primer in water dispersion for cementitious and anhydrite substrates, for use before applying smoothing compounds and **EC1**.



### CONSOLIDATING AND WATERPROOFING PRIMERS



**ECO PRIM PU 1K**, one component, hygro moisture curing polyurethane primer used to waterproof cementitious screeds, and to consolidate all types of screeds (cement-based, anhydrite, heated, etc.) and **EC1 R**.



### SCREEDS



**TOPCEM PRONTO**, ready to use prepacked mortar for fast-drying (4 days), normal setting screeds with controlled shrinkage of class **CT-C30-F6-A1<sub>II</sub>** (EN 13813) and **EC1 R**.



### SMOOTHING COMPOUNDS



**NIVORAPID**, ultra-fast drying thixotropic cementitious levelling mortar, also suitable for vertical applications of class **CT-C40-F10-A2<sub>II</sub>** and **EC1 R**.



**ULTRAPLAN**, ultra-fast hardening self-levelling smoothing compound of class **CT-C30-F7-A2<sub>II</sub>** (EN 13813) and **EC1**.



**ULTRAPLAN ECO**, self-levelling, ultra-quick setting smoothing compound, applied on both absorbent and non-absorbent substrates at a thickness of 3 to 10 mm before laying parquet of class **CT-C25-F7-A2<sub>II</sub>** (EN 13813) and **EC1**.



**ULTRAPLAN MAXI**, ultra-fast hardening self-levelling smoothing compound for thicknesses from 3 to 30 mm of class **CT-C35-F7-A2<sub>II</sub>** (EN 13813) and **EC1**.



## ECO-SUSTAINABLE GROUTS

### CEMENTITIOUS GROUTS



**KERACOLOR FF**, high performance cementitious grout, polymer modified, water-repellent with **DropEffect**<sup>®</sup>, for joints up to 6 mm, of class **CG2** (EN 13888) and **EC1 R**.



**KERACOLOR GG**, high performance cementitious grout, polymer modified, for joints from 4 to 15 mm, of class **CG2** (EN 13888) and **EC1 R**.



**KERACOLOR SF**, super fine high performance cementitious grout, polymer modified, for joints up to 4 mm of class **CG2** (EN 13888) and **EC1 R**.



**ULTRACOLOR PLUS**, fast setting and drying, high performance, anti-efflorescence grout, polymer modified, for joints from 2 to 20 mm. Water-repellent with **DropEffect**<sup>®</sup> and anti-mould with **BioBlock**<sup>®</sup> technology, of class **CG2** (EN 13888) and **EC1**.





















*Our environmental commitment  
More than 150 Mapei products help project designers and contractors building innovative projects, which are LEED (Leadership in Energy and Environmental Design) certified by the U.S. Green Building Council*

# INSTALLATION OF CERAMIC AND STONE MATERIAL

## ECO-SUSTAINABLE ADHESIVES

### HYDRAULIC BINDER BASED ADHESIVES

-  **ADESILEX P9**, high performance cementitious adhesive with no vertical slip and extended open time for ceramic tiles of class **C2TE** (EN 12004) and **EC1 R**.
-  **ADESILEX P10**, white high performance cementitious adhesive with no vertical slip and extended open time for glass, ceramic and marble mosaic coverings of class **C2TE** according to EN 12004 and **EC1 R**.
-  **ADESILEX P10 + 50% ISOLASTIC**, white high performance cementitious adhesive with no vertical slip and extended open time for glass, ceramic and marble mosaic coverings of class **C2TE** according to EN 12004, **S1** according to EN 12002 and **EC1 R**.
-  **ELASTORAPID**, highly deformable, high performance, fast setting and hydration two-component cementitious adhesive with extended open time and no vertical slip, for ceramic tiles and stone material of class **C2FTE** (EN 12004) and of class **S2** (EN 12002) and **EC1 R**.
-  **KERABOND**, cementitious adhesive for ceramic tiles of class **C1** according to EN 12004 and **EC1 R**.
-  **GRANIRAPID**, high performance, deformable, fast setting and hydration two-component cementitious adhesive for ceramic tiles and stone material of class **C2F** (EN 12004) and **S1** (EN 12002) and **EC1 R**.
-  **KERABOND+ISOLASTIC**, high performance, highly deformable cementitious adhesive for ceramic tiles, of class **C2E** according to EN 12004 and **S2** according to EN 12002 and **EC1 R**.
-  **KERABOND T**, cementitious adhesive with no vertical slip for ceramic tiles, of class **C1T** according to EN 12004 and **EC1 R**.
-  **KERABOND T + ISOLASTIC**, improved, highly deformable cementitious adhesive for ceramic tiles, of class **C2** according to EN 12004 and **S2** according to EN 12002 and **EC1 R**.
-  **KERACRETE+KERACRETE POWDER**, high performance two-component cementitious adhesive with no vertical slip for ceramic tiles, glass mosaic and stone material of class **C2T** according to EN 12004 and **EC1 R**.
-  **KERAFLEX**, high performance cementitious adhesive, with no vertical slip and extended open time for ceramic tiles and stone material of class **C2TE** according to EN 12004 and **EC1 R**.
-  **KERAFLEX EASY**, easy to apply, high performance cementitious adhesive with extended open time for ceramic tiles and stone material, especially those that require back-buttering. Very low emission level of volatile organic compounds. Particularly suitable for laying large-sized porcelain tiles on sizeable floor areas, at a thickness of up to 10 mm. Class **C2E** (EN 12004) and **EC1 R**.
-  **KERAFLOOR**, cementitious adhesive for ceramic tiles for thicknesses up to 15 mm of class **C1** according to EN 12004 and **EC1 R**.
-  **KERAQUICK**, high performance, deformable, rapid setting cementitious adhesive with no vertical slip for ceramic tiles and stone material of class **C2FT** according to EN 12004, **S1** according to EN 12002 and **EC1**.
-  **KERAQUICK+LATEX PLUS**, high performance, deformable, rapid setting cementitious adhesive with no vertical slip for ceramic tiles and stone material of class **C2FT** according to EN 12004, **S2** according to EN 12002 and **EC1**.
-  **KERASET**, cementitious adhesive for ceramic tiles of class **C1** according to EN 12004 and **EC1 R**.
-  **PLANOBOND**, high performance full contact cementitious adhesive with extended open time for ceramic tiles and stone material of class **C2E** according to EN 12004 and **EC1 R**.
-  **TIXOBOND WHITE**, ultra-white cementitious adhesive with no vertical slip and extended open time for the installation of ceramic tiles on walls (thickness of adhesive up to 15 mm) of class **C1TE** and **EC1 R**.



### EMICODE EC1 Certification for Ceramics and Stone Materials

EMICODE EC1 certification is not only applicable to resilient, textile and wood installation products: Mapei has obtained it for ceramic and stone material, too.

The EMICODE EC1 mark is also applied on primers (residual emission level after 10 days < 100 mg/m<sup>3</sup> of air), adhesives, grouts, levelling compounds and pre-blended screeds (residual emission level after 10 days < 200 mg/m<sup>3</sup> of air).

Therefore, Mapei, which has always been committed to solving the problem of indoor pollution and to the project managers' request of products safe for the environment and human health, developed a complete line of EC1-certified products for the installation of ceramics and stone materials. Every product has been awarded the GEV certificate, and they are available for Mapei clients upon request.

Mapei's range of products for laying ceramic and stone material are now eco-sustainable products: they are certified EMICODE EC1 systems for a wide range of applications and varying situations.



In addition to EC1 certified products (with very low emissions of volatile organic compounds), Mapei offers a wide range of products for the installation of ceramic and stone material, many of which are also eco-sustainable. These products are identified by the Green Innovation mark.

The Green Innovation symbol identifies products with certain characteristics which contribute to

achieving eco-sustainable buildings:

- products with an extremely low emission level of volatile organic compounds
- products with an extremely low emission level of dust during mixing and storage
- products which avoid the formation of mould when applied in damp environments
- products which help to improve environmental wellbeing, for

example by improving sound-proofing against the noise created by footsteps

- products based on the use of raw materials from recycled materials, to reduce impact on the environment deriving from the extraction of virgin materials.



**GREEN INNOVATION**  
BY MAPEI

## FURTHER ECO-PRODUCTS FOR THE INSTALLATION OF CERAMICS AND STONE MATERIALS

### PRODUCTS WITH DUST-FREE TECHNOLOGY

Mapei Dust-Free technology helps safeguard the health of those who handle and apply such products. It allows the amount of dust produced during mixing with water to be drastically reduced by up to 90%.

**KERAFLEX MAXI S1**, high performance, cementitious adhesive, with no vertical slip and extended open time, with **Dust-Free** technology, flexible, for ceramic tiles, particularly suitable for laying large size porcelain tiles and natural stones, of class **C2TE** (EN 12004) and of class **S1** (EN 12002).

**ULTRALITE S1**, one component, lightweight, flexible high performance cementitious adhesive with technology; easy to apply by trowel, no vertical slip, extended open time and extremely high yield, for ceramic tiles and stone material, belonging to class **C2TE** (EN 12004) and **S1** (EN 12002).



### ANTI-MOULD PRODUCTS

Mapei BioBlock® technology impedes the formation of mould on products applied in damp environments.

**FLEXCOLOR**, ready-to-use, polymeric paste for grouting tile joints from 2 to 10 mm in ceramic tiles, water-repellent with **DropEffect**® and anti-mould with **BioBlock**® technology.

**FIX & GROUT BRICK**, high-performance, ready-to-use adhesive paste with no vertical slip, anti-mould with **BioBlock**® technology, for bonding brick slips and synthetic resin or lightweight cementitious conglomerate decorative elements, belonging to class **D2T** (EN 12004).



### LIGHTWEIGHT PRODUCTS CONTAINING RECYCLED MATERIAL

**ULTRALITE S1**, one component, lightweight, flexible, high performance cementitious adhesive with **DropEffect**® technology; easy to apply by trowel, with no vertical slip, extended open time and extremely high yield, for ceramic tiles and stone material of class **C2TE** (EN 12004) and **S1** (EN 12002).

**ULTRAFLEX S2 MONO**, one component, high-performance, highly deformable, easy-to-apply cementitious adhesive with no vertical slip, extended open time and extremely high yield, class **C2TE** (EN 12004) and class **S2** (EN 12002).

**ULTRAFLEX S2 QUICK**, one component, highly-flexible, high performance, quick-setting and hydrating cementitious adhesive, which is easy to trowel and with no vertical slip and an extremely high yield, for ceramic tiles and stone material, class **C2FT** (EN12004) and class **S2** (EN 12002).

**Ultra**ite  
Technology™

Contains > 30%  
recycled content

Contains > 20%  
recycled content

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# Ultralite S1

Contains more than  
30% recycled material



One component, deformable, high performance, lightweight, cementitious adhesive with Dust Free technology, easy to apply by trowel, with no vertical slip, extended open time and extremely high yield, for ceramic tiles and stone materials.

This technology applied to **Ultralite S1** gives it a low density and offers two main advantages:

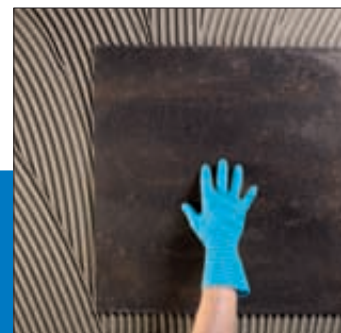
- **Higher yield:** consumption is approximately 60% less compared with traditional cementitious adhesives
  - **Lower weight** (15 kg) compared with traditional cementitious adhesives (25 kg).
- It also features:
- Excellent capacity of accommodating deformation in the substrate
  - Perfect bonding to all materials normally used in the building industry.



Application of Ultralite S1 with notched trowel



Application of the adhesive on the back of the tile



Installation of large-size ceramic tiles on wall

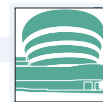
**Ultralite**  
Technology



**Conservation of a masterpiece of modern architecture: Mapei systems for renovating and restoring the exterior of the Guggenheim Museum in New York with a LEED-certified project**

Photograph by David Heald® - Solomon R. Guggenheim Foundation, New York

# The Guggenheim... re



The Solomon R. Guggenheim Museum, located along 5<sup>th</sup> Avenue in New York, is aimed at promoting an understanding and appreciation of contemporary art. It is one of the three museums (together with the Peggy Guggenheim Collection on the Canal Grande in Venice and the Guggenheim Hermitage Museum in Las Vegas) belonging to the Solomon R. Guggenheim Foundation, which was set up in 1937 for the purpose of collecting, conserving and studying modern-day art. In actual fact, the building holding the New York museum designed by the American architect Frank Lloyd Wright and completed in 1959 a year after his death, may be considered a work of art in its own right. Wright was an architectural "visionary", who attempted to explore the unexplored, distancing himself from traditional design methods and pushing engineering to its limits. He created a circular structure for the Guggenheim Museum in New York, made entirely of concrete and designed as a spiralling ramp rising up over six levels to a two-storey glass skylight at the top. The spiralling form, inclined at an angle of 3%, allows visitors who have taken the lift up to the seventh floor to walk down the ramp while admiring the works set on the various levels until they find themselves back at the exit at the end of their visit.

#### **An Unconventional Design**

The building holding the Solomon R. Guggenheim Museum was constructed using unconventional methods, quite different from those commonly used at the time or even today. The structure was made of shotcrete, positioning plywood formworks outside the building. After installing the reinforcement rods and T-bars, the entire structure was built by spraying concrete with a low water/cement ratio from the inside. The shotcrete was specially formulated to be highly resistant to compression, with controlled shrinkage and, hence, high durability. In view of the 50<sup>th</sup> anniversary of the building, which will be commemorated this year, and bearing in mind the "advanced age" of the construction (meaning it badly required renovation and restoration work), the Guggenheim Foundation commissioned various experts, including architects and engineers, to carry out an initial diagnosis of the causes of its degradation and decay and to

study various operating techniques and methods prior to drawing up a final renovation proposal.

It was vital that the methods used allow the building to maintain its most distinctive features and traits, such as the pattern of formworks and certain irregularities (such as the rusty surfaces) caused by problems which arose during the initial spraying operations and which are now part of the building's most distinctive features.

#### **A Global Company Offering Local Solutions**

After the American research institute ICR (Integrated Conservation Resources) carried out a careful search for firms qualified to take on a restoration/renovation operation of this scale and after performing very careful laboratory tests on individual materials, Mapei was chosen to come up with a conservative restoration solution which would be ideal for this prestigious building. The system proposed (and guaranteed by the Company for 10 years) then underwent further laboratory testing before it was approved. This system was developed thanks to constant and highly successful cooperation and exchange of information between Mapei SpA, the Group's mother company, and its American subsidiary, Mapei Corporation, and also between the Research & Development Laboratories in Milan and those in Deerfield Beach, Florida.

