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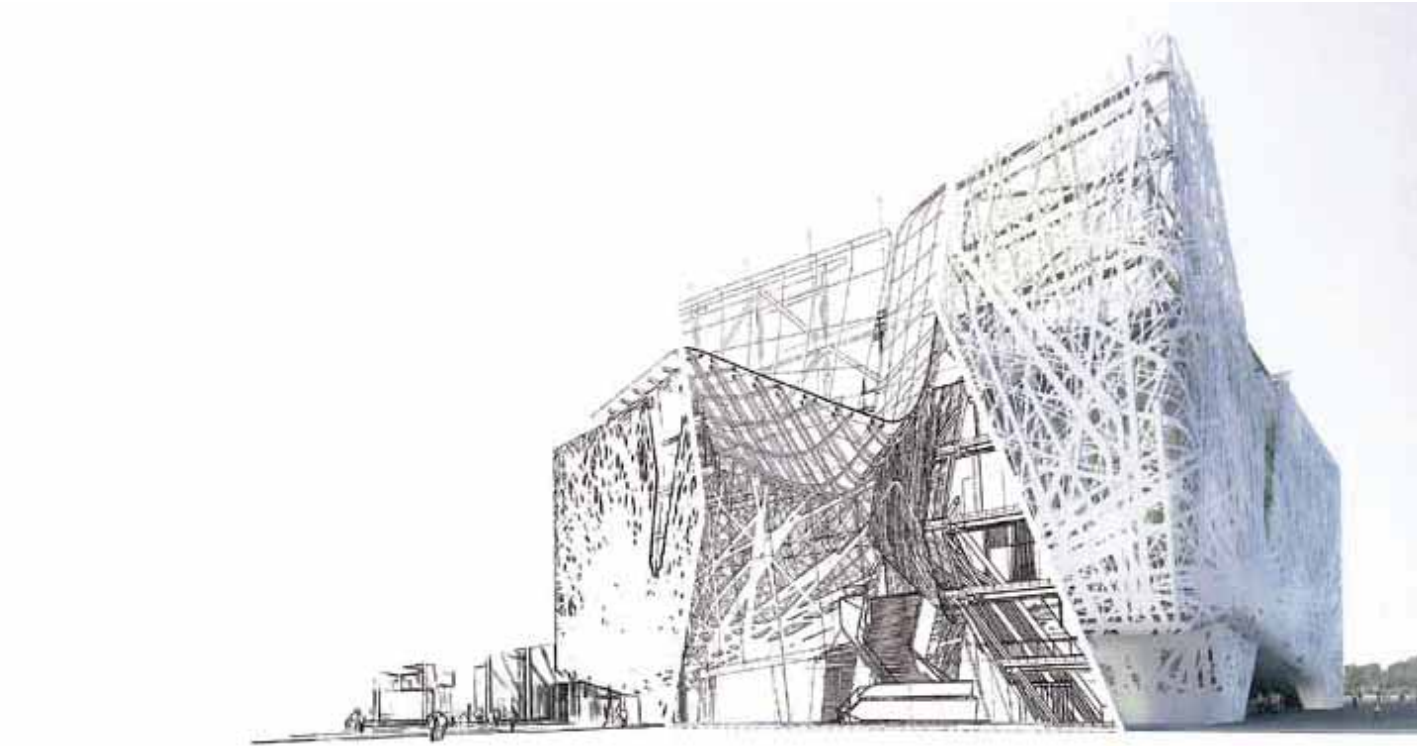

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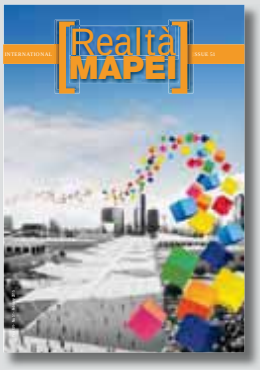

COVER STORY.
Porta Nuova, Expo 2015, City Life: Milan is a growing city looking forward to the future with a great legacy in the past… and Mapei is always there!

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Big building projects beyond the clouds

Adriana Spazzoli
Realtà Mapei International's Editor-in-Chief.

Mapei is constantly on the move as it continues to reinforce and enhance its status in Italy and around the world. This is confirmed by market figures and, first and foremost, testified by those major building works constructed globally using Mapei products systems. That is why, in the wake of a now firmly established tradition, the year's first issue of *Realtà Mapei International* is mainly devoted to the most important Italian and international building works in which the Company's products and technicians have played a key role.

This editorial line is not just an excuse to slap ourselves on the back rather self-indulgently. It is intended to inform the increasingly high number of readers of our magazine about the great potential offered to anybody choosing Mapei across all five continents. In accordance with our corporate philosophy, which primarily aims to leave room for concrete facts and figures, the reference projects collected together in this issue of *Realtà Mapei International* once again prove that an increasingly high number of designers, installers, contractors and end customers turned to Mapei yet again in 2014.

Despite the worldwide recession that has been hitting the building industry particularly hard for years now, another reason for proudly presenting the building works carried out last year is that of looking back into the recent past in order to regain confidence in the future. Beside economic-financial indicators and positive signs coming from some countries, we can only really emerge from this crisis if we look ahead with confidence and re-found optimism. Of course this is not the kind of optimism that you get from losing your bearings and heading in any direction just provided you get somewhere. It is, on the contrary, the confidence that comes from knowing that what has been achieved cannot be lost and that fresh goals and new targets can only be attained by working harder.

With this in mind, the opening issue of 2015 includes a long interview with Professor Alberto Quadrio Curzio. As a man of science and an economist whose view of economics gives pride of place to work in preference to other factors, our friend Mr Quadrio Curzio takes us right into the heart of Europe of the future, outlining the kind of opportunities that need to be taken.