#### **Solutions to Artistic and Technical Challenges**

Due to the particularly innovative construction method, which included a total lack of expansion joints in the building holding the Guggenheim Museum, right from the very beginning cracks began to appear. Down the years, oxygen, together with water and aggressive agents, penetrated into the cracks and brought about a gradual corroding of the reinforcement rods. This, in turn, led to rust forming on the ironwork and, consequently, the iron surface deteriorating and damaging the overall structure.

After the company commissioned to carry out the work removed the various layers of finishing that had been applied to the outside surfaces of the building over many years, ICR technicians and structural engineers drew up a map of the cracks present, making a distinction between those subject to movements (and which subsequently



Photo 1.  
2007: renovation works begins at the Guggenheim Museum.

Photo 2.  
2007: analyses of the damaged areas and cracks in the outside surfaces of the building.

Photo 3.  
2007: reinforcement rods protected using MAPEFER 1K.

Photo 4.  
2007-2008: repairing of certain sections of the Museum's circular outside facade using PLANITOP XS mortar.



developed into expansion joints) and those caused by shrinkage of the concrete. It was obvious that the different types of cracks had to be treated using different operating methods. More generally speaking, Mapei was asked to deal with the building's structural problems.

**Mapei Solutions**

Mapei developed its own very concrete solutions for this project, based on all the experience it has gained over the last 20 years restoring prestigious works around the world.

**1<sup>st</sup> Phase:**

Mechanical demolition and cleaning of the surfaces using systems designed to respect their original appearance.

Solution:

Pneumatic stone hammers were used for the mechanical removal, after locating the operating area and completely uncovering the reinforcement rods using diamond-edged discs.

The surfaces were then cleaned using the innovative "sponjet" system, which does not cut deep down into the sur-

faces and leaves them looking as they originally did. The system uses an aluminium oxide dust coated with polyurethane foam, which makes the material less abrasive despite its hardness.

**2<sup>nd</sup> Phase:**

Localised repair work on the demolished sections of reinforcement rods using a system which ensures effective protection against further decay.

Solution:

MAPEFER 1K, a one-component, corrosion-inhibiting, cementitious mortar

was applied to the reinforcement rods after they had been cleaned, to ensure a re-alkalising protection and prevent dust formation.

MAPEFER 1K has proven to be an extremely beneficial product for installers, because it is extremely easy to work and apply by brush.

This highly innovative product, which is resistant to chlorides and aggressive agents found in the air, conforms to the DIN 50021 regulation (relative to the resistance to saline-fog test) and also passed the B117 test (for the same property) set by the ASTM (American Society for Testing and Materials).

After the MAPEFER 1K had dried, numerous sections of damaged concrete were repaired using PLANITOP XS, a special normal-setting, one-component, thixotropic mortar manufactured in Mapei Corporation's plants and marketed in the Americas by the Mapei Group's North-America subsidiary.

PLANITOP XS one-component mortar is super versatile and has shown it is ideal for all kinds of repairs: at surface level or in depth, on small, large, vertical, horizontal or raised surfaces, etc.



At the building site: from left, Giorgio Squinzi, Amanda Thomas-Trienens (ICR), Norman Weiss (Columbia University) and Bruce Burton (Mapei Corp.).

Unlike conventional mortars used for repairing concrete structures, PLANITOP XS can be used in thicknesses of 0-10 cm per layer, without having to apply several different layers, thereby saving on application time. This product offers high workability and extended open time. These features allowed the restorers to easily recreate the original forms of the building with great success and reshape any imperfections in the substrate, as suggested by the designers.

**3<sup>rd</sup> Phase:**

Work on cracks subject to movements using an elastic sealant, which may be painted over.

Solution:

Cracks caused by a lack of joints could not be sealed using rigid systems without then reappearing in neighbouring areas.

To choose the right product a survey was carried out, which recorded and identified movements in the cracks



Photo 5. 2008: spraying ELASTOCOLOR.



5

**Mapelastix used worldwide**

The Guggenheim Museum in New York is one of a long list of international projects of the highest profile, which have made effective use of Mapelastix industrially for the long-term waterproofing and protection of concrete structures.

This unrivalled success is due to Mapelastix's being:

- a flexible, two-component, cementitious membrane
- may be sprayed on or applied with a trowel
- ideal for protecting concrete structures against aggressive chemical agents and for waterproofing balconies, terraces, dams and swimming pools
- used for over 20 years around the world for waterproofing and repairing concrete

over the course of a year. In the end MAPEFLEX AC4, a one-component acrylic sealant, was chosen.

The MAPEFLEX AC4 was applied to the cracks after first widening them and inserting a MAPEFOAM polyethylene foam cord in the bottom of the joint.

In some cases cracks subject to smaller movements were sealed using ELASTOCOLOR RASANTE SF, a fibre-reinforced elastomeric undercoat with high filling properties and admixed with fine sand.



The Technical team that worked on the restoration of the Guggenheim Museum. From left: Paolo Banfo, Pasquale Zaffaroni, Paolo Sala, Alessandro Presotto (all belonging to Mapei SpA), Bruce Burton and Todd Miller (Mapei Corp.).

**4<sup>th</sup> Phase:**

Protection for all the building's outside surfaces using a flexible mortar.

Solution:

The work was carried out using MAPELASTIC, one of Mapei's biggest selling products worldwide and used successfully for about 20 years all over the world. This two-component cementitious mortar is impermeable to water and carbon dioxide, flexible and capable of bridging cracks subject to movements of up to 0.6 mm in width. Developed to be as flexible as possible, MAPELASTIC is ideal for concrete structures which, like the Guggenheim, are subject to movements due to severe heat fluctuations or vibrations. The product was sprayed on in this project, using a special lance designed for smoothing agents, so that any imperfections caused by the formworks were deliberately left visible. In certain parts of the building subject to notable wear-and-tear, MAPELASTIC was reinforced using MAPETEX SEL, a macro-holed polypropylene fabric increasing the product's tensile strength.

**5<sup>th</sup> Phase:**

Applying an elastomeric coating in the original colour.

Solution:

Considering all the movements the Guggenheim Museum is subject to, as previously determined in the case of protection, the finish coating also had to be flexible.

For this reason it was decided to use ELASTOCOLOR RASANTE, a fibre reinforced filling undercoat applied using an airless spray. After drying, ELASTOCOLOR RASANTE forms a smooth coating, which, thanks partly to the fiber content, follows any expansion substrate without cracking.

**6<sup>th</sup> Phase:**

Protecting surfaces at street level using an elastic paint and anti-graffiti system.

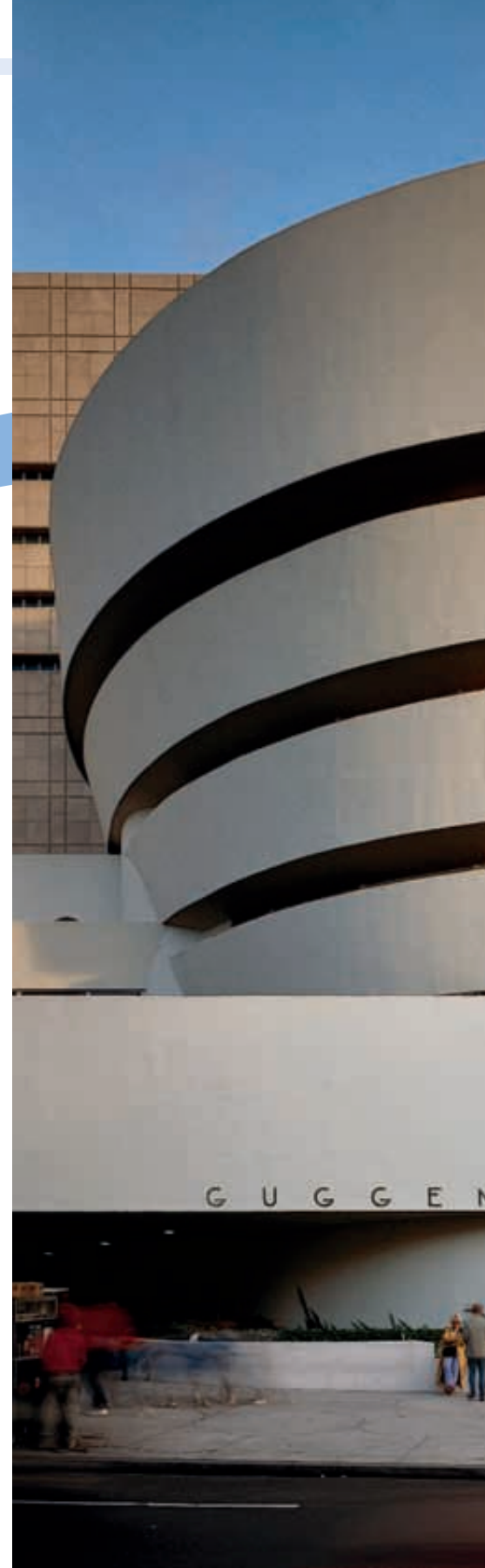
Solution:

ELASTOCOLOR WATERPROOF was applied to the surfaces of the walls surrounding the rotunda at street level. This is an acrylic resin-based paint in water dispersion ideal for permanent, direct contact with water and guaranteeing long-lasting protection. The product is particularly suitable for painting all kinds of waterproof surfaces using MAPELASTIC or MAPELASTIC SMART, as was the case here.

ELASTOCOLOR WATERPROOF ensured the surfaces were protected, making them resistant to all kinds of weather conditions, aggressive attack from smog and sunlight and, at the same time, making them look smooth and seamless.

There are already plans to provide further protection using WALLGARD GRAFFITI BARRIER, a barrier protecting surfaces against graffiti from spray paints, work crayons, markers, etc.

50 years after the Guggenheim was




built, Frank Lloyd Wright's genius is still widely recognized all over the world thanks to this building. Mapei would like to thank the Museum Management Committee for being given the chance to use its technological experience to help restore the exterior of this masterpiece. Working with other partners on the building has enabled the Company



Photograph by David Heald® - Solomon R. Guggenheim Foundation, New York



restoration work now completed. The building, which has now been restored to its original splendour, will continue to enjoy the worldwide admiration it has received for years. 

*This article was taken and reworked from "Realtà Mapei Americas" no. 7, the in-house magazine published by Mapei Corp., the Mapei Group's North American subsidiary, to whom we would like to express our thanks.*

**Mapei Products:** *Elastocolor Rasante, Elastocolor Rasante SF, Elastocolor Waterproof, Mapefer 1K, Mapefoam, Mapelastic, Mapetex Sel, Mapeflex AC4, Planitop XS, Wallgard Graffiti Barrier. These products are manufactured and distributed in America by Mapei Corp. (USA) and Mapei Inc. For further information please see the web site [www.mapei.com](http://www.mapei.com).*

### TECHNICAL DATA

**Solomon R. Guggenheim Museum, New York (USA)**

**Construction Year:** 1959

**Works Years:** 2007-2008

**Original Project:** Frank Lloyd Wright

**Work:** repairing reinforcement rods; restoring numerous sections of damaged concrete surface; waterproofing and protecting outside concrete surfaces

**Customer:** Solomon R. Guggenheim Foundation, New York

**Project:** Wank Adams Slavin Associates and Robert Silman Associates, New York

**Works Management:** FJ Sciame, New York

**Materials Consultant:** Integrated Conservation Resources, New York

**Consultant for Concrete Technology:** Prof. Norman Weiss, Columbia University, New York

**Contractor:** Nicholson and Galloway Inc., New York

**Mapei Co-ordinators:** Bruce Burton (Mapei Corp.), Pasquale Zaffaroni (Mapei SpA) and Paolo Sala (Mapei SpA)

to set up contacts and relations, which may be beneficial in the future for renovating other structures calling for technologically innovative solutions. After completing the renovation work, the scaffolding was finally removed from the Solomon R. Guggenheim Museum on 22<sup>nd</sup> September 2008, in time to celebrate the 50<sup>th</sup> anniversary of its construction this year.

On 6<sup>th</sup> November 2008, the building also hosted a special event (see the article further on) organised by Mapei and mainly devoted to architects, designers, engineers and industry press delegates, who were given a detailed outline of the various stages, results and main "players" involved in the



**Our environmental commitment**  
*More than 150 Mapei products help project designers and contractors building innovative projects, which are LEED (Leadership in Energy and Environmental Design) certified by the U.S. Green Building Council*

# AT THE GUGGENHEIM... WITH

On 6<sup>th</sup> November, 2008, the Solomon R. Guggenheim Museum, its exterior now completely restored, hosted a special event organised by Mapei and primarily aimed at architects, designers, engineers, representatives of industry media, North American authorities and VIP customers, who were given a detailed outline of the various stages and results of all the renovation work, which has now been completed. When they arrived early in the afternoon at Peter B. Lewis Theatre, housed on the ground floor of the complex to which the Museum also belongs, the guests were welcomed by Rainer Blair, President of Mapei Corporation (the Mapei Group's North-American subsidi-

ary), who set the more technical part of the event underway by introducing Giorgio Squinzi, President of the Mapei Group. Squinzi took this opportunity to provide a general outline to all those in attendance of the Company's role in the building industry, particularly as regards repairing concrete. Right after this speech, Marc Steglitz, the interim Museum Director, thanked Mapei for its help in repairing the outside surfaces of the complex. Amanda Thomas-Trienens, Senior Conservator of the American research institute ICR (Integrated Conservation Resources), then provided a detailed account of the renovation work, also explaining why the Company was chosen to supply the products required for this kind

of work. Paul Schwartzbaum, Chief Conservator and Technical Director of the Guggenheim Foundation, focused on the results of the work. Pasquale Zaffaroni, Product Manager for Mapei Group's Building Line, then pointed out Mapei's position at the very cutting-edge of the building industry worldwide. Blair, who then once again took the stage, emphasised the Group's ability to come up with solutions to local problems by drawing on a network of know-how and expertise developed globally: an ability fully exploited in the renovation work carried out on the Guggenheim Museum, whose excellent results were due to very close cooperation and collaboration between the Mapei Research & Development






# MAPEI

Laboratories in Milan and Florida, and also between Italian experts and technicians working for Mapei SpA and their American counterparts at Mapei Corp.

At the end of these technical presentations, Rainer Blair invited all the guests to attend a reception in the Museum's rotunda and take a look at the works currently on display at the Guggenheim.

Thanks to this event, guests were able to actually see with their own eyes the fabulous results achieved, partly thanks to the products and technical assistance provided by Mapei, from the work carried out to repair the exterior surfaces of the Solomon R. Guggenheim Museum. 



## A PARTNERSHIP IN THE NAME OF ART

**Mapei and the Guggenheim Foundation  
are now working even closer together in Venice**

The Solomon R. Guggenheim Foundation, which was set up in the 1920s under the auspices of the American industrialist, Mr. Solomon R. Guggenheim, now owns and operates three museums: the Guggenheim Museum on 5<sup>th</sup> Avenue, New York; the Peggy Guggenheim Museum on Canal Grande in Venice and the Guggenheim Hermitage Museum in Las Vegas.

The Foundation also helps operate the schedule and administer two other museums in Europe bearing its name: the Guggenheim Museum in Bilbao and the Deutsches Guggenheim in Berlin.

Boasting almost 3 million visitors a year from all over the world, the network of Guggenheim Museums is certainly one of the most popular cultural institutions worldwide.


The Foundation makes its own expertise and experience available to the most culturally aware and informed businesses and manufacturing enterprises as an integral part of its own cultural and social aims.

That is why it has chosen a group of businesses, called the "Intrapresae Collezione Guggenheim", with which it has set up reciprocal cultural relations. These companies inevitably include Mapei, which has always had very special bonds with the world of the arts and culture, through helping construct and renovate prestigious architectural works, organising major artistic

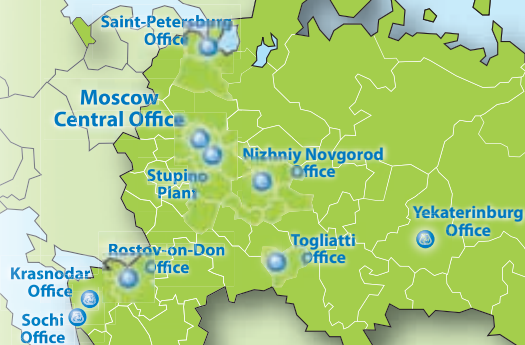
and musical events and often sponsoring prestigious cultural institutes. By taking part in the aforementioned "Intrapresae Collezione Guggenheim" group, Mapei is associating its own image with one of the most famous 'cultural brands' in international culture. Mapei's support for culture in the case of the Guggenheim Museums also comes in another form: the Company helps repair prestigious buildings holding art collections belonging to the Guggenheim Foundation, as in the case of the already completed project on the Solomon R. Guggenheim Museum in New York and the restoration that is currently done at the Peggy Guggenheim Museum in Venice.

Mapei contributes to the renovation project especially for the work on the building's façade facing the Torrestelle channel, where the entrance to the Museum is located.

The existing render will be removed and a new render will be applied on a 500-m<sup>2</sup> surface. Thereafter a coating will be applied.

Other works (which will only partially involve Mapei) will be done on the 460-m<sup>2</sup> façade (which is made of white natural stone coming from Istria) along the Canal Grande, the columns (which are currently fully covered with ivy) and the Marino Marini terrace. Works are scheduled to be completed by mid-2009, in time for hosting the Venice Biennale. 





# A NEW PRODUCTION PLANT IN RUSSIA



*Guests arrive at the ZAO Mapei production plant in Stupino on the opening ceremony day, 24<sup>th</sup> July, 2008.*

**T**hat first stone laid in October 2005, which we mentioned in issue no.19 of *Realtà Mapei International*, has already borne good fruits. The construction work on the Mapei production plant in Stupino, a city located approximately 99 km from Moscow with a population of 69,000, has now been completed and the new manufacturing unit, which covers an area of 3 hectares, is ready to begin operating at full swing at an output of up to 100,000 tonnes of products-a-year.

**In the Right Place at the Right Time**  
The production plant in Stupino is Mapei's second production plant in Russia. In actual fact, the Mapei Group's Russian subsidiary began its manufacturing operations in 2002 at a small production plant in Juzhny Port, not far from Moscow. At the same time as construction work was being carried out at Stupino, the plants and systems of the old production plant were being dismantled (completed by the end of 2006) and transferred to the new manufacturing site. It is worth noting

that this latest production plant was constructed in record time: it only took about two years from the laying of the first stone to the completion of works in December 2007. This is quite a startling result compared to the amount of time usually required to construct manufacturing units like this in other countries, and even more so bearing in mind that it was impossible to work during the winter months because of the extremely harsh continental climate in Russia. The strategic decision taken by ZAO

Mapei, the Group's Russian subsidiary, to locate its production activities here in Stupino may be explained by various logistical, geographical and economic considerations and also the availability of raw materials and the kind of road networks and infrastructures allowing the finished products to be transported.

As mentioned in the article referred to above, Stupino is a city which can rely on handy railway links (the third railway ring around Moscow actually passes through the city) and is also located close to two important national motorways; it can also provide highly specialised labour due to the fact that, since before the 2<sup>nd</sup> World War, much of Russian industry has been concentrated in this area; it is also part of an economic district in the area around Moscow, whose building industry has been booming for a number of years.

#### **An Important Achievement and a Stepping Stone**

The Mapei Group has always aimed to take full advantage of the growth opportunities provided by the positive trend in the Russian building industry ever since it launched itself onto the market in this country in 1997 by setting up OOO Mapei, which was renamed ZAO Mapei in 2004. The Group has focused this subsidiary's operations on initially marketing and then manufacturing chemical products for building. Since then ZAO Mapei has continued to grow steadily,

increasing its staff from just 4 people employed in a representative office to 60 staff variously located among the headquarters in Moscow, the production plant in Stupino and commercial offices in St. Petersburg, Nizhniy Novgorod, Togliatti, Rostov-on-Don, Krasnodar, Sochi and Yekaterinburg (and, soon, another in Novobirsk). ZAO Mapei can now boast an extensive commercial and distribution network, which covers the whole of Russia right through to Armenia, Belarus and Kazakhstan, an efficient customer assistance service, intensive marketing operations and a wide range of training opportunities for customers and business partners. The results can already be seen in terms of sales. Over the last few years ZAO Mapei has gained an important slice of the Russian market for building materials, reaching in 2008 a turnover of over 15 million Euros. The aim is to reach 20 million Euros by 2010.

Thanks to the new production plant in Stupino, the Group's Russian subsidiary is now quite capable of meeting the great demand for chemical products for building in this country, since it is equipped with cutting-edge plants and systems for manufacturing and storage over an area of 8800 m<sup>2</sup>, which draw on the very latest production technology.

The complex also encompasses a 900-m<sup>2</sup> office section; it has silos for storing sand, cement and chemical additives and a Quality Control Laboratory, which analyses raw materials and fin-

ished products working in close cooperation with the Mapei Research & Development Laboratory in Milan.

At the moment the new production plant manufactures 20 types of products, including adhesives for ceramics, mortars for concrete repair, waterproofers, levelling and smoothing compounds, etc. The types of products manufactured on site, however, are destined to increase, because the Russian market is showing a growing interest in admixtures for concrete, adhesives for resilient materials and the Mapetherm thermal insulation system, which is particularly useful for the so-called "panel buildings" built back in Soviet times using pre-cast panels and resulting in serious thermal insulation problems. These products, which are currently imported by ZAO Mapei from other Group factories, will be manufactured at Stupino in future. It took an investment of 40 million Euros to build the production plant and the design work of a team of Mapei experts including architects, engineers and designers, who obviously took into account the specifications currently in force in Russia. It is evident that the official opening of this new manufacturing plant is an important step in Mapei's expansion into Russia, a process which the Company will continue over coming years, as it already plans to open another four production plants in this country, starting in the north (in the Saint Petersburg area) and heading out towards the Urals (in the Yekaterinburg area) and beyond.



*Before the start of the official opening ceremony, a press conference for local, foreign and specialist press was held in the morning, which was attended by Giorgio Squinzi, CEO of the Mapei Group, Valentina Rosi, Deputy General Manager of ZAO Mapei, and Yuri Martirosow, Sales Manager of ZAO Mapei.*

ZAO Mapei also plans to expand its own business network and increase its staff, so that its operations in this country are comparable to what the Group can already boast in the United States, a country which is twice as small as Russia. As regards the production plant in Stupino in particular, ZAO Mapei also plans to present a railway link project (between its manufacturing plant and the National Railway network) to the local authorities very shortly. Since trains are the main means of goods transport in Russia, once the new link has been constructed it will ensure that raw materials and finished products can be transported to and from the production plant even during the worst periods of weather of the year, when road transport is particularly tricky.

**Party!**

To celebrate the completion of the plant in Stupino, an official opening ceremony was held on 24<sup>th</sup> July, which was attended by approximately 300 members of staff/management from ZAO Mapei and the Mapei Group, Russian customers and suppliers, bank representatives (including Banca Intesa and the International Moscow Bank), officials from the Stupino local authorities and leading figures from Russian and Italian industry (such as Claudio Benedetti, Managing Director of Federchimica, the Italian Federation of Chemical Industry), delegates from important local and multinational companies (Concorde Group, Kerama Marazzi, Campina, etc.) and many other people.

There was even a group of guests from Italy's most important ceramics district, the area around Sassuolo (province of Modena), including Graziano Pattuzzi and Carla Ghirardini, respectively the Mayor and Sports Councillor for the city of Sassuolo, Claudio Pistoni, the Mayor of Fiorano Modenese (another Italian city belonging to the ceramics district), Enzo Castelli, a partner in Sassuolo Calcio football team, Carlo Rossi, President of Sassuolo Calcio football team and the Mapei agent for the Italian provinces of Bologna, Modena, Parma and Reggio Emilia. Of course the press was also present with about 20 journalists from local papers and a correspondent from the Italian daily newspaper "Il Sole 24 Ore", Sergio Rossi.

When all the guests arrived at the plant at 11 o'clock in the morning,



*Above: Giorgio Squinzi and Svetlana Golovatiaya, ZAO Mapei's chief engineer, with the silos for storing raw materials at the production plant in Stupino in the background.*

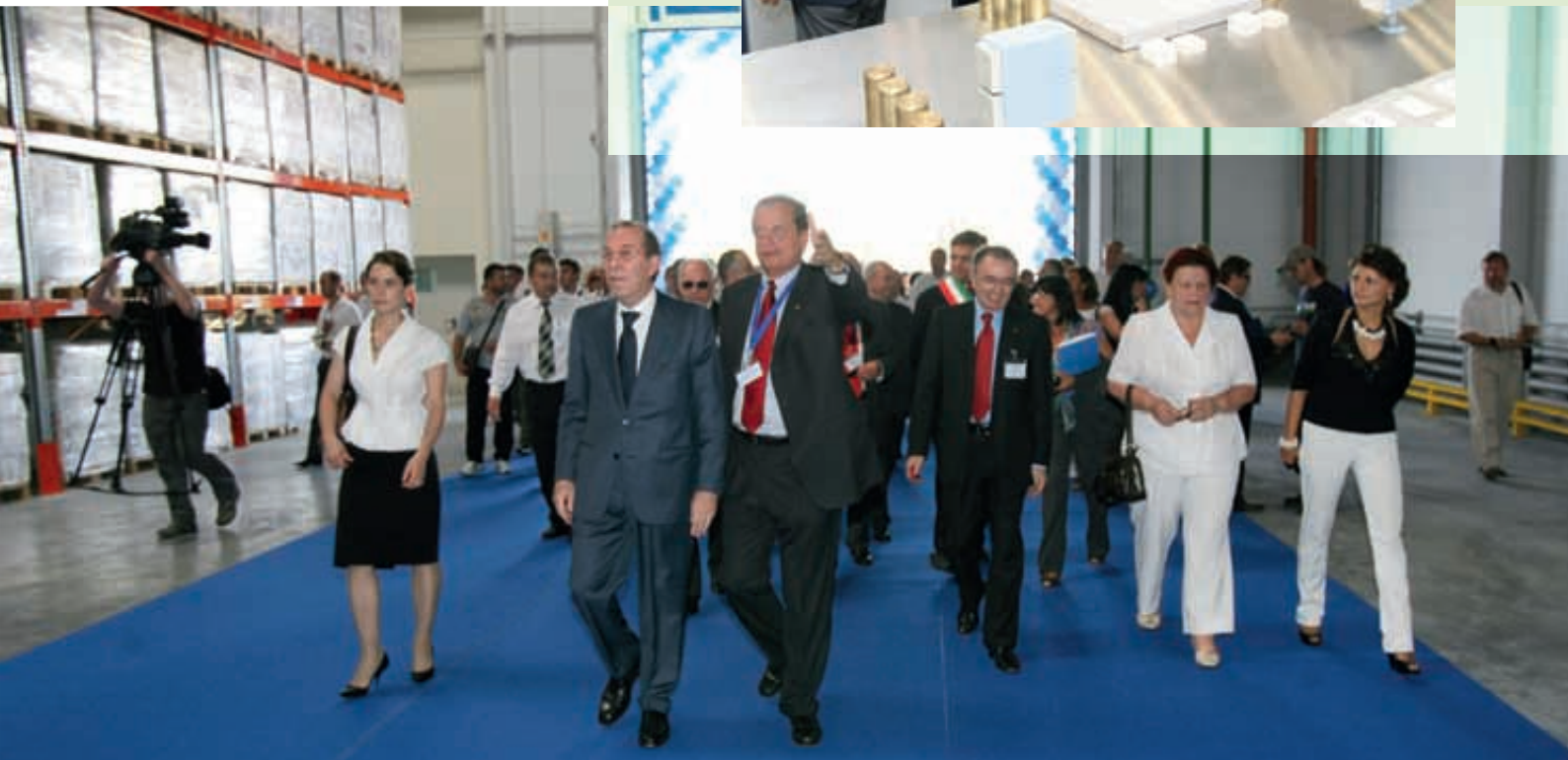
*In the centre: the tape cutting ceremony performed by Giorgio Squinzi and Sergeeva Lubov Ivanovna, Deputy Head of Stupino City Council.*

*Right: official speeches given at the opening ceremony. From left: Giorgio Squinzi, the interpreter that translated the speeches, the Italian Ambassador to Moscow, Vittorio Surdo, Father Aleksandr, blagochinniy for the Stupino region, and Sergeeva Lubov Ivanovna.*

Right: visit to the Quality Control Laboratories at the production plant. From left, Vittorio Riunno, supervisor for Mapei R&D formulation and test methods worldwide for ceramic tiles and setting materials, Valentina Rosi, Giorgio Squinzi and the Mayor of Fiorano Modenese, Claudio Pistoni.



Below: the guests visit the plant accompanied by Luciano Longhetti (centre page), General Manager of ZAO Mapei and the Group's Strategic Planning Manager. On his right: the Italian Ambassador to Moscow, Vittorio Surdo; behind him: Giorgio Squinzi and Sergeeva Lubov Ivanovna.



Left: Giorgio Squinzi signs his name and writes the date on the first bag of adhesive for tiles Kerabond manufactured at Stupino.



Right: the packing line of KERABOND adhesive inside the production plant.

they were given a welcome cocktail and entertained by some clowns and an illusionist to the accompaniment of music by a military band.