Connected with this issue, but focusing more on the "Mapei World", a number of other pages are devoted to the Company's own process of internationalisation.

The idea for this came from international recognition that Mapei has received in both the United States and Great Britain. It proves that Mapei really is a global player that always remains loyal to its own identity. This is because Mapei's process of internalisation has never been an excuse for getting out of Italy's struggling market or a belief that it is simple to make a fortune on wealthy and "easy" markets.

Mapei's internationalisation has very deep foundations based on an awareness of being able to design and manufacture the very best that any building market around the world could possibly offer.

Innovation, culture and constant research. These are the lines along which the Company moves and so, consequently, does *Realtà Mapei International*. This issue of the magazine really wants to focus on these values. It is doing so in its own way: attempting to really grasp all the various aspects combining to create the multifaceted "Mapei World", while, at the same time, continuing to keep a very watchful eye on works that have already been built and envisaging innovative solutions for those yet to come to light.

Because, if you look closely, you will see that new major building works are still going on beyond the parting clouds.

The Italian university professor and economist Alberto Quadrio Curzio, who follows and regularly comments on the evolution in the recession and economic policies in Italy and Europe in leading means of communication (most notably the financial newspaper "Il Sole 24 Ore"), provides an overview of the situation in the Eurozone in this interview

Alberto Quadrio Curzio

Alberto Quadrio Curzio is Emeritus Professor of Political Economy and President of the Cranec Centre at the Catholic University of Milan. He is also President of Moral Sciences Class at the Italian National Academy of the Lincei.

While Euroland is still struggling, the USA has quickly emerged from the recession and is now enjoying significant growth. Why is that?

The economic recession was immediately tackled head-on in the United States, which actually caused it, by means of expansive fiscal-monetary policies that prevented any sense of dismay or lack of confidence from taking hold. This meant that the GDP only dropped significantly in 2009 following a slight dip in 2008. But by 2010 it had already begun growing by close to or over 2% a year, with unemployment once again dropping to 6% after rising to above 10% in 2010. Of course these expansionist policies resulted in the public deficit rising to 12% of the GDP in 2010, the year when it was 6% higher than the Eurozone's deficit in relation to its GDP. The gap was halved in 2014 due to the rise in America's GDP, which brought it with lots of other familiar benefits. The same conclusion can be reached when studying debt in relation to GDP. The fact that America's is currently 10 percentage points higher than the EMU's (European Monetary Union) does not justify European fiscal policies which caused the recession's lengthening.

Decision-making power in the entire anti-recession strategy laid in the hands of two people who shared the same vision of how to tackle it: President Obama for fiscal policy and the Chairman of the Federal Reserve, Ben Bernanke, for monetary policy.

I would like to start from this latter point to highlight the fact that, on the contrary, the crisis in the European economic and monetary union was tackled by decision-making authorities in a slow, complicated and often contradictory way. The easiest economic policy was adopted, that of stiffening the existing fiscal rules laid down in the Maastricht Treaty, strengthening them with the so-called Fiscal Compact to reassure the financial markets that unity was still holding. This resulted in a slowdown in growth and a rise in unemployment. Without going into detail over the various facts and figures, during the period from 2009- to 2013 the disparity in growth in GDP between the USA and EMU was 9 p.p.. And in 2014 the unemployment rate in the USA was half that in the EMU.

Of course the various institutions of the EMU and the European Union have also taken further action in the form of policies aimed at rescuing or supporting struggling nations, encouraging structural reforms in member states and attempting to introduce policies for the real economy. Draghi's monetary policy is, however, a story in its own right, which will be discussed later.

What was wrong with Europe's economic policies during the recession?

European policies may be divided into the following kinds:

fiscal rigour; structural reforms; bailouts; the real economy; monetary.
Generally speaking, precedence has been given to fiscal rigour, which has harshened the recession, and also monetary policy, which has saved the Euro. Bailout packages for some countries have worked but they could have been more effective and less expensive. Real economic policies have been almost completely lacking.
The paradigm of fiscal rigour, without been counterbalanced by boosting investments and strengthening the real economy (industry), i.e. the paradigm of "virtuous rigour" that self-generates growth without the aid of economic policies to strengthen tangible and intangible infrastructures, was and is still wrong.

Which real economic policies should have been implemented to re-launch growth in Europe?
I have always maintained that an 'Industrial and Investment Compact' ought to have been implemented long time ago. Although some interesting proposals have been made in this direction, they have never actually been carried out. The premise for these policies is that, although in 2014 the GDP and consumption levels in the European Union returned to where they were in 2007, investments are between 230 and 370 billion Euros lower-a-year than they would have been if the trend in the rise in investments had continued at pre-recession rates.
The drop in investments compared to 2007, the year when the Spanish real estate bubble reached its peak, is 430 billion Euros. To keep up with the rise in investments in the USA in 2012-2013, the European Union would have had to invest an extra 540 billion Euros. An awareness of the negative effects of this collapse in investments seems to be now more widely recognized. It would not be an exaggeration to claim that Europe has squandered much of its future in terms of innovation and development.