Press delegates got the chance to ask questions about the history, current state and future projects of ZAO Mapei to Giorgio Squinzi, President of the Mapei Group and CEO of Mapei SpA, Valentina Rosi, Deputy General Manager of ZAO Mapei, and Yuri Martirosow, ZAO Mapei's Sales Manager, during a perfectly organised press conference.

Official speeches were then given by Giorgio Squinzi, Vittorio Surdo, the Italian ambassador to Moscow, Father Aleksandr, *blagochinniy* for the Stupino region, and Sergeeva Lubov Ivanovna, Deputy Head of the Stupino Local Council.

Squinzi underlined that the opening of the plant showed just how important the Russian market is for the Mapei Group and the Company's determination to invest in Russia to reinforce its own operations and continue to grow in this country, thanks also to the support Mapei has so far received from Russian authorities, who received Squinzi's special thanks.

Surdo, on the other hand, explained how this event fitted in perfectly with the modern-day workings of economic relations between Italy and Russia, something which has been completely confirmed by two official visits to Moscow by the President of the Italian Republic, Giorgio Napolitano, and the Italian Minister for Economic Development, Claudio Scajola, which took place respectively 10 days before and a few days after the official opening ceremony of the Mapei production plant in Stupino.

The Ambassador also underlined the fact that the Stupino area is turning into an authentic manufacturing district, thanks to the combined efforts of both the Italian and Russian governments.

Father Aleksandr, who two days earlier had blessed the various departments of the manufacturing plant according to local Orthodox rituals, then set about sprinkling holy water over the outside area and the ribbon cut at the opening ceremony to further consecrate the site, comparing the production plant to a small child in need of constant care in order to grow properly.

Sergeeva Lubov Ivanovna thanked Mapei for coming to Stupino, provid-



ing the area with an important chance for economic growth.

Luciano Longhetti, the General Manager of the ZAO Mapei, finally outlined the history of the Russian subsidiary and the reasons why Mapei

has decided to open new manufacturing plants in this area.

At the end of the official speeches, Giorgio Squinzi and the Deputy Head of Stupino City Council officially cut the tape, which was followed by a

tour around the various sections of the plant. Guests were also treated to practical demonstrations of how certain Mapei products are used and also the on-site manufacturing of the first bag of Kerabond adhesive for tiles, packaged in a small golden-coloured bag underlining its symbolic value. The trip around the plant was followed by a gala dinner, during which guests sitting around tables in groups of 8-10 were able to enjoy some traditional tasty Italian and Russian dishes



*In the previous page, above: Giorgio Squinzi is given a gift of 39 matryoshkas by ZAO Mapei staff, representing all the different countries where Mapei has a production plant.*

*In these pages: pictures of the gala dinner, which followed the opening ceremony and featured entertaining performances by acrobats, dancers and circus performers. Below: Giorgio Squinzi has his photograph taken with Mapei staff in front of the matryoshkas he was presented with.*



and enjoy musical and circus entertainment provided by musicians and acrobats.

There were also plenty of surprises during the dinner: there was a giant cake in the shape of the Stupino plant; a live bear handed over bouquet of flowers to Adriana Spazzoli, Mapei Group's Operational Marketing & Communication Director; Giorgio Squinzi was given a special gift by staff at ZAO Mapei: a set of 39 matryoshkas representing all the countries where Mapei has a production plant.

At the same time, Valentina Rosi also thanked Giorgio Squinzi for all the effort and investment it has made in the manufacturing plant in Stupino. At the end of the meal a huge bundle

of small blue and white balloons (the Mapei Group's corporate colours) was released into the air outside the plant entrance to bring the ceremony to a successful close.

As a memento for the day's events, all the guests were given a matryoshka holding five dolls, each a different colour and representing the five Mapei product lines currently manufactured in Russia.

Over the weeks that followed, the local press in Stupino and other regions of Russia reported on the event, underlining the importance of ZAO Mapei on the Russian market for building materials.

The day before the official opening of the plant in Stupino, a Mapei delegation

from Italy composed of, among others, Giorgio Squinzi, Adriana Spazzoli, Luciano Longhetti and Luigi De Martin (Mapei SpA's Export Manager for Russia), visited the new headquarters of ZAO Mapei in Moscow.

The new offices, which opened in June 2007, are located in the premises of an old plant, which has been completely renovated and converted to its new purpose, on a prestigious business estate in the Russian capital, not far from the city centre and well served by local transport. The Italian delegation and staff of ZAO Mapei jointly toasted the Russian subsidiary, wishing it the best of luck in the future and hoping it would carry on being as successful as it has been so far.



*Above: the Stupino (Oka) and Sassuolo Calcio football teams played a friendly at the end of opening day of the Mapei plant in Stupino.*




*Above: the Mayor of Stupino, Pavel Ivanovich Chelpan, hands over a matryoshka to a player from Sassuolo Calcio as a memento of the friendly.*

*Right: delegates from the Mapei Group visiting the Mayor of Stupino at the City Hall. From left: Vladimir Ilich Bulavinov, an important aid to the Mayor of Stupino; Luciano Longhetti; Claudio Pistoni, the Mayor of Fiorano Modenese; Valentina Rosi; Pavel Ivanovich Chelpan; Graziano Pattuzzi, Mayor of Sassuolo; Adriana Spazzoli and Giorgio Squinzi.*

**Friends Even Out on the Pitch**

At the end of the celebrations for the official opening of the plant in Stupino, guests went to Metallurg Stadium in Stupino and watched a friendly football match between Oka (Stupino's local team) and Sassuolo Calcio, the team sponsored by Mapei which was promoted to the Italian second division in 2008. Sassuolo won the match 2-1. A "friendly" effectively symbolising relations between the two cities, which are now culturally-economical-

ly twinned, as celebrated on 18<sup>th</sup>-19<sup>th</sup> October 2008 at the "Conversations about Russia" event described later in the following article.

Friendship between the city of Stupino and Italy was further reinforced, formally speaking, by visits from the Mayors of Sassuolo and Fiorano Modenese (accompanied by top management from Mapei) to the Mayor of this Russian city. It proves that team work is crucial to Mapei even when working as an ambassador. 





# SASSUOLO MEETS RUSSIA



On 18<sup>th</sup>-19<sup>th</sup> October 2008 the "Sassuolo Meets Europe: Russia" event took place, a sort of cultural-economic twinship between the city of Sassuolo, chief town of the most important ceramics area in Italy, and Russia, the country offering the greatest opportunities for economic growth for Italian companies, particularly those in this area of the Emilia-Romagna region. The event, organised by the various official and private institutions (the Italian Foundation Centre for developing relations between Italy and Russia, the Modena and Reggio Emilia Superintendancy for historical, artistic and ethno-anthropological heritage), representative bodies (Confindustria Ceramica, the Association of Italian Ceramic Tile and Refractory Material Manufacturers) and private firms (including Mapei, but also Marazzi Group, Gruppo Concorde, Sacmi, System and Imerys) was held inside the prestigious setting of Palazzo Ducale in Sassuolo. It was preceded by a gala dinner held on Friday, 17<sup>th</sup> October, and culminated in a conference entitled "Conversations about Russia", during which there were speeches by representatives of various institutions (such as the President of the Province of Modena, Emilio Sabattini, the Mayor of Sassuolo, Graziano Pattuzzi, the Mayor of Stupino, Pavel Ivanovich Chelpan, the President of Confindustria Ceramica, Alfonso Panzani, and Ester Silvestri representing the General Management for the Promotion of Exchanges for the Italian Ministry of Economic Development) and the academic world (such as Franco Moroni, a

professor from Parma University) and industry (Federico Curioni from the Concorde Group, Raffaele Bartoli from the Marazzi Group, Luciano Longhetti from the Mapei Group, Claudio Marani from Sacmi and Franco Stefani from System). The general picture of Russia emerging from the speeches is of a very intricate country, which is difficult to approach but full of opportunities for those companies capable of proposing solid and concrete projects. Based on recent studies into the sector and other statistics, Russia turns out to be a key strategic partner for Italy, which, over recent years, has increased its exports notably, also gaining a much higher share of the Russian market reaching an overall figure of 10 billion Euros. Moreover, the city of Stupino (located about 100 km south of Moscow) turns out to be a vital strategic partner for Sassuolo, because the former's striking economic growth has been made possible over recent years partly thanks to on-site investments by Italian companies. Concerning this matter, representatives of the aforementioned Italian companies talked about the experiences of major industrial groups which have developed operations on site. They included Luciano Longhetti, General Manager of ZAO Mapei (the Russian subsidiary of the Mapei Group) and the Group's Strategic Planning Manager, who underlined the fact that to do good business in Russia it is still important to have very good relations with local institutions. He then went on to thank Stupino City Council for always being so helpful in its dealings with Mapei. 



Various performances of traditional Russian dances were given last October in Piazza Garibaldi in Sassuolo during the various days' proceedings of the "Sassuolo Meets Europe: Russia" event.

On 19<sup>th</sup> October 2008, a roundtable was set up as part of the "Conversations in Russia" conference held in Palazzo Ducale in Sassuolo, which was chaired by the Editorial Director of the technical magazine *Cer*, Andrea Serri. From right: Luciano Longhetti from Mapei, Alfonso Panzani from Confindustria Ceramica, the Mayor of Stupino Pavel Ivanovich Chelpan, Andrea Serri, the Mayor of Sassuolo Graziano Pattuzzi, Federico Curioni from the Concorde Group, Raffaele Bartoli from the Marazzi Group, Franco Stefani from System and Claudio Marani from Sacmi.





# FROM RUSSIA... WITH MAPEI

In Russia Mapei solutions were used for completing buildings for several uses: hotels, manufacturing facilities, commercial and housing complexes, public and private constructions. Some examples are shown in these pages.



## Hotel Radisson Sas - Rostov on Don

In this hotel's fitness and wellness centers, the wall and floor surfaces were waterproofed with MAPELASTIC. Ceramic tiles and mosaics were installed with KERAFLEX MAXI, KERACRETE + KERACRETE POWDER, while joints were grouted with

ULTRACOLOR PLUS. When building the floors in the lobby, TOPCEM, PLANOLIT 315 and PLANICRETE were used for preparing the screeds, KERAFLEX MAXI (in its white version) to install natural stone slabs and porcelain tiles and, again, ULTRACOLOR PLUS for grouting the joints.



## Orenburzhye Sports Centers - Orenburg

When preparing the screeds for the floors of central area, the stairs and corridors of this sports centre, PLANICRETE latex was added to the mixture; MAPELASTIC was chosen for waterproofing the substrates of the same areas; the coating MAPEFLOOR FINISH 52 W was applied on the floorings in the service areas and in the cellars.





**Oktjabrenok Swimming pool - Rostov sul Don**

In 2007 this sport center was repaired and renovated. Its Olympic swimming pool was also involved in the works: the surfaces were waterproofed with MAPELASTIC before laying the ceramic covering with KERACRETE + KERACRETE POWDER and grouting the joints with ULTRACOLOR PLUS.



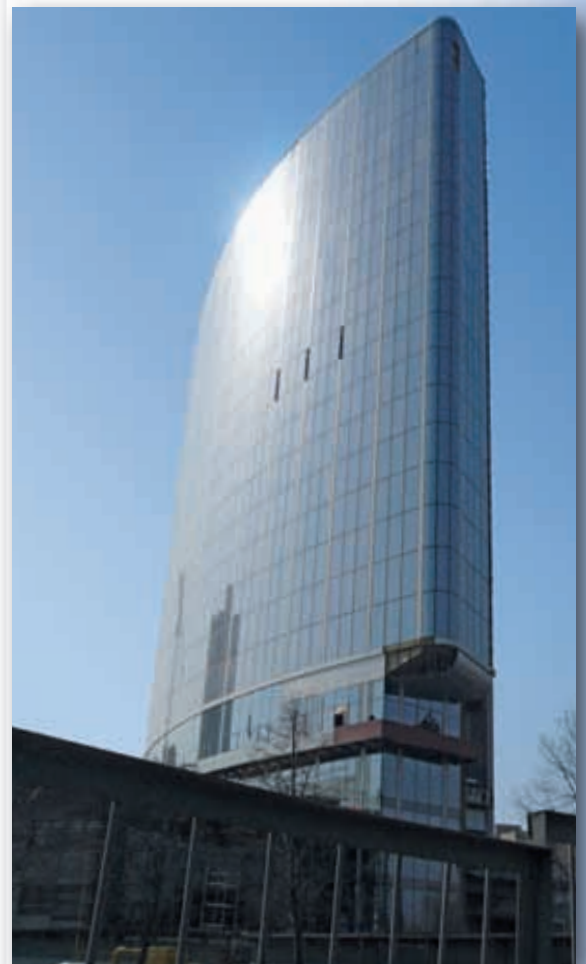
**Nevskiy Palace Hotel - St. Petersburg**

For repairing the internal concrete structures (including the ceilings and floorings in the underground parking), MAPEFER, MAPEGROUT THIXOTROPIC, MAPEGROUT HI-FLOW, MAPEFLEX PU21 and IDROSILEX PRONTO were used. MAPEFLEX PU21 was chosen for sealing the fraction joints of the natural stone floor in the lobby.



**Hotel Belovodie - Belokurikha**

This prestigious complex includes a wellness center, an aquatic park and a 4-star hotel. Several Mapei products were used to complete the indoor swimming pool: MAPELASTIC and FIBREGLASS MESH for waterproofing the substrates; KERACRETE + KERACRETE POWDER for laying the ceramic covering; KERACOLOR and FUGOLASTIC for grouting the joints.



**Hotel Hyatt - Yekaterinburg**

Mapei contributed to build this luxurious hotel providing products such as MAPELASTIC for waterproofing surfaces; GRANIRAPID, KERALASTIC T and ELASTORAPID for laying indoor ceramic and natural stone wall and floor coverings; ULTRACOLOR PLUS, KERAPOXY and KERACOLOR FF for grouting the joints.

# VOLGA CLIFF RESORT

The “state-backed” renovation on the banks of the River Volga

The modest, rolling Valdaj hills of North-West Russia is the birthplace of the longest river in Europe: the Volga. After a journey of more than 3,500 km, the waters of the Volga flow into the Caspian Sea, with a delta which is more than 160 km long. Along the banks of the Volga, and especially towards the lower parts of the river, the setting for large-scale commerce and violent, epoch-making battles, was the area where one of the most powerful nations in modern history bloomed and established: Russia. The Russia of the boundless steppes, Siberia, the Berlin wall, gas pipelines, disarmament and dialogue. And also the Russia of enchanting natural landscapes. There is a region close to the large eastern bend of the River Volga, known as “Volga Switzerland” because of its breathtaking beauty.

The area has been inspired by the vitality of the river, and even though it still conserves its natural, savage splendour, important cities such as

Togliatti and Samara have taken root in this area.

In May, 2007 the eyes of the political and financial world, from California to Japan, were all looking towards the 350 hectares of the Volga Cliff territory, in the heart of Volga Switzerland, 80 kilometres to the south of Samara.

In fact, that was the year in which the difficult Russia-European Union summit was held in the Volga Cliff Resort. The heads of government and representatives from the main member states of the European Union (from the German Chancellor Angela Merkel to the President of the European Commission José Manuel Barroso) were guests of the Russian government and the then Prime Minister Vladimir Putin, in one of the most prestigious buildings in the country.

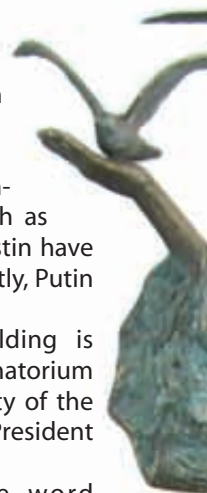
The Volga Cliff Resort was founded in 1974, upon an initiative of the Soviet Union’s Minister of Health. The entire complex, important yet secluded, was built to host the head of state, and was

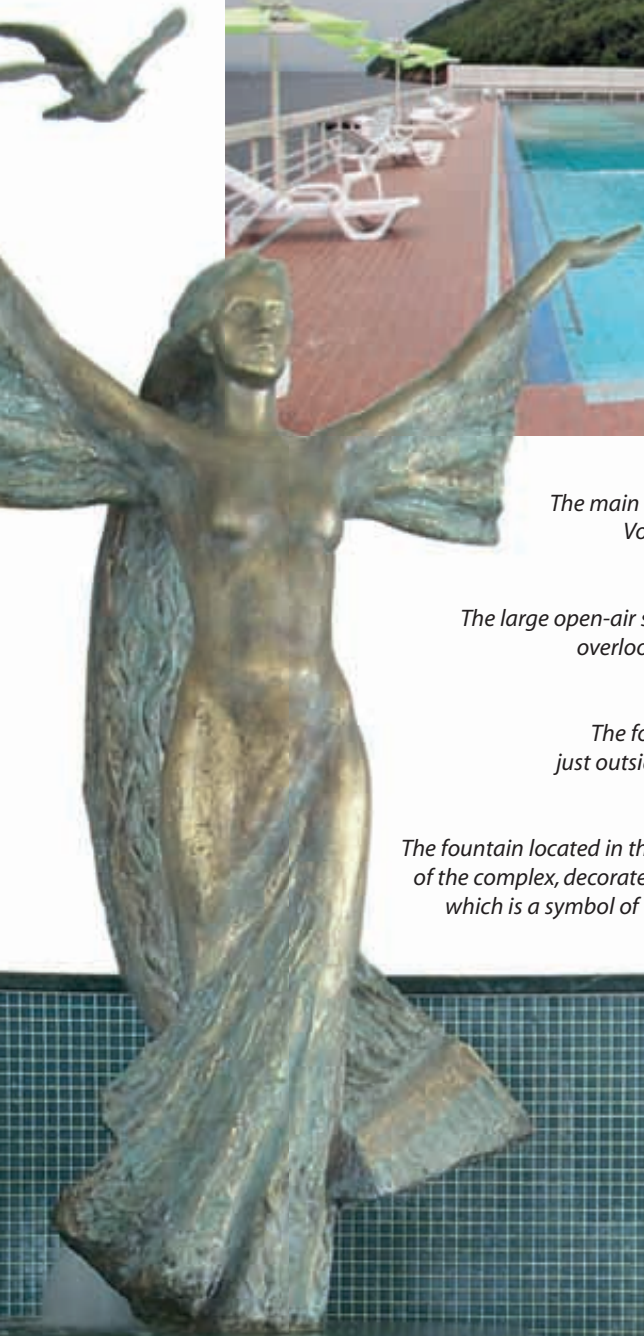
equipped to offer relaxation and health and beauty treatments for the most eminent figures at the head of the country. State representatives such as Brezhnev, Gorbachev and Yelstin have stayed there, and more recently, Putin and Medvedev.

Today, this prestigious building is called the Federal Official Sanatorium Volga Cliff, and is the property of the Administration Office of the President of the Russian Federation.

To be more precise, the word Sanatorium in Russian means a place where a combination of health cures and recreation are offered, and its aim is to provide short vacation periods dedicated to wellbeing and relaxation.

Towards the end of 2006, the complex underwent various renovation works, from the main internal halls to the swimming pools, from the external fountains to the main negotiations hall. The prestige and perfect func-





*Photo 1.  
The main entrance to the  
Volga Cliff Resort.*

*Photo 2.  
The large open-air swimming pool  
overlooking the Volga.*

*Photo 3.  
The fountain located  
just outside the building.*

*Photo 4.  
The fountain located in the entrance hall  
of the complex, decorated with a statue  
which is a symbol of the River Volga.*





5

tionality of every environment and the attention to detail meant that only first class materials and technology were to be employed.

And Mapei, which has been present in Russia since 1997, was quick to reply and offer the Company's technology as a basis to count on for the renovation of the building. The contractor which carried out the work, Harvinter Company, used Mapei waterproofing products, adhesives and grouts. While such products are not necessarily visible to a visitor's naked eye, they restored the Volga Cliff Resort to the beauty and comfort for which it is characterised, starting right from its foundations.

**Mapei in Action**

Works on the external areas included the large open-air swimming pool (50 m) and its annexed services, and a panoramic viewing terrace overlooking the banks of the Volga.

In the swimming pool, the old covering was removed, and then after care-

fully cleaning and smoothing over the reinforced concrete, the substrate was waterproofed using the MAPELASTIC system. MAPELASTIC is a two-component, flexible cementitious mortar used for waterproofing concrete structures, balconies, terraces, swimming pools, etc. even at low temperatures. When reinforced with FIBREGLASS MESH, it is also resistant to movements in the substrate of more than 1.5 mm. After complete curing of the MAPELASTIC, the glass mosaic chosen for the swimming pools was laid using the KERACRETE+KERACRETE POWDER system, a high-performance cementitious adhesive with no vertical slip for ceramic tiles and glass mosaics.

The same KERACRETE+KERACRETE POWDER adhesive system was also used to lay the ceramic tiles in the showers and changing rooms adjacent to the swimming pool.

All the external tile joints in the swimming pool and annexed services were grouted using ULTRACOLOR PLUS high-performance, anti-efflorescence

grout for joints from 2 to 20 mm, water repellent with DropEffect® and anti-mould with BioBlock® technology.

The viewing terrace had been built using reinforced concrete with no kind of covering material. The project for the complex included laying a marble floor. Once the substrate had been well prepared, the marble was laid using GRANIRAPID fast-setting and hydration, deformable, two-component cementitious adhesive for ceramics and natural stone.

In the internal areas, renovation work included the floors in the prestigious "negotiations" hall, a large swimming pool which is a mirror image of the external swimming pool, and five indoor swimming pools in the cottages integrated with the main body of the building.

The design for the floor in the negotiations hall included major decoration work and a series of large, curvilinear patterns, as if to exalt the size of the hall, illuminated by large windows stretching along the entire length of



Photo 5.  
In the prestigious "negotiations" hall a marble floor was laid.

Photo 6.  
A hall dedicated to relaxation: precious marble floors were also laid in this area, enriched with elaborate decorations.

**Mapei Products:** the products mentioned in this article belong to the "Products for Ceramic Tiles and Stone Materials" range. The technical data sheets are available on the "Mapei Global Infonet" DVD or at the web site: [www.mapei.com](http://www.mapei.com).

Mapei's adhesives and grouts conform to EN 12004, EN 12002 and EN 13888 standards.

Almost all the Mapei products for laying ceramics and stone materials are also GEV-certified.

**Granirapid (C2F, S1, EC1):** high performance, deformable, fast setting and hydration two-component cementitious adhesive for ceramic tiles and stone material.

**Keracrete+Keracrete Powder (C2T, EC1 R):** high performance, two-component cementitious adhesive with no vertical slip for ceramic tiles, glass mosaic and stone material.

**Mapelastic:** two-component flexible cementitious mortar for waterproofing balconies, terraces and bathrooms.

**Fibreglass Mesh:** alkali-resistant fibreglass mesh for reinforcing interior and exterior levelling compounds.

**Ultracolor Plus:** fast-setting and drying, high performance, anti-efflorescence grout for joints from 2 to 20 mm. Water-repellent with DropEffect® and anti-mould with BioBlock® technology.

one of its sides.

The old floor was removed and the substrate was then carefully prepared. The marble was cut according to the chosen design, and was also laid and bonded in place using GRANIRAPID. The joints in the marble were grouted using ULTRACOLOR PLUS.

For the indoor swimming pool, the waterproofing and laying system successfully adopted was the same as for the open-air swimming pool.

However, the other five indoor swimming pools required much more radical renovation work. Once the coverings had been removed and the substrates had been prepared, they were waterproofed using the MAPELASTIC system reinforced with FIBREGLASS MESH.

The KERACRETE+KERACRETE POWDER adhesive system was also used for this operation, and together with the skill of the floor installers, guaranteed that the glass mosaic was laid perfectly in all the indoor swimming pools.

The joints were then grouted using

ULTRACOLOR PLUS to make them water and mould repellent.

The last two interventions were the work carried out on the fountains: the first one located in the entrance hall of the complex and the second one just outside the building.

Both the basins of the fountains which collect the flowing water were waterproofed with the MAPELASTIC waterproofing system, and were covered with glass mosaic bonded in place using the KERACRETE+KERACRETE POWDER system, and grouted using ULTRACOLOR PLUS.

The fountain in the entrance hall represents the figure of a woman called Volga, and is the symbol of the most important river in the Russian country. With arms outstretched to symbolically welcome the visitors and guests, while two birds take flight from her shoulders, it announces that spring is near and is a wish for peace.

Shortly before the Russia-EU summit in May, 2007, as per schedule, renovation work was completed.



## TECHNICAL DATA

**Volga Cliff Resort** – Samara Region (Russian Federation)

**Work:** renovation works and installation of natural stone and glass mosaics

**Construction Year:** 1974

**Works Years:** end of 2006 - May 2007

**Customer:** Russian Federation Ministry of Health

**Contractor:** Harvinter Company

**Mapei Coordinators:** Anna Medvedeva and Aleksey Krainov (ZAO Mapei)

**The first ever offshore regasification platform in Italy is a result of the synergic commitment by three of the Mapei Group's European subsidiaries.**



# WHAT A GAS!

**L**arge construction projects are a routine challenge for Mapei, a Company with the capacity of also playing a leading role in this sector. To be the world's leading Company for products used in the building industry, and a multi-national corporation operating in a number of countries all over the world – either directly or through subsidiaries – means having the know-how, products and highly-specialised teams which can meet the challenge of the complex nature which typically characterises such projects.

An emblematic example is the experience and skill demonstrated during the construction of a plant which was recently welcome by Italy's leading institutional representatives, a project which involved the coordination of various international companies, one of which was Mapei. This plant will supply about 10% of the Italian country's current demand for natural gas, and its contribution will be paramount in assuring Italy's energy requirements and the competitiveness of natural gas on the Italian

market.

The plant in question is the offshore LNG (Liquified Natural Gas) platform (see box), set on the sea bed off the coast of Rovigo since September 2008. With a regasification capacity of 8 billion cubic metres of natural gas per year, the terminal will increase Italy's regasification capacity by 200%. The "LNG Adriatic" regasification plant left Algeciras – at the southern tip of Spain on the Straits of Gibraltar – on the 30<sup>th</sup> of August 2008. It was welcome on the 20<sup>th</sup> of September 2008 at the Porto Viro





*The long journey of the regasification plant.*

In particular, Mapei supplied cementitious products and protective, flexible epoxy resin-based paints used to make the structure suitable for the particularly aggressive environment it will have to withstand, while remaining immersed in sea water at a depth of 28 metres for an extremely long period of time.

Mapei's part in the project was not limited to the simple supply of special systems. The Company was also involved in an engineering consultancy during the design definition phase of the project, organised a special team of technicians and equipment for technical assistance and trained the building companies used to carry out the work regarding the correct methods to use when applying the Mapei products supplied.

The Mapei Group was an ideal partner for this international project, in that it is able to offer a well-coordinated service of technical consultancy, highly specialised and high quality systems, specific training programmes and technical supervision, both during the design phase and on the various sites where the structures which make up the platform took shape.

"It is enormously satisfying for us at Mapei to be able to declare that we took part in the construction of the first offshore platform in the world in reinforced concrete to be used for receiving, storing and regasification of LNG", explained Giorgio Squinzi, CEO of Mapei S.p.A. and President of the Mapei Group.

"Yet again, we were chosen for the quality of our products, which offer the best hold and seal and highest levels of safety in the open sea, and for the efficiency of our Technical Service team which were always present on site. Mapei's trump card is our constant attention in the research for continuously innovative solutions".

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terminal in Rovigo (in Northern Italy), in the presence of the Italian Prime Minister, Silvio Berlusconi, the Italian Minister of Economic Development, Claudio Scajola, and the President of the Veneto region, Giancarlo Galan. This has proved to be an extremely complex and strategically important project, and Mapei's contribution to its construction proved to be extremely important. Mapei supplied 450 tonnes of cementitious products and protective, flexible epoxy resin-based paints used to construct the plant, Italy's first

offshore regasification platform (and the first offshore terminal made of reinforced concrete in the world). Three subsidiaries from the Mapei Group were involved in the project: Mapei SpA (Italy), Ibermapei SA (Spain), and Rescon Mapei AS (Norway). The reinforced concrete used in the construction of the degasification plant was specially treated after casting using extremely high quality Mapei products to protect the concrete and guarantee high durability over the years.