What do you think about Juncker's Plan to re-launch investments that was presented in November? Does the Plan meets your expectations?
The Plan's heavy emphasis on re-launching investments and infrastructures in the European Union is extremely important politically speaking. But, unfortunately, the Fund in question is not what it might have been if the European Commission had been braver. Let's see why.
The Juncker Plan envisages the creation of a Fund within the EIB (European Investment Bank) that will contain 5 billion Euros pledged by the EIB itself and a further 16 billion Euros (8 of which will immediately be available) guaranteed by the European Union's budget. Other guarantees or contributions might come (when?) from public, private or government funding. Thanks to the guarantee of 21 million Euros, the EIB will be able to issue 60 billion Euros in bonds (thereby holding its triple A rating) to finance investment projects that are supposed to entice a further 255 billion Euros from private or public investors. The original 21 billion Euros (13 of which are available) are expected to be multiplied 15 times to guarantee 350 billion Euros in investments. So this is really an "exaggerated gamble" and not only because it uses resources that would have been used for other purposes!
Neither am I particularly convinced about how the Fund's financing will be deployed. The Fund will actually allocate 75 billion Euros to small and medium-size businesses and mid-cap companies partly through direct investments in their own capital and partly by means of guarantees to obtain credit. It is hard to understand why the Fund should be interested in this, bearing in mind that the EIB has decades of experience in these matters. The remaining (alleged) 240 billion Euros will be allocated for material infrastructures (broadband, energy networks, renewable energy, transport, school buildings etc.) and intangible infrastructures (education, research, innovation). These are not particularly big figures compared to the estimates of real needs and compared to the amount of money in circulation. Two comments immediately come to mind.
The first concerns how the Plan relates to the MFF (Multi-annual Financial Framework) for 2014-2020 and Trans-EuropeanNetwork and Horizon 2020 projects. This may be seen as a good thing because it means we do not need to start from scratch. But it could also be viewed negatively, because the Plan does not have the kind of discontinuity that could come from concentrating the funds on just a few major geo-economically strategic works (north-south, east-west) that could also symbolise a European revival. Since the figures involved in Juncker's Plan are not enormous, in my opinion this latter solution would have been preferable.
My second comment is that the choice of projects to be financed will depend on an assessment mechanism that will involve EU member states, whose proposals will be assessed by a European Commission-EIB "task force" and various other committees in conjunction with National Development Banks. Here we need to make sure that the different situations in various nations do not weigh heavily in terms of standards and procedures that might block investments and infrastructures. If national implementation procedures are ineffectual, then some other authority will be required to stand in for the European Commission. Otherwise financing will mainly go to the more efficient and better equipped areas that will be noticeably strengthened to the detriment of European growth.

What is your opinion about the "Industrial Compact"? You have always maintained that Europe's strength must remain in manufacturing. Does the compact reinforce this belief?
I believe Italy and Europe need to focus on investing their energy and resources in the real economy or, in other words, economic-manufacturing integration, investments, innovation and industry. This is partly why, as I have often pointed out, we need to concentrate on such a highly concrete economic-manufacturing target as the "Industrial Compact". Italy has been extremely committed to this in the persons of the European Commissioner, Antonio Tajani, and Giorgio Squinzi representing the Confed-

eration of the Italian Manufacturing and Service Companies, working with other European industrial federations, particularly Germany's. I have often had the chance to discuss this matter with Tajani and Squinzi and we have always been in complete agreement. The importance of the "Industrial Compact" lies in the goal of increasing industry's share of the GNP in the European Union from the current figure of 15% to 20% by 2020. This matter has already been studied in great depth and the European Parliament also plans to examine it more closely.

The European Commission's communication "For an European Industrial Renaissance" (later examined by the European Council) set up to achieve this goal mainly through research and innovation. But what we need to ask ourselves is: what resources could be allocated for this purpose? A theory going round is that a figure of approximately 150 billion Euros could be reached, including contributions from Regional Funds, Horizon 2020 and COSME (Competitiveness of Enterprises and Small and Medium-sized Enterprises). This amounts to approximately 1/6th of the 2014-2020 Multiannual Financial Framework to be devoted to technical-industrial investments, which could provide 1000 billion Euros by leveraging on national co-financing, the action of the EIB and public-private partnerships. It is, however, difficult to assess all these factors. Nevertheless, this strategy opens up interesting prospects, because improving industrial competitiveness would also effectively help re-launch growth and boost employment. This kind of approach might be extremely valuable not just for European industry as a whole, but for Italian industry in particular. More precisely, an industrial revival mainly focusing on flexible multinationals in the manufacturing industry based on competitiveness and innovation might also be of benefit to Italy.

Italy has lots of problems including a lack of simplification and incentives for companies to innovate and internationalise. Italy's and Europe's strength still lies in manufacturing, which, in certain specific industries, is the real driving force behind both Italy and Europe!

Going back to the bailout packages handed to Greece, Ireland, Portugal and, to some extent, Spain. Do you think they have been effective?

The answer is that the bailout packages have been effective, whereas policies based solely on fiscal rigour imposed on the nations aided by these funds have had extremely negative effects in terms of recession.

Let's just focus for a moment on the bailout funds. During the recession two funds were created to support struggling nations belonging to the EMU. The first, set up in June 2010, is called the European Financial Stability Facility (EFSF) and is actually a Luxembourg-based company owned by EMU states. Greece, Ireland and Portugal received loans amounting to approximately 188 billion Euros. Since 2013 the EFSF has only been in operation to close down projects already under way. The second fund is the European Stability Mechanism (ESM). This fund was set up as an intergovernmental financial institute, whose international treaty (signed at the beginning of 2012) came into operation in October 2012. Its purpose is to provide financial aid to EMU states, also helping them to re-capitalise their struggling banks through loans and action taken on government bond markets (in accordance with very strict pacts arranged between the ESM and individual beneficiary nations). Total capital amounts to 700 billion Euros, 80 of which actually paid in and the rest guaranteed by the shareholders or, in other words, countries from the Eurozone. It has a lending capacity of 500 billion Euros, of which approximately 450 billion are still left over (subtracting the money loaned to Spain and Cyprus). Leaving aside what is almost an obsession with rigour, it seems clear that the resources made available to combat the recession have only been allocated for bailouts and not growth.