**A Masterly Piece of Work with an Outlook on the Future**

At 15 kilometres off the Venetian coast, the platform was lowered down until it rested on the sea bed at a depth of 28 metres. Seawater flowed into the lower and lateral compartments of the structure, followed by 300,000 tonnes of solid ballast to stabilise the entire structure. Thereafter, several activities have been completed and others are currently being carried out to complete the

structure’s installation and ensure its full functioning within 2009. The plant is managed by Terminale GNL Adriatico Srl – a partnership between Qatar Terminal Limited (45%), ExxonMobil Gas (45%) and Edison (10%) – and will be the first offshore structure in reinforced concrete in the world to be used for receiving, storing and regasifying liquefied natural gas. The regasification platform and all the auxiliary structures have been manufactured according to the highest international

environmental and safety standards. The liquefied gas will come from the “Giant North Field reservoir” in Qatar, the largest gas reserve in the world, which, with an ascertained availability of 25,500 billion cubic metres, makes Qatar the third most important country in the world for gas reserves. The gas will be liquefied in Qatar by means of a cooling process which will lower its temperature to -162°C, with a reduction in volume to 600 times lower than its original volume, so that higher vol-

**LNG (LIQUEFIED NATURAL GAS) AND THE ADVANTAGES IT OFFERS**

LNG: LNG (Liquefied Natural Gas) is quite simply methane which is liquefied by lowering its temperature so that it may be transported by ship. The liquefaction of methane gas is a process which lowers its temperature to -162°C, with a reduction in volume to 600 times lower than its original volume. Liquefied gas is transported using special ships. Around one quarter of gas currently transported all over the world uses this method, which is now well-tested, safe and reliable. Ships used to transport LNG, and also regasification platforms and terminals, are designed and built to extremely high safety levels, according to the most advanced

standards in the sector and in compliance with all current norms and regulations. Ships and terminals are also administered using the most advanced operating procedures. In more than 45 years of operations, ships used to carry methane have covered more than 100 million miles without any serious incident. LNG technology offers an alternative to traditional gas pipelines, connecting markets a long way from where gas is produced, supplying energy resources by ship which would otherwise be unavailable. The technology used to liquefy large volumes of gas has led to an acceleration in

the development of the global commerce of LNG, which today accounts for approximately 25% of the total of international gas trade. LNG technology means that countries which can not be connected to traditional gas pipeline systems for logistical reasons may now export the raw materials which they would otherwise be unable to export. In Italy, LNG represents only 5% of the total amount of gas imported, but it is destined to play an increasingly important role, by diversifying the traditional supply lines used for importing gas, thus increasing the safety and competitiveness of the acquisitions.



Photo 1.  
The regasification plant under construction in the Algeciras basin (Spain): detail view of the various compartments delimited by the "cellar walls".

Photo 2.  
Detailed view of one of the concrete compartments before being waterproofed.

Photo 3.  
Application by spray of MAPECOAT CFS on the walls of one of the compartments.

Photo 4.  
MAPECOAT CFS applied on the anti-wave deflector and vertical pillars.

Photo 5.  
Close up of the anti-wave deflector protected using MAPECOAT CFS.



umes of gas could be transported to Italy. Once arrived at the LNG terminal, it will be regasified and sent to the national distribution network through two methane pipelines. The first one, with a diameter of 76 cm constructed by Terminale GNL Adriatico, will cross 15 km of sea, 10 km of the River Po delta and 15 km on the mainland, to end its journey at the metering station in Cavarzere, near Venice. The second pipeline, with a diameter of 90 cm constructed by Edison, will be 84 km long, and will carry the gas from Cavarzere to the national distribution takeover point in Minerbio, near Bologna. Let's now take a closer look at Mapei's contribution to the project and how the Company interacted with the Norwegian, Spanish and Italian subsidiaries involved in this important "double site" in Spain and Italy.

#### **In Norway**

In order to take full advantage of its experience developed over the years, and in the light of a long-running tech-



## TECHNICAL DATA OF THE REGASIFICATION PLANT

The reinforced concrete load-bearing structure is 180 metres long, 88 metres wide and 47 metres high, measurements equivalent to the area of two football pitches and the height of a 10-storey building, most of which is below the surface of the sea.

The concrete structure contains two LNG storage tanks, each with a capacity of 125,000 cubic metres. On the top of the structure there is the regasification plant and auxiliary equipment, such as the gas turbine electrical generator units, a helicopter landing pad and the living quarters.

The platform is anchored to the sea bed in an area where the water is approximately 28 metres deep, and is kept stable using ballast stored in special hollow spaces within the structure. The structures for the docking bays and for off-loading the LNG were designed and tested so that ships with various tonnage ratings used to carry the methane can carry out manoeuvres safely, even in severe sea and weather conditions. The structure will be connected to the national gas network with specially designed pipeline. The first part, constructed by Terminale GNL Adriatico, crosses 15 km of open sea, 10 km of the River Po delta and 15 km on the mainland, to end its journey at the metering station in Cavarzere, near Venice. The second pipeline, constructed by Edison, is 84 km long and carries the gas from Cavarzere to the national distribution takeover point in Minerbio, near Bologna.

80% of the regasification capacity of the terminal, or 6.4 billion cubic metres per year, will be piped off for 25 years to the Edison company, as stipulated in contracts signed in 2005 with the Qatar company RasGas II, while the remaining 20% will be available for the general market, according to procedures established by the authorities.

The open season procedure, which is currently running, will come to an end within 2009. Qatar currently has a number of ships for transporting methane and five of them have recently started operating, and will cover the route from Doha in Qatar to the Adriatic sea. In fact, the terminal will be supplied two times every week by methane-carrying ships from Ras Laffan (the industrial zone located near Doha).



nical partnership between the two companies, the Norwegian company Aker Kvaerner contacted Rescon Mapei AS in 2005 on a consultancy basis, to help in the design of special solutions for the LNG Adriatic project. This consultancy involved both the development of a specific project and the evaluation of on-site problems.

Indeed, Rescon Mapei is well-known in the international context for its experience with such challenging projects. Since 1983, with its first intervention on the Statfjord platform, Rescon Mapei AS has developed considerable, certified experience in the Oil & Gas sector. A range of systems has been designed and developed dedicated to such applications, such as adhesives, mortars and epoxy products applied by injection for both underwater applications (up to a depth of 300 metres below sea level) and surface applications in marine environments, including protective flexible epoxy paints, polyurethane coatings and specially designed admixtures for concrete.

To make sure these systems are used safely and efficiently and to certify them, in 1983 Rescon Mapei formed Resconsult AS, a team of highly quali-

fied technicians dedicated to consultancy work in challenging applications, such as offshore platforms and industrial infrastructures, which today has accumulated more than 100 site references.

### In Spain

In 2006 the first intervention was in the construction of the reinforced concrete load-bearing structures in a dry dock. MAPECOAT CFS (flexible, epoxy coating with high mechanical resistance and excellent bond strength to concrete structures) protects the concrete walls (cellar walls) which delimit the compartments used to balance the flotation of the structure, the final ballast and to house mechanical equipment. MAPECOAT CFS was also used to form a protective coating around the post-stressing headers and in the anti-wave deflectors. The NONSET 50, NONSET 120 and NONSET 400 range of cementitious mortars (high-quality cementitious mortars which expands 1-3 before setting) were used to fix the structure in place accurately by casting below the support plates. MAPEGROUT T40 and MAPECOAT I24 were then used to repair and protect the concrete struc-



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tures of the water deposits. This phase was completed using the two-component cementitious mortar MAPEFINISH concrete, reinforced with FIBREGLASS MESH (which acts as a safety barrier and extra strengthening covering layer). During the works Mapei technicians supplied on-site training on the correct use of the above-mentioned systems, controlling all the building operations.

*Photo 6.*

*The final phase in the construction of the regasification plant in the dry dock, which has already been filled with water.*

*Photo 7.*

*A view of the various plant and service equipment (topsides) installed on the concrete structure.*

*Photo 8.*

*One of the base pillars for the topsides anchored in place using cementitious mortars from the NONSET range.*

*Photo 9.*

*Detailed view of the concrete base, highlighting the tubes and one of the formworks used for injecting cementitious mortars from the NONSET range.*



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**Mapei Products:** the products mentioned in this article belong to the "Building Speciality Line" and "Admixtures for Concrete" ranges. The technical data sheets are available on the "Mapei Global Infonet" DVD or at the web site: [www.mapei.com](http://www.mapei.com).

**Fibreglass Mesh:** alkali-resistant fibreglass mesh (4 x 4.5 mm) in rolls of 1,000 mm.

**Mapecoat I24:** two-component epoxy paint for acid-resistant non-toxic coating of concrete surfaces.

**Mapecoat CFS:** flexible, two component epoxy used as a coating. N.B. This product is manufactured and distributed by the Mapei Norwegian subsidiary Rescon Mapei AS. For further information see the website [www.resconmapei.com](http://www.resconmapei.com).

**Mapecure E:** anti-evaporation agent in water emulsion to protect concrete surfaces from drying too quickly when exposed to sun and wind.

**Mapefinish:** two-component cementitious mortar for finishing concrete surfaces.

**Mapegrout T40:** medium strength shrinkage-compensated fibre-reinforced thixotropic mortar for the repair of concrete.

**Nonset 50, Nonset 120 e Nonset 400:** cementitious dry mortars for bolt anchoring, injection, joint filling and grouting under baseplates. N.B. These products are manufactured and distributed by the Mapei Norwegian subsidiary Rescon Mapei AS. For further information see the website [www.resconmapei.com](http://www.resconmapei.com).

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## TECNICAL DATA

**LNG Adriatic Terminal** - Porto Viro (Province of Rovigo, Italy)

**Work:** building an offshore terminal for receiving, storing and regasifying the liquefied natural gas (LNG).

**Works Year:** 2005-2008

**Works Place:** Algeciras, Cadiz Province (Spain) and Venice shipbuilding yard (Bacini dell'Arsenale) (Italy)

**Customer:** Terminale GNL Adriatico Srl

**Project:** Aker Kvaerner (now called Aker Solutions)

**Work Management:** Aker Kvaerner

**This important building work involved three Mapei Group's European subsidiaries (Rescon Mapei, Ibermapei and Mapei SpA) working together during three phases:**

**1<sup>st</sup> Phase (Rescon Mapei, Norway)**

**Work:** consultancy support during the drawing up of the design specifications and quick answers to various on-site problems

**Reference Figures:** Kjell Tore Fosså (Aker Kvaerner)

**Mapei Coordinator:** Trond Helgedagsrud (Technical Service Director of Rescon Mapei AS)

**2<sup>nd</sup> Phase (Ibermapei, Spain)**

**Work:** construction of the load-bearing structure in reinforced concrete (Gravity Based Structure – GBS)

**Contractors:** Acciona Infraestructuras (for the reinforced concrete load-bearing structures) and Dragados Offshore (for the installation of storage tanks)

**Reference Figures:** Kjell Tore Fosså (Aker Kvaerner), Ruben Ortiz (Acciona), Javier Neira (Dragados Offshore)

**Mapei Coordinator:** Antonio Faura (Ibermapei Building Line Development Manager)

**3<sup>rd</sup> Phase (Mapei SpA, Italy)**

**Work:** construction of the structures for the docking bays and for off-loading the LNG were designed and tested so that ships with various tonnage ratings used to carry the methane can carry out manoeuvres safely.

**Contractors:** Eng. E. Mantovani S.p.A.

**Reference Figures:** Massimo Maso (Project Manager) and Umberto Crocco (Site Manager)

**Mapei Coordinator:** Claudio Azzena (Mapei SpA)

### In Italy

The Italian part of the project was coordinated by Mapei SpA, and included the construction of the structures for docking and unloading ships carrying LNG.

These structures are capable of handling various sizes of methane-carrying ships in complete safety.

Construction started in 2007 in the Venice shipbuilding yard, and upon completion in September 2008, the structures were towed out into the open Adriatic sea using the same pro-

cedures as for the complex built in Algeiras. The structures were built by Mantovani SpA, with Mapei's contribution being particularly important to make sure that they will be capable of resisting the harsh operating conditions, due to them being completely immersed in seawater for a very long time.


The concrete was treated after casting using MAPECURE E, while MAPECOAT CFS was used to treat those areas of concrete where the concrete cover was not considered suitable. 

Photo 10.

*The Italian site in the dry dock at the Venice shipbuilding yard.*

Photo 11.

*The concrete pylons used for mooring the methane ships, with the base treated after casting with MAPECURE E and protected in the parts most subject to expansion between the reinforcement rods and concrete using MAPECOAT CFS.*

Photo 12.

*An aerial view of the regasification plant on its arrival off the coast of Rovigo.*





**From Pliny the Elder to...Mapei: how to create an international "spa" in the hearth of Alps**

# BORMIO SPA FACILITY

**T**he mountainside, woods, sunshine, snow and good water. An age-old tradition in which local customs and popular Alpine tradition mix together to create a unique setting providing an extremely modern range of tourist attractions, which never clash with the lively schedule of cultural events. All this can be found in Bormio (a town located in the province of Sondrio, Lombardy Region on the Italian Alps), and Mapei, which every year during the Mapei day event holds its own celebration in this beautiful Alpine city, certainly knows it. One of the very special things about this area is unquestionably its water. The medicinal properties of Bormio's fresh spring waters have been known since ancient times and have always attracted a very special brand of tourism: people looking to combine the pleasure of a mountain trip with the exceptional curing waters pouring out of the Rhaetian Alps. There are actually nine sources flowing out of the foothills of these Alpine mountains, and on average their waters have a heat excursion of between 38-41 degrees, reaching a peak in the winter-spring period and a minimum in summer.

The local inhabitants have always taken advantage of what nature has to offer and even back in Roman times they enjoyed its therapeutic benefits. The Latin author Pliny the Elder wrote about it in the first century in his "Naturalis Historia" (Natural History) and at the beginning of the sixth century, the politician and writer Cassiodoro also referred to Bormio's hot springs, recommending their excellent healing effects. Way back in 1895 the so-called local "Social Communes" (Bormio, Valdidentro, Valdisotto and Valfurva) were authorised to use one of the hot spring sources ("Cinglaccia"), which between 1913 and 1920 was managed by Terme Bormiese (now known as Bormio Terme). From the original small bath house to the present-day, modern and fully-equipped health, beauty and fitness centre, this facility has gradually turned into an authentic well-being centre at the very top of the international Alpine market in terms of innovation and facilities for all the family. Thanks to plenty of hard work and investments, at the beginning of 2000 the hot springs area was once again transformed into an authentic spa facility of international standing. One of the new areas recently opened

to the public is particularly fascinating and beautiful. We are talking about the new Thermarium unit, which was built drawing on Mapei's most technologically cutting-edge products.

## **New Thermarium**

This area, which opened at the end of 2007, is composed of a large panoramic 60-seat sauna, a Bio Sauna aromatised with essences of natural plants, a new Turkish bath, relaxation areas, solarium and hot tub incorporating a well-being pathway leading through to the outside pool.

The flower in the buttonhole of this Thermarium, truly enhancing the already notable range of facilities and treatments offered by Bormio Terme for getting back to complete health and fitness, is unquestionably the spectacular panoramic sauna, where, in a state of complete relaxation, bathers can enjoy a unique view directly across the ski slopes and magnificent surrounding mountain peaks.

The emotional showers must be tried out at all costs: three different jets of water of varying intensity and temperature featuring cleverly mixed aromas and colours, which envelop all the



*These pages show some striking images of how Bormio Spa Resort now looks: elegantly immersed in nature and with sophisticated interiors devoted to the entire family's well-being.*

senses at the same time. There is a small extra fee to pay in addition to the ordinary entrance fee when using this new and splendid facility.