As for the ECB's monetary policy, some people claim that Mario Draghi saved the euro, while others believe that he was operating very much on the margins (or outside them), irritating some of the "rigourists". How do you view things?

Mario Draghi's ECB has done a lot over recent years, but we now need to ask ourselves whether he alone can re-launch growth in an area encompassing 335 million people and with 19 million unemployed or, in other words, an area bigger than the USA where the central bank (Fed) has unlimited powers.

So we should not expect too much of the ECB, even though it did save the Euro in 2010-2013. Its sequence of operations, justified by the fact that it would guarantee financial stability in the Eurozone, has been quite notable. The "Security Market Programme" (SMP) to purchase government bonds from struggling EMU nations was set underway in 2010. Then from December 2011 to February 2012 it moved on to "Longer Term Refinancing Operations" (LTRO) making loans for approximately 1 billion Euros (guaranteed by various kinds of stocks and bonds) to EMU banks, bailing them out and indirectly encouraging the purchase of bonds in nations that were struggling. In July 2012 Draghi made a famous speech claiming that the "ECB would save the Euro".

» MONETARY UNION CANNOT BE STRENGTHENED WITHOUT FISCAL AND FINANCIAL UNION

In September 2012 the "Outright Monetary Transactions (OMT)" programme was announced to carry out unbridled operations on the secondary market for government bonds in those countries in the Eurozone undergoing carefully monitored restructuring operations. These announcements completed the bailing out of the Euro and sovereign debts, restoring interest rates to acceptable levels and constraining spreads in relation to German bonds. Nevertheless, this was not enough to revive the now weary EMU that was having to deal with countries where the necessary structural reforms could not possibly have immediate effects.

In mid-2014 the TLTRO program (Targeted Longer-term Refinancing Operation) was announced, which was certainly good news, although it is hard to tell whether it will give a boost to growth in the Eurozone. In order to provide credit for the economy (and without any economic policy for the Eurozone), these measures are designed to keep price levels in the Eurozone in the range of an annual rate of 2% (as stipulated in the ECB mandate). It allows for loans to be made to commercial banks provided (on monitored basis) they are injected into the real economy to help raise demand from businesses and families (excluding mortgages), boost employment and increase growth. Unfortunately the results have not so far been up to expectations. In the meantime interest rates have been lowered to almost zero, but all this has not re-launched growth while deflation has begun to take hold. The president of the ECB is aware of all this and for this reason he has focused on the widespread damage being caused by high unemployment (which, as it rises, is becoming increasingly structural in many nations) and on the urgent need to counteract it (taking the risk of doing too much rather than too little). This is the platform from which he has urged the Eurozone and its individual member states to undertake economic policies in relation to both supply and demand. We are now waiting for quantitative easing, which, however, will not re-launch groth without a proper investments policy.

In conclusion: what policies should Euroland implement to emerge from this crisis, which is no longer of a temporary nature but is now turning into recession-stagnation-deflation?

I will answer starting from the approach laid down by the new President of the European Commission, Juncker, which has yet to actually be implemented, and in this way I will finish off what I was saying earlier. Juncker rightly claims that three policies are required: fiscal sustainability; structural reforms; investments. These policies may be viewed in different ways, but we will treat them as converging towards one necessary option: that of a European Investment, Stability and Development Fund (EISDF) based on real guarantees provided by individual member states, which will issue EuroUnionBonds to absorb (mutualize) shares of national public debts and to finance investments. If the EISDF were in operation, the fiscal sustainability of individual states and the Eurozone (and also structural reforms) could be achieved without any serious social effects and investments for growth could also be made. For its part, the ECB ought to buy EuroUnion bonds through quantitative easing which would favour EISDF's economic policies. Monetary union cannot be strengthened without fiscal and financial union. This has been my theory for 10 years now and I put it forward in articles published in "Il Sole 24 Ore" in 2011 and 2012 (devised in partnership with Romano Prodi), which I went on to elaborate upon in a long essay that will soon appear in a book to be published by the Cambridge University Press.

We know that Germany is opposed to this solution, but we firmly believe that it will come about in the end. We only hope it will not happen too late or, in other words, when the social crisis in the Eurozone will be so bad that anti-European and nationalistic movements, whose strength is already cause for concern even now, will have taken control.

Transforming opportunities into healthy, sustainable growth

In this interview Veronica Squinzi – the Mapei Group's Internationalisation and Global Development Director - provides an overview of the results achieved in 2014 by the Company and future guidelines for the internationalisation process

One of the distinctive traits of Mapei's corporate policy has always been its determination to expand. Internationalisation is part of this seemingly never-ending project. How did 2014 close for the Group?

The results are positive. Our growth was close to 5% and this figure would actually have been even higher if we had not been forced to come to terms with a negative exchange rate that penalised us by approximately 1.3%.

The Mapei Group, which has for a long time now been associated with the ceramics and resilient materials sector, is now making a much greater impact on the building industry in a broader sense, thanks to as many as 15 lines of products: from admixtures for concrete to waterproofing systems, from wall coatings to thermal insulation materials, thus becoming the ideal business partner in the building sector, from small building sites to major projects. Investments in research and development of new products and technologies are aimed at meeting the requirements of all the markets on which we operate and where we want to be leading players.

On 1st December Mapei received the Transatlantic Award for constant growth on the United States market culminating in the recent acquisition of General Resource Technology Inc. The Mapei Group is doing extremely well overseas and in America in particular: what are the forthcoming projects in this area of the world?