### **Mapei Comes into Play**

Work on extending the facilities began in February 2006. Despite the biting temperatures and surfaces covered with icy snow, the excavation and casting works were carried out to the very limits of what could successfully be achieved. The contractor, Busi Costruzioni, and everybody involved in the works, starting with the Andreani company from Sondrio, came under considerable pressure from the client to meet the schedule for completing the works. Fortunately, the deadline was met and everything was completed by 6<sup>th</sup> August 2006, a few days ahead of schedule.

In 2007 building work continued in conjunction with the G.A.L. firm from Bormio; the engineer, Stefano Vitalini, who worked for the previous phase of the works, was placed in charge of the works, with Bormio Terme Spa as the customer. The new upper pavilion was then completed, including the other wonderful facilities such as the Turkish baths, sauna, bio-sauna, and hot and cold Finnish-style baths. The Mapei products used draw on the same methods successfully employed in the past and once again the installers came from the Andreani company from Sondrio, which, as always, proved it was up to the task of completing the works in accordance with the set schedule.

### **Outdoor Pools**

Most of the foundations for the outside pools were in a very poor state due to the rain, snow and ice.

The first important operation to be carried out was the removal of the old screeds at the bottom of a number of the pools. The concrete walls and bottom were then carefully cleaned ready for later applications.

Considering the tight schedule to be met and extremely low temperatures, it was decided to use MAPECEM PRONTO, ready-to-use pre-packed mortar for fast setting and drying (24 hours) screeds, for the new screeds on the bottom of the outdoor pools. The thicknesses





*Above: the indoor pool before being tiled and after the works were completed.*

required were all over 4 cm and the screeds were reinforced by electrically welded mesh. At certain points where the old screeds were cracked but still mechanically sound, it was decided, on the other hand, to seal the cracks using EPORIP two-component epoxy adhesive. This product was poured inside the cracks from which all the dust had been removed and then covered with quartz while it was still wet, ensuring the cracks in the old substrates were carefully sealed.

The walls of the pools were also smoothed and levelled ready for the application of the waterproofing system and coating. The smoothing was carried out using NIVOPLAN, a levelling cementitious mortar for walls of thicknesses of between 2-30 mm. To improve adhesion and mechanical resistance, the mortar was mixed with PLANICRETE, a synthetic rubber latex for cementitious mortars. Each steel and PVC part inside the pools, including the entrance steps, some components of the lights and water tubes were installed and sealed using ADESILEX PG4, a two-component thixotropic epoxy adhesive with modified rheology for structural bonding. After preparing the pools, they were waterproofed using MAPELASTIC SMART, an highly flexible two-component cementitious mortar that can be applied using a brush or roller for waterproofing concrete surfaces, such as foundations, retaining walls and swimming pools, and for providing protection against aggressive agents.

MAPELASTIC SMART was suitably strengthened using an alkali-resistant FIBREGLASS MESH making the waterproofing system more resistant to the kind of stress generated in the substrate. To ensure the waterproofing system is watertight even at its most critical points, such as corners, edges and changes in the angle of inclination, expansion joints, etc., MAPEBAND, an alkali resistant rubber tape with felt, was applied where necessary.

The cycle of works on the outdoor

pools was completed by installing the covering. The pools were covered with PVC sheets, except for the top skirting around the pool, where it was decided to install slabs of Serpentino di Valmalenco natural stone over the PVC. These slabs were bonded using KERAPOXY two-component epoxy adhesive.

The same KERAPOXY adhesive was also used to bond the underwater steps in place. A ceramic flooring was planned to be installed all over the outside area around the facility's pools (beaches and walkways). The screeds in these areas were in good condition and so, after carefully cleaning the services, MAPELASTIC

was again directly applied to waterproof the substrate. MAPELASTIC was again strengthened with a FIBREGLASS MESH to ensure perfect waterproofing, and all the corners, edges, joints and changes in slope, etc. were waterproofed with MAPEBAND. After the MAPELASTIC had suitably cured, the ceramics were set in place using KERAFLEX MAXI, a high performance deformable adhesive with excellent bonding properties, extended open time and no vertical slip (N.B. this product has been replaced on the Italian market by Keraflex Maxi S1 with Dust Free technology). The tiles were grouted using ULTRACOLOR



PLUS, a high performance, fast setting and drying, anti-efflorescence mortar, water-repellent with DropEffect® and anti-mould with BioBlock® technology. Finally, the expansion joints along the ceramic flooring were sealed using MAPESIL AC, a mildew resistant, acetic-cross-linking silicone sealant for sealing expansion joints of ± 25% expansion of their initial size. To make the joints just the right thickness, so that the sealant can make full use of its properties, a MAPEFOAM polyethylene foam cord was first placed at the base of the joint.

#### **Indoor Areas: Bathrooms, Locker Rooms, Pedestrian Areas**

Work in the indoor areas involved waterproofing and installing tiles. The substrates in the bathrooms, locker rooms and pedestrian areas in general were clean, dry, mechanically sound and ideal for installing a new floor. After carrying out the usual cleaning of the surfaces, MAPEGUM WPS (in conjunc-

tion with MAPEBAND), a fast-drying, liquid flexible membrane, was used for waterproofing all the different premises. The porcelain tiles were in all cases installed on the wall and floor surfaces with KERAFLEX MAXI. The joints were grouted using ULTRACOLOR PLUS, while the expansion joints were sealed with MAPESIL AC.

#### **Top Floor Indoors: Turkish Baths, Saunas, Pools**

This area includes the Turkish baths, saunas and wellness pools. The vertical and horizontal surfaces of the various premises were waterproofed using MAPEGUM WPS. However, since it was planned to install some special decorative mosaic coatings, in this case ADESILEX P10 + ISOLASTIC was chosen, a system including a cementitious adhesive with no vertical slip, ideal for installing mosaics since it is manufactured in an extremely white powder capable of bringing out the different

colours of the mosaic itself and making grouting easier. Here, too, grouting was carried out using ULTRACOLOR PLUS water-repellent anti-mould mortar. Finally, the works were completed by decorating and protecting all the fraction joints using MAPESIL AC (after applying PRIMER FD).



#### **TECHNICAL DATA**

**Terme di Bormio**, Province of Sondrio, Italy  
**Work:** extension and renovation of thermal baths facilities including laying indoor and outdoor floor and wall coverings  
**Works years:** 2006-2007  
**Customer:** Bormio Terme Spa  
**Contractor:** Busi Costruzioni  
**Installation Company:** Andreani  
**Project:** Studio Colui (Eng. Roberto Tunino)  
**Work Management:** Eng. Stefano Vitalini  
**Mapei Distributor:** Andreani  
**Mapei Coordinator:** Marco Cantachin (Mapei SpA)

**Mapei Products:** the products mentioned in this article belong to the "Products for Ceramic Tiles and Stone Materials", and "Building Speciality Systems" ranges.

The technical data sheets are available on the "Mapei Global Infonet" DVD or at the web site: [www.mapei.com](http://www.mapei.com).

Mapei's adhesives and grouts conform to EN 12004, EN 12002 and EN 13888 standards. Almost all the Mapei products for laying ceramics and stone materials are also GEV-certified.

**Adesilex P10 (C2TE, EC1 R):** white high performance cementitious adhesive with no vertical slip and extended open time for glass, ceramic and marble mosaic coverings.

**Adesilex PG4:** two-component, thixotropic, epoxy adhesive with modified-rheology for bonding Mapeband, Mapeband TPE, PVC braces, Hypalon and for structural bonding.

**Eporip:** two-component epoxy adhesive for bonding new to old concrete and monolithic sealing of cracks in screeds.

**Fibreglass Mesh:** alkali-resistant fibreglass mesh for reinforcing interior and exterior leveling compounds.

**Keraflex Maxi (C2TE, S1):** deformable, cementitious adhesive with no vertical slip and extended open time, particularly suitable for the installation of large sized porcelain tiles and natural stone. N.B. This product has been replaced by Keraflex Maxi S1 with Dust Free technology.

**Kerapoxy (R2T):** high performance two-component acid-resistant grout and adhesive with no vertical slip for installing and grouting ceramic tiles and stone material.

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

**Mapecem Pronto:** pre-blended, ready-to-use, quick-setting and drying (24 hours), controlled-shrinkage mortar for screeds.

**Mapefoam:** closed cell polyethylene foam cord for the correct sizing of movement joints. It is available in coils where the length is proportionate to the diameter.

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

**Mapelastic Smart:** two component, high flexibility cementitious mortar, applied by brush or with a roller, for waterproofing concrete surfaces such as foundations, retaining walls, balconies, terraces, bathrooms and swimming pools, and for protection against aggressive chemical agents.

**Mapesil AC:** one-component mildew-resistant acetic cross-linking silicone sealant, available in 26 colors and transparent.

**Nivoplan:** levelling mortar for internal and external walls and ceilings for thicknesses from 2 to 30 mm.

**Planicrete:** synthetic-rubber latex for improving the cementitious mortars' bonding and mechanical strength.

**Primer FD:** primer for silicone sealants on porous (concrete, wood) or difficult (plastic material, metals) surfaces.

**Ultracolor Plus (CG2, EC1):** fast-setting and drying, high performance, anti-efflorescence, water-repellent grout for joints from 2 to 20 mm. With DropEffect® and anti-mould with BioBlock® technology.



# MARMOMACC

43 International Exhibition of Stone  
Design and Technology

TECHNOLOGY YOU CAN BUILD ON™



**M**armomacc, the International Exhibition of Stone, Design and Technology, was held in Verona from the 2<sup>nd</sup> to the 5<sup>th</sup> of October 2008. Even though it partially overlapped with the Cersaie exhibition held in Bologna during the same period, the spotlight was still on Mapei and its highly technological products and systems. The overall level and results of the exhibition were very rewarding.

There were more than 63,000 visitors, of which 44% from abroad – and more than 50% if we consider the first three days dedicated only to operators from the sector – from more than 120 different countries. A total of 1,536 exhibitors from 54 different countries took part, with their stands distributed over 77,000 m<sup>2</sup>, and the most important date on the calendar in the world for this sector was considered a great success.

The success was also made possible thanks to the numerous foreign delegations attracted to the event organised by Veronafi, in collaboration with ICE (the Italian Trade Commission) and other partners. Their presence represented an important added value for all the exhibitors at Marmomacc, which were able to meet qualified foreign buyers, architects and designers from countries all over the world.

Special attention was also reserved at the 2008 edition for the specialised operators, by organising thematic cultural exhibitions, experimental laboratories and conventions on an international level, to catalyse the attention of the sector on the entire panorama of the event. All this organisation was carried out to help spread a “culture for stone”, and to encourage debates between architects, designers and companies which operate in this sector to promote the industry’s products and technology. Lastly, on behalf of Marmomacc, the world of Italian marble was “photographed” by a study carried out by UniCredit (one of the most important Italian banking groups), and the results



of the study are worth analysing. The study illustrated an overall picture of an industry which is going through an important evolution, with a resizing of exports from Italy towards what are traditionally the 2 biggest buyers – the United States and Germany at -5% - and a boom towards the emerging countries (Eastern Europe, Maghreb, the Middle East and Asia). It also highlighted a re-conversion of the flow of activities (less material extracted, but more highly processed), which in 2007 recorded a 4.3% increase in exports, and a positive commercial balance: 771 million Euros between raw materials and finished products, a record figure for recent years. Overall, even though the domestic building industry is going through a negative phase, Italy is still the world's leader in exports, with over 30% of the market. The closest competitors are the aggressive Turkey and the giant of production China, with a total of 26.2% and 15.5% respectively.

**Mapei and the Laying of Marble and Natural Stone**

As with Cersaie, Marmomacc 2008 was another occasion to declare quite clearly that Mapei means *Technology You Can Build On*. On its new 120 m<sup>2</sup> exhibition stand, Mapei used multi-media tools and a display of photographs of the most prestigious international references to paint a clear, almost essential, picture of the continuous growth of the Group, with reference to product development and industrial results. Marmomacc was a further occasion to highlight the more than 110 products with the "Green Innovation" symbol to the international public, products which respect the LEED (Leadership in Energy and Environmental Design) rating system's requirements, and to illustrate the widest range of products available for the building sector which respect the environment with "EMICODE-EC1 –

extremely low emission level of volatile organic compounds" certification.

Amongst the new documentation introduced for the first time at Marmomacc, there was the new "Products for Ceramic Tiles and Stone Material" catalogue, and a folder dedicated to "Eco-sustainable Systems for the Installation of Ceramic and Stone Material", highlighting other new certifications awarded to distinguish numerous Mapei products from this range.

12 different systems dedicated to laying marble and stone were highlighted, which demonstrate how Mapei products are the leaders in terms of efficiency, reliability and safety.

- Laying over existing ceramic floors
- Laying interlocking stone on concrete
- Laying on an anti-fracture membrane
- Laying on facades
- Waterproofing and laying on terraces and balconies
- Laying dimensionally-unstable natural stones
- Levelling and laying on mortar beds
- Laying on heated screeds
- Waterproofing and laying in bathrooms and shower cubicles
- Laying non-sensitive stone material on gypsum board for interiors
- ECO system with very low emission of volatile organic compounds (EC1) for laying non-moisture sensitive stone material
- Interior and exterior laying of agglomerate stone floorings.

There were numerous proposals presented by Mapei during the exhibition in Verona, and a number of new products are worth a special mention, divided into two macro areas: adhesives and grouts. Amongst the adhesives on show was **ULTRALITE S1** one-component, high-performance, deformable,

**Our environmental commitment**  
 More than 150 Mapei products help project designers and contractors building innovative projects, which are LEED (Leadership in Energy and Environmental Design) certified by the U.S. Green Building Council



lightweight adhesive with no vertical slip and extended open time (C2TE, S1). It also contains Dust Free technology, has an extremely high yield and is easy to apply by trowel, and is used for bonding ceramic tiles and stone slabs. It also has the Green Innovation symbol.