North America is, as always, at the focus of our growth strategy based not only on strengthening our presence in the core business sector and bringing out new products, but also on breaking onto segments of the market where we have not yet operated. This is why in 2014 Mapei took over GRT, an US firm operating in the admixtures for concrete sector with two manufacturing plants in Minneapolis and St. Louis. Mapei's aim is to break into this business in order to enhance its own strategic position on the North-American market. This plan involves adding the entire Mapei range of admixtures for both concrete and cement to the existing range of products. But our attention to the American market does not stop here. At the end of 2014, thanks to our subsidiary Polyglass USA, we made greater headway into the roof coating business through the acquisition of KM Coating based in Arizona. The company specialises in manufacturing roof coatings, particularly in the south-east of the United States. This "new entry" will allow us to extend our range of products, introduce new technology and operate through sales channels currently not available through Polyglass.

Veronica Squinzi
The Mapei Group's Internationalisation and Global Development Director

Mapei was awarded another prize, this time from the United Kingdom, for its long-term investments in the nation. How does Mapei plan to make even greater progress on the British market?

Mapei began operating in Great Britain in 1989 through Mapei UK Ltd. and since then it has grown constantly, so that Mapei UK's turnover has now reached 42 million pounds with an average annual growth over the last five years of over 13%.

Mapei has great faith in this market

and over the next five years Great Britain will again be at the focus of major investments to support our subsidiary's growth. I would like to point out that Mapei UK has a dedicated team of "Specification Managers" operating all over Great Britain and this year a showroom and a "Specification Centre" will be opening in Clerkenwell right in the heart of London.

The Group is also continuing to expand in Asia and Oceania. What are Mapei's prospects on this particular continent?

We are continuing to expand in the Far East and 2014 was a particularly positive year. For years now Mapei has been investing in this part of the world by strengthening the Group's local subsidiaries. In particular, work has just been completed on the construction of a new manufacturing plant in Malaysia - capable of manufacturing most of the products from all Mapei lines - and it will become a strategic plant for this area. In addition, the construction of a second plant in India has just begun and will be completed by the end of 2015. An ongoing expansion process, which also sees Mapei relocating its industrial plant in Australia, too, on a much wider area. The aim is both to support our Australian subsidiary's relevant growth and to widen the Mapei product range available in this country.

What is the Group's growth like in the Middle East?

We are also continuing to expand in this part of the world. We have achieved some excellent results with the subsidiary IBS in Dubai (UAE), which has taken on building important projects in this area. One of the reasons we bought the company was to operate more closely and more effectively on major infrastructural projects currently under construction in the nation, partly in view of important events planned for the country in the future.

Even in the current recession, does Mapei have important investment projects under way in other European States?

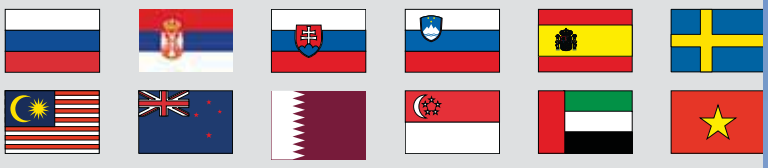
The same rules guiding Mapei's global strategy apply to Europe as well, meaning that we do not only focus on places that are going through a period of powerful growth. Our leadership is also strengthened on those markets where Mapei is already firmly established. Careful attention to the customer, market and new technology are the guidelines followed by the Mapei Group, always adopting a medium/long-term approach.

Mapei stands out for the determination with which it pursues a strategy involving the creation of increasingly high performance products that respect both people and the environment. What is the distinctive thing that characterises Mapei's commitment in this field?

Undoubtedly the fact that we offer products of the very highest standard for every market on which we operate. In every country in the world we try to cater for market requirements, providing technologically cutting-edge products. In this respect we are rewarded for the incredible efforts (including financially) that we make in Research & Development, where we invest about 5% of the Group's turnover. Products designed to reduce energy consumption and the emission of VOCs (volatile organic compounds), which are safer for the environment, manufacturing workers, installers, and end users. And our commitment to protecting the environment and health can also be seen in our everyday operations, such as building manufacturing plants using local, eco-sustainable materials.

What will be the main guideline behind Mapei's future growth?

Mapei operates on five continents and, in future, we plan to expand in those places where we are currently least represented. A seemingly simple vision, which, nevertheless, must come to terms with one of the Company's basic principles: to always take advantage of any opportunities arising, successfully transforming them into healthy and sustainable growth.



Transatlantic Award 2014

Mapei is rewarded for its constant growth on the US market

Mapei obtained important recognition at the ninth edition of the exclusive Transatlantic Award Gala Dinner that was held in Milan on Monday, 1st December, 2014. The event was organised by the American Chamber of Commerce in Italy, a branch of the Chamber of Commerce of the United States of America, a network of 115 American Chambers of Commerce in 102 countries, with over 3 million associate companies.

The United States Ambassador to Italy, John R. Phillips, the US Consul General in Milan, Ambassador Philip T. Reeker, the Italian Prime Minister's Diplomatic Adviser, Ambassador Armando Varricchio, and other famous guests from the Italian and American business community all attended the event.

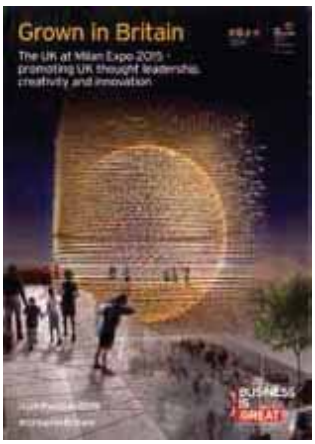
"The ninth edition of the Gala Dinner is extremely important – according to Stefano Venturi, President of AmCham Italy and the Managing Director of HP Italia - coming as it does just before Expo 2015, an event which will see us in the very front line with the USA Pavilion. Our major involvement in the Gala, both in terms of sponsorship and people, shows the importance this event has in the Italian and American business communities - so Stefano Venturi went on to say - and once again confirms the strength and importance of economic, social, cultural and political relations between the United States and Italy".

The event provided a further opportunity to reward both Italian and American companies that have stood out for the part they have played in encouraging transatlantic relations. Special recognition went to Dorothy Cann Hamilton, President of the USA Pavilion at Expo 2015.

Mapei was rewarded for the acquisition of General Resource Technology Inc., an American company operating in the admixtures for concrete industry with two manufacturing plants in Minneapolis and St. Louis (USA). Other award-winning companies were Accenture, Blackrock, IBM, Philip Morris, Whirlpool, Brembo, and Chiesi Farmaceutici.

"We were delighted to add GRT to the Mapei family", so Giorgio Squinzi announced, President of the Mapei Group. "The Mapei Group has been operating for quite some time in the admixtures for concrete business worldwide and GRT will give us that extra drive required to gain market shares in the Americas. Indeed, thanks to synergies with its product lines, we expect to increase our market shares both in the east and west of the United States, and also in Canada to the north and Mexico to the south. Moreover, now that our Group will begin manufacturing admixtures for concrete directly in the Americas, there will be a more rapid rise in the market share of our range of systems for concrete. But that is not all, since our Underground Technology Team division keeps on expanding, GRT will provide an important source of highly specialist products for this market. The Mapei Group has 23 manufacturing plants in the Americas, including the two GRT plants and two distribution centres, plus the headquarters of Mapei Corporation and Polyglass USA in Deerfield Beach, Florida."

LEFT. Giorgio Squinzi received the award in the presence of Simone Crolla, Amcham Italy's Managing Director, and Stefano Venturi, President of AmCham Italy and CEO of HP Italia.
BELOW. An image of the USA Pavilion at Expo 2015, whose President Dorothy Cann Hamilton received a special recognition at the event.



UK-Italy Business Awards 2014

Mapei rewarded for its expansion in the United Kingdom

The very best of Italian business and culture was very much to the fore at the eighth edition of the UK-Italy Business Awards, an annual event when the British Government officially acknowledges the contribution of those Italian companies that have chosen the United Kingdom as part of their international business expansion programmes, working in partnership with the government agency, UK Trade & Investment (UKTI).

The event, which was held at the Italian Stock Exchange in Palazzo Mezzanotte in Milan on 23rd January 2015, is organised by UKTI Italia and the British Consulate General in partnership with the Borsa Italiana - London Stock Exchange Group.

It is worth mentioning that, during the last financial year, Italy was Europe's third leading foreign investor in terms of the number of projects in the UK. Mapei received the Long Term Investor Award in the presence of Dominic Jermey, the CEO of UKTI, Christopher Prentice CMG, Her Majesty's Ambassador to Italy, Tim Flear, Consul General and Director of UKTI Italia, and Raffaele Jerusalmi, CEO of Borsa Italiana. Other winning companies and people included DADA, Digital Bros, Global System Inyternational, Kinexia, Laminazione Sottile, Maire Tecnimont, Mediobanca, Piquadro, Starhotels, Fondazione Barilla Center, and Gabriele Salvatores.

As was rightly pointed out in the motivation for the award, Mapei has been operating in the United Kingdom since 1989 through Mapei UK Ltd., which has now reached a turnover of 42 million pounds, with an average annual growth over the last five years of 13%. Mapei UK employs 180 staff, 12 of whom forming a highly efficient Technical Services Department for its over 1200 customers. It also has a cutting-edge manufacturing centre in Halesowen in the Birmingham area, which has an annual manufacturing output of 300,000 tons of both cementitious and paste adhesives, as well as lots of other building products. In addition to this centre and its offices in the West Midlands, Mapei UK has a dedicated team of "Specification Managers" operating all over Great Britain; a showroom and "Specification Centre" will also be opening this year in Clerkenwell right in the heart of London.

The leitmotif during all the speeches at the prize-giving ceremony was the forthcoming Expo about to take place in the city of Milan, which hosted the UK-Italy Business Awards.

IN THIS PAGE. Top of the page: the project for the UK Pavilion at Expo 2015. Left: Giorgio and Veronica Squinzi with Dominic Jermey, CEO of UK Trade & Investment.
BELOW. The awarded companies included DADA, Digital Bros, Global System International, Kinexia, Laminazione Sottile, Mapei, Mediobanca, Piquadro and Starhotels. The Expo Special Edition Award went to Barilla Center for Food & Nutrition, while the Best Innovative Budget Award went to the Italian film-maker Gabriele Salvatores.

Trends in the global building industry

Market growth is expected across all continents

In 2014 the global construction market was worth around 6,800 billion Euros, registering an estimated growth of 3% compared with 2013. The trend for the construction industry, therefore, was pretty much in line with that of the overall global economy which, according to estimates by the International Monetary Fund, grew by 3.3%. The forecast for 2015 is for a clear improvement in conditions for the global building industry, which is expected to grow by 4.1%.

Western Europe

Overall, 2014 saw the construction sector in Western Europe coming out of the recession with a 0.4% increase in investments, while for the residential sector the growth was 0.7%. Over the last two years this region had a much lower share of the global construction market, which is currently estimated to be around 18%. The development of the construction market was lower than that of the overall economy for the area, which was 1.1%. During the course of the current year, GDP and the construction sector are expected to have a pretty similar growth rate of slightly more than 1%. Forecasts for 2016 indicate that both the economy and the construction market will register a further modest growth. The building sector is expected to grow by more than 2%.