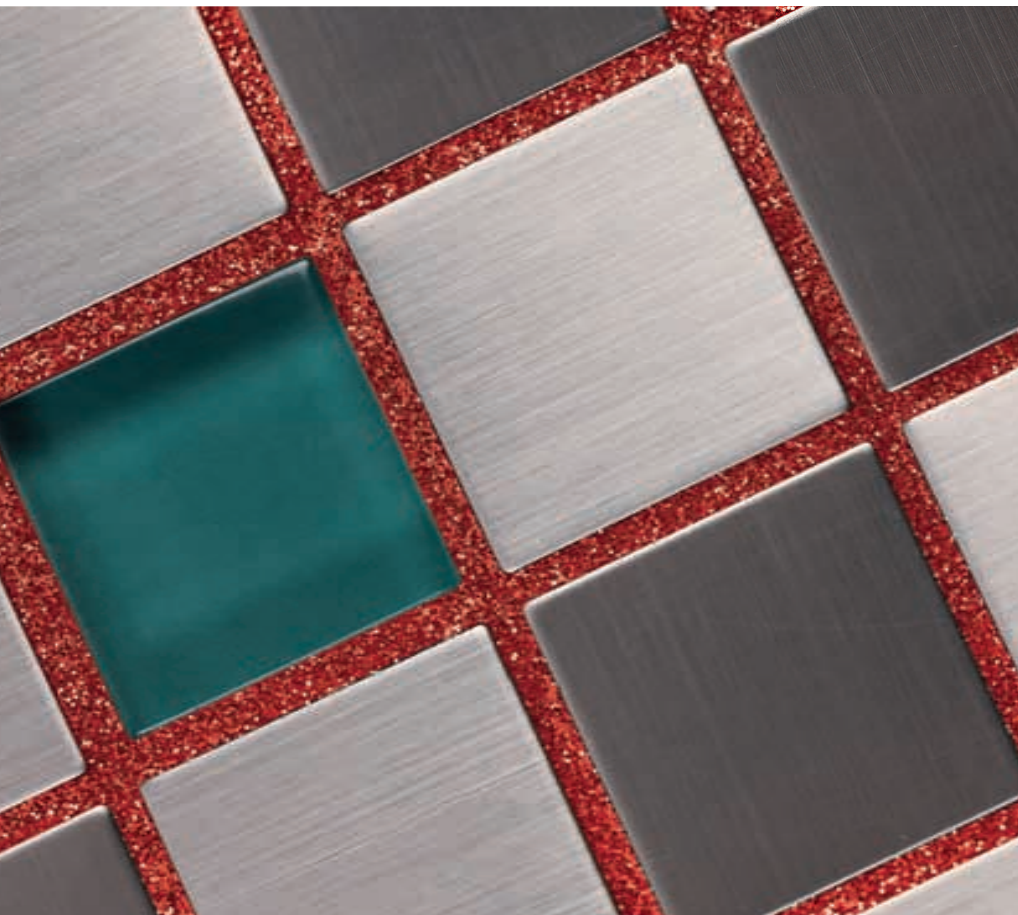
Another product under the spotlights was **KERAFLEX EASY** high-performance cementitious adhesive with extended open time (C2E). It is easy to apply and has an extremely low emission level of volatile organic compounds. It has the EC1 and Green Innovation symbols. This adhesive is particularly suitable for laying porcelain tiles (especially those that require back-buttering) on large flooring surfaces, at a thickness of up to 10 mm. There were two particularly special new products in the grouting sector. **FLEXCOLOR**: ready-to-use polymeric paste with water-repellent DropEffect® and anti-mould BioBlock® technology, for grouting joints of from 2 to 10 mm in ceramic tiles (with the Green Innovation symbol), and **FIX & GROUT BRICK** ready-to-use, high-performance adhesive paste, with no vertical slip and anti-mould BioBlock® technology for bonding brick slips and lightweight, cementitious or synthetic resin conglomerate elements in internal and external environments (D2T, with the Green Innovation symbol). Display panels, films and a refined atmosphere were the characteristics of Mapei's new exhibition area. An occasion to discover all the potential of a Company on which you can "build together".



**Epoxy grouts  
and adhesives  
for applications  
in industrial  
and commercial  
environments: a line in  
continuous evolution**

# KERAPOXY LINE

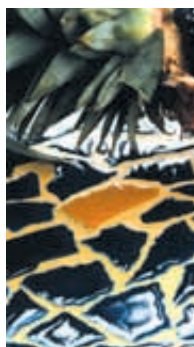
*by Enrico Geronimi, Mapei SpA Technical Service Department*



**K**ERAPOXY, the Mapei historic line of acid-resistant epoxy products for bonding and grouting tiles, has been enhanced with new products.

The new **KERAPOXY CQ** was presented at the last edition of Cersaie trade fair. It joined the prestigious KERAPOXY family which comprises traditional products, such as **KERAPOXY**, **KERAPOXY P** and **KERAPOXY SP**, as well as more recently developed products, such as **KERAPOXY DESIGN**, **KERAPOXY ADHESIVE** and **KERAPOXY IEG**.

This line includes reactive epoxy resin products complying with EN 12004 and EN 13888 regulations, which have



been especially designed for application in any kind of environment: residential, commercial, public and, first of all, industrial environments.

The products belonging to this line feature excellent resistance to chemicals and high mechanical strength, beside being very easy to clean.

This makes them ideal for applications in those environments which require high durability and hygiene.

These products also feature easy workability and finishing, no shrinkage, absence of cracks and fissures, uniform colors, resistance to cleaning cycles and atmospheric agents.

Among the solutions of the KERAPOXY line, which are usually known as epoxy mortars for joints, one also finds some adhesives.

For instance, KERAPOXY ADHESIVE is a two-component, epoxy adhesive with no vertical slip for ceramic tiles and stone material. It is classified as R2T according to the EN 12004 regulations, is easy to apply, even on vertical surfaces, at a thickness of up to 1 cm.

It is available in grey color and is used for bonding all types and forms of ceramic tiles and stone materials on all substrates normally used in the building industry.

For instance, it can be used for bonding tiles in fiberglass swimming pools, marble doorsteps and windowsills and for the rigid bonding of bullnose and special ceramic tile shapes.

When extremely high chemical resistance is used, Mapei can offer KERAPOXY IEG, an innovative product which combines this characteristic with easy workability and finishing. It is a two-component epoxy mortar, classified as RG according to the EN 13888 standard for ceramic floors where high resistance to chemical products is required and, in particular, to oleic acids and aromatic hydrocarbons. It is available in two colors: 113 (cement grey) and 130 (jasmine). Joints have to be cleaned when the product is still fresh using plenty of water, without

the need of special solvents harmful to the environment. KERAPOXY IEG is recommended for grouting ceramic floor coverings in ham curers, sausage factories (especially where the grout is subject to combined action of oleic acid and high temperatures), oil mills and in all those environments where high mechanical strength and resistance to chemicals and ease to clean.

Among the new products KERAPOXY DESIGN is worth a mention. This is a two-component, decorative, acid-resistant epoxy mortar for tile joints ideal for glass mosaics, complying with EN 12004 (class R2) and EN 13888 (class RG) regulations.

This product may also be used as an adhesive, is available in 8 different colors, and can also be mixed with MAPEGLITTER (metalized colored glitter) to create special aesthetic effects. KERAPOXY DESIGN ensures the installation and decorative grouting of internal and external tiled floors and walls, in particular for glass mosaic.

When applied correctly, it forms tile joints with translucent effect and semi-transparent finish which, being very similar to glass mosaic, improves the chromatic effect of finishes with particularly decorative characteristics and guarantees better luminosity, luster and appearance.

Just like all the other products of the KERAPOXY line, KERAPOXY DESIGN also features high mechanical strength and excellent chemical resistance. It leaves a final smooth and compact surface, which is easy to clean, guaranteeing a high level of hygiene. Moreover, this product has an excellent workability, highly improved compared with traditional epoxy mortars thanks to its creamy consistency, which guarantees a faster application, less waste and makes it easier to clean the surface of mosaic and to obtain a good finish.

Since it can be mixed with MAPEGLITTER (about 7% by the product's weight according to the desired aesthetic effect), this product is loved

by architects, project designers and decorators.


MAPEGLITTER can be mixed with the 700 translucent color shade (neutral) of KERAPOXY DESIGN to obtain a metalized grout featuring the same color as the used version of MAPEGLITTER. Moreover, KERAPOXY DESIGN can be combined with the 7 available colors of KERAPOXY DESIGN, to obtain special effects.

MAPEGLITTER is available in light gold and silver and can be made available in other 22 color shades on request.

The last developed product in the KERAPOXY line is KERAPOXY CQ, a two-component, acid-resistant epoxy mortar which is particularly easy to apply and clean, for grouting tile joints wider than 2 mm, classified as RG according to EN 13888 regulation.

KERAPOXY CQ is available in 4 colors and its special formulation makes it an innovative product, highly improved compared to traditional epoxy mortars, easy to apply and clean. Its creamy consistency guarantees a faster application, less time waste and makes it easier to obtain a good finish.

Its characteristics make it suitable for applications on not completely smooth surfaces (unglazed clinker, stone materials, etc.), which cannot be grouted with traditional epoxy products (we recommend to always apply a small sample in the product in a trial area before using).

N.B. All the products belonging to the KERAPOXY LINE are distributed in pre-dosed packages and, therefore, it is not possible to make mixing errors if all the contents are mixed together. Do not rough guess the quantities when mixing the two components. Hardening will be compromised if the catalyzing ratio is wrong. 

*The technical data sheets of the mentioned products are available on the website [www.mapei.com](http://www.mapei.com)*





# SKY-BLUE TRIUMPH IN THE BLUE OF MAPEI

## Varese 2008: UCI Road Cycling World Championships

Mapei certainly brings good luck to Italian national teams. Just like in 2006 in Germany, when the Italian national football team sponsored by Mapei won its fourth World Cup, here again in Varese it was a sky-blue success. The idea of "teamwork", which has always inspired Mapei's corporate philosophy, seems to be truly contagious for anybody coming into contact with the Company. The Italian cycling team's performance in Varese provides yet further proof. Impeccable throughout the entire race, it led Alessandro Ballan to victory: he is now the new world champion after winning the 2008 title in Varese. One final burst, after all those earlier in the race, less than 3 km from the finishing line allowed him to shake off all his rivals with great power and decision and set the fans alight. He received the support of the whole of the Mapei Cycling Stadium, which helped drive him along to victory. All the support certainly played a part in Ballan's great win: "The fans in Varese were fantastic and I will never forget how I felt over the last few kilometres. I was tired but all the support helped push me along to the finish line". Applause for the new world champion and a standing ovation for the team manager, Franco Ballerini, who celebrated another record: his third world title in a row. Just like in Stuttgart, it was once again the

team which won the race as it handled everything to perfection, placing three men in the first four positions: on the winners podium next to Ballan there was also Cunego (second) and the ageless Rebelin came fourth. Proudly wearing his rainbow jersey, the new world champion had plenty of praise for his teammates: "What a great team. It is as if we lived together all year round". Then he had a message for the world of cycling: "Let's just hope that the plague of drug-taking will leave us alone: for the time being, let's just enjoy this Italian triumph". Our thoughts inevitably go to the team leader, Paolo Bettini, who would have liked to have celebrated the last race of his career in winning fashion, achieving what nobody else has ever achieved or, in other words, winning three world titles in a row: "This was his race, but when he realised he was being marked too closely, he left it to the rest of us". The "Cricket", as he is known in cycling, crossed the line with his arms raised to end his career, because in this Italian team it is not only the person who crosses the line first who is a winner.

It is proof that the laws of sport, if everybody really understands and believes in them, lead to success. This is why Mapei loves the metaphor of sport and it is also why Mapei is proud to have supported an event which ended in the best possible way: with the suc-







*The Mapei Cycling stadium, packed with enthusiastic fans, greets Alessandro Ballan winning the UCI Road World Championships.*

cess of a team, the Italian team, which once again managed to interpret the year's most important race better than everybody else, showing great flair and dedication to the cause.

### **Mapei: a World Success**

It was not just the new world champions who won in Varese, it was also Mapei, which was the main and naming sponsor for the UCI Cycling World Championships. And a rainbow jersey should also go to Varese 2008, which will be remembered as the World Championships of "first times".

The "first-time" there was a special dedicated stadium in cycling, the Mapei Cycling Stadium, which was transformed from a horse racetrack into the kingdom of bikes. The "first-time" there has been an opening ceremony in grand style worthy of the most prestigious sports events.

The 75<sup>th</sup> edition of the Cycling World Championships will, above all, be remembered as a great success, with Mapei contributing in a truly important way. This is brought out by the facts and figures. Starting with the fans: on the most important day, Sunday 28<sup>th</sup> September, it is estimated that there were 350,000 people along the course. Over the entire week, it has been calculated that a total of 650,000 fans watched the cycling. Those who were not able to watch the World Championships directly from the stands in the Mapei Cycling Stadium or along the climb called the "Salita dei Ronchi" and other points along the route, were able to watch the event on television. The rating figures for Varese 2008 were excellent throughout the entire week, including the opening ceremony. Interest in Varese 2008 can also be judged from the number of credited journalists involved: 1132. No World

*The Motor-Home and Mapei hospitality area inside the Cycling Stadium.*





Below, left: the winners of the women's event shown with Adriana Spazzoli. From left: Marianne Vos from the Netherlands (2<sup>nd</sup>), the winner Nicole Cooke from Great Britain and Judith Arndt from Germany (3<sup>rd</sup>).

Below, right: the winners' podium from the men's elite race, the most important race at the 2008 World Championships in Varese. Centre: the winner Alessandro Ballan with Damiano Cunego on his left (2<sup>nd</sup>) and Matti Breschel from Denmark (3<sup>rd</sup>).



Championships has ever had so many credited journalists, even before the start of events. As well as being truly globally visible all around the circuit, in the stands and at the finishing line, the Mapei brand name was also broadcast by all the most important means of communication before and during World Championships' week in Varese, mainly due to the fact that the main place hosting the events (with 8,000 seats and standing room for 5,000) was named after the Company: the Mapei Cycling Stadium.

This imperious structure - with the paddocks for the various national teams, a press centre, three restaurants and the Worlds' Village inside it - also had a spacious area hosting dozens of exhibitors and a large stage where singers, artists and former world cycling champions all performed. Here too, at Varese's great "le Bettole" horse racing track converted into a cycling arena for the occa-

sion, Mapei was a leading player, setting up a giant pavilion in which hundreds of customers, colleagues and friends of the Company were able to follow the races very closely and really feel the magical atmosphere you get when involved in this kind of event.

"Environments are our environment. Even in the world of sport". The backdrop is the Mapei Cycling Stadium in Varese bursting with people and with three coloured cubes in the foreground placed on top of each other. This was the advertising image for conveying Mapei's visual communication project, before and during the Cycling World Championships Road Race. Summing up the Company's key concept in full, the message stated that: "Where there are environments, you will find Mapei, even where you cannot see it. Because Mapei, the world's leading manufacturer of adhesives, sealants and chemical products for building help cities

to grow in harmony with the environment, energy saving and well-being in building".

Along with its great love of sport and cycling in particular, these are the reasons why Mapei was bound to be a key player at Varese, in an international sports context it has been so closely involved in down the years, truly interpreting the spirit of Varese 2008's claim about "passion for life".

The wonderful days of world-class sport in Varese will not be a one-off. Mapei will, in fact, be the main sponsor for the next World Cycling Championships, which will take place in Mendrisio (Switzerland) from 23<sup>rd</sup>-27<sup>th</sup> September, 2009. Mapei is ready to repeat last wonderful experience and the joyous moments experienced in Varese last year. Cycling is in the Company's DNA and, most likely, there is more and more of Mapei's own spirit in the DNA of cycling too. DM