In 2014 the German market recorded pretty strong growth of around 3%, and this trend should continue, albeit at a slightly lower rate, for the two-year period 2015-2016. The French construction market, on the other hand, had a sharp drop in 2014 of more than 4%, due mainly to a very poor trend in the residential sector. Observers believe that the building sector will be pretty much stagnant in 2015 and an upturn is not expected until next year. Italy was also characterised by a net drop in investments in the construction market in 2014. The crisis hit all the various sectors, except for the residential renovation sector. Estimates for the market in 2015 indicate that this negative trend could come to an end, although this will obviously depend on an improvement in the overall macro-economic climate. It would seem that 2014 brought the crisis in the Spanish building industry to an end, which last year saw a heavy drop in investments of more than 4%. Starting from 2015 the market should start to show timid signs of an upturn, which could then be consolidated in 2016.

In 2014 the United Kingdom was the “best performer” in the European building industry with a growth in investments of more than 5%. The performance of the British building industry was strengthened by the excellent trend of the national economy (GDP: +3%) and a boom in the residential sector, which last year witnessed double digit growth. This growth in the market should also continue in the period 2015-2016, when the annual average growth rate in investments is expected to be 4%.

Eastern Europe

Last year the economic growth for this area slowed down, mainly because of a poor performance by the Russian economy. In 2014 the construction market (which accounts for 6% of the global construction output) was basically stagnant due to a poor trend in the civil engineering sector, while the residential sector held well, benefitting from a race to buy property to safeguard personal investments. Estimates point to a gradual improvement in the overall macro-economic climate for the area with the exception of Russia, for which the International Monetary Fund is expecting a drop in GDP for the current year. Starting from 2015 forecasters are expecting a progressive consolidation of the upturn in the construction sector, guided by the Turkish and Central Eastern European markets, as opposed to an expected deterioration in the residential sector in Russia.

Russia is the largest market in this region and last year witnessed a modest growth in GDP (+0.6%) and a recession in investments in the construction industry, with an estimated drop of more than 3%. The prospects for the general economy and the construction sector are not too positive and a worsening of the crisis in Ukraine could have a negative influence on the trend in investments.

In 2014 Poland enjoyed an excellent trend of both the GDP and the construction sector (which grew by 5%). All the main

international forecasters believe that this phase of expansion in the Polish economy will continue into the 2015-2016 period, with an average annual growth rate of more than 3%. This positive economic climate should translate into an excellent trend for the construction market, and for the residential sector in particular.

Amongst the emerging markets, Turkey has a very positive outlook. There are good prospects for growth in the country and GDP is expected to increase between 3 and 4% for the 2015-2016 period. The outlook is also positive for the construction sector, particularly the residential sector. The sheer size of the Turkish building industry is impressive, proof of which is also given by the volumes traded on the market for building materials. Turkey, in fact, is one of the most important producers and consumers of cement in the world and is the 6th largest market in the world for ceramic tiles, which for size last year even overtook that of the United States.

North America

The overall growth in the North American economy in 2014 was 2.2% and it is expected to strengthen considerably in 2015 and reach around 3%. Last year saw a net slowdown in the residential sector following the boom years of 2012-2013. Forecasts for the building sector, however, are positive, and investments in construction work are expected to grow by 5% in the current year and in 2016. The outlook for the residential sector is even more positive, and it is expected to grow at an annual rate of around 7%. During the period 2006-2011 the construction market for this region fell dramatically, due mainly to a crisis in the United States residential sector. The upturn in the market, which started in 2012, led to a partial recovery in production volumes, and today investments in the North American construction industry account for around 19% of the overall total building sector in the world.

There was a partial slowdown in the residential sector in the United States, one of the causes being the terrible weather conditions in the first few months of 2014. The US construction market overall recorded a growth rate of between 3 and 4%. Estimates calculated by the main market observers indicate a net upturn in the residential market and a strengthening of the prospects for the whole of the United States building industry, which should grow by an average of almost 6% in both 2015 and 2016.

In Mexico, following a period of moderate growth last year, 2015-2016 could see the building industry grow at an average rate of 4%. The outlook for the building industry in Canada is moderately positive, and the growth in the market is expected to maintain rates of between 2% and 3%. The development in the residential sector could be limited by the high levels of debt incurred by the average family.

THE GLOBAL CONSTRUCTION INDUSTRY
VARIATION OF INVESTMENTS OVER PREVIOUS YEAR

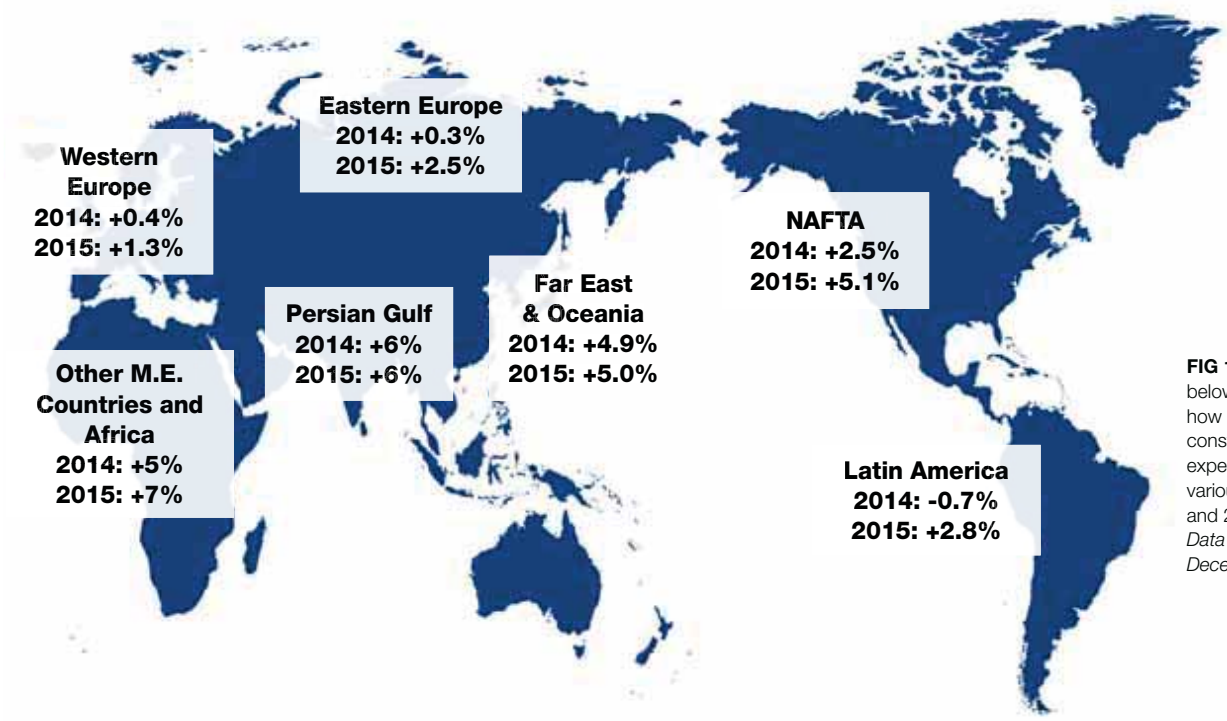


FIG 1. The graph below illustrates how investments in construction work are expected to change in various regions in 2014 and 2015.
Data Source: Prometeia, December 2014

Latin America

The growth in GDP slowed down due to a worsening of the overall macro-economic climate and political instability in Argentina and Venezuela, whereas Brazil recorded a period of relative stagnation, paying the price for a drop in exports of raw materials and a weakness in investments from the private sector. Overall economic growth was around 1% and a progressive improvement is expected for the period 2015-2016.

In 2014 the trend for the construction market, which accounts for more than 5% of the total value of the global building industry, was more negative than in recent years, recording a drop of 0.7%, slightly more intense compared with the drop estimated for the residential sector.

Expectations for an improvement in the overall economic picture, together with forecasts of an increase in investments for the main markets, should lead to a new cycle of development in the building industry starting in 2015. For the current year the construction market expects growth to be around 3%, while for 2016 construction output could grow by more than 4%.

» THE FAR EAST WILL CONTINUE TO PLAY AN INCREASINGLY LEADING ROLE IN THE GLOBAL CONSTRUCTION MARKET FOR THE FORESEEABLE FUTURE

Brazil, Chile, Colombia and Peru are the countries with the best growth prospects in the construction sector. Argentina and Venezuela on the other hand, markets which are going through a period of economic and financial crisis, could also expect modest performances of the construction sector in the near future.

Persian Gulf countries

In 2014 the main economies in the region – Saudi Arabia and the UAE – went through a period of sustained growth. Estimates for economic growth in the region are positive and the growth rate for GDP for the period 2015-2016 should maintain a level of more than 4%. It is thought that there was an excellent trend in the construction sector in both Saudi Arabia and the UAE. The high level of economic resources that the governments in this area have available guarantee financial backing for the impressive projects that have been planned in the infrastructure and residential sectors.

Last year in Iran too, following the crisis in 2013, the market showed signs of growth. Overall, the outlook for the construction market in this region is one of the most positive on a global level, and for the period 2015-2016 investments are expected to grow by 6%.

Other Middle-Eastern countries and Africa

Political instability in Libya and in other countries in this region have had a negative influence on the rate of growth for the North African economy, which in 2014 was moderate. The sub-Saharan region, on the other hand, went through a period of more sustained growth last year, estimated to be around 5%, a rhythm that is expected to be confirmed for the next two years.

In spite of a delay in the development of post-conflict construction projects and new infrastructures, the overall estimated growth of the construction market in 2014 was around 5%. If there is an improvement of the overall macro-economic picture and a normalisation in the geo-political background, 2015-2016 could witness even more sustained growth in the building industry, estimated to be around 7%. There is a lot of potential for the building industry in this region but, up until today, the area still only accounts for a modest amount of the global market, estimated to be less than 3%.

Far East and Oceania

The growth in GDP for the area last year was in line with that of the previous two years: 4.6%. Guiding this growth in the region was, once again, China, for which the IMF estimated an economic growth rate of 7.4% for 2014 and 6.8% for the current year. The Indian economy is on a path of sustained growth, driven by a higher level of trust shown by investors, and further fed by the reforms being implemented by the new government. In 2015 GDP grew by 5.8% and a net improvement is expected in 2015, when the growth rate should reach 6.3%.

In 2014 growth in the construction sector was less vigorous, particularly in the residential sector. The growth rate for the region's building industry is estimated to be less than 5%, while for the previous two-year period it had been an average of 6%.

Observers believe that the construction market will continue to go through a period of sustained growth in 2015-2016. The residential sector and the construction sector are both expected to grow at an annual rate of around 5%.

The Far East and Oceania area includes six of the most important global construction markets. In fact, China, Japan, India, Australia, Indonesia and South Korea are all included in the top 15 construction markets. Overall, the region absorbs more than 45% of the global output of the construction sector and, in recent years, has constantly increased its share of global investments.

Forecast for a high level of mid-term and long-term economic growth should support growth in the non-residential sector and guarantee resources to finance development of the region's infrastructures. What is more, the positive demographic dynamics and the need to improve the quality of the region's building stock will form the basis for the expected growth in the residential sector.

The Far East, therefore, will continue to play an increasingly leading role in the global building market and drive growth in the global construction market for at least the foreseeable future.

Francesco Doria. Mapei Market Research Manager

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Product info

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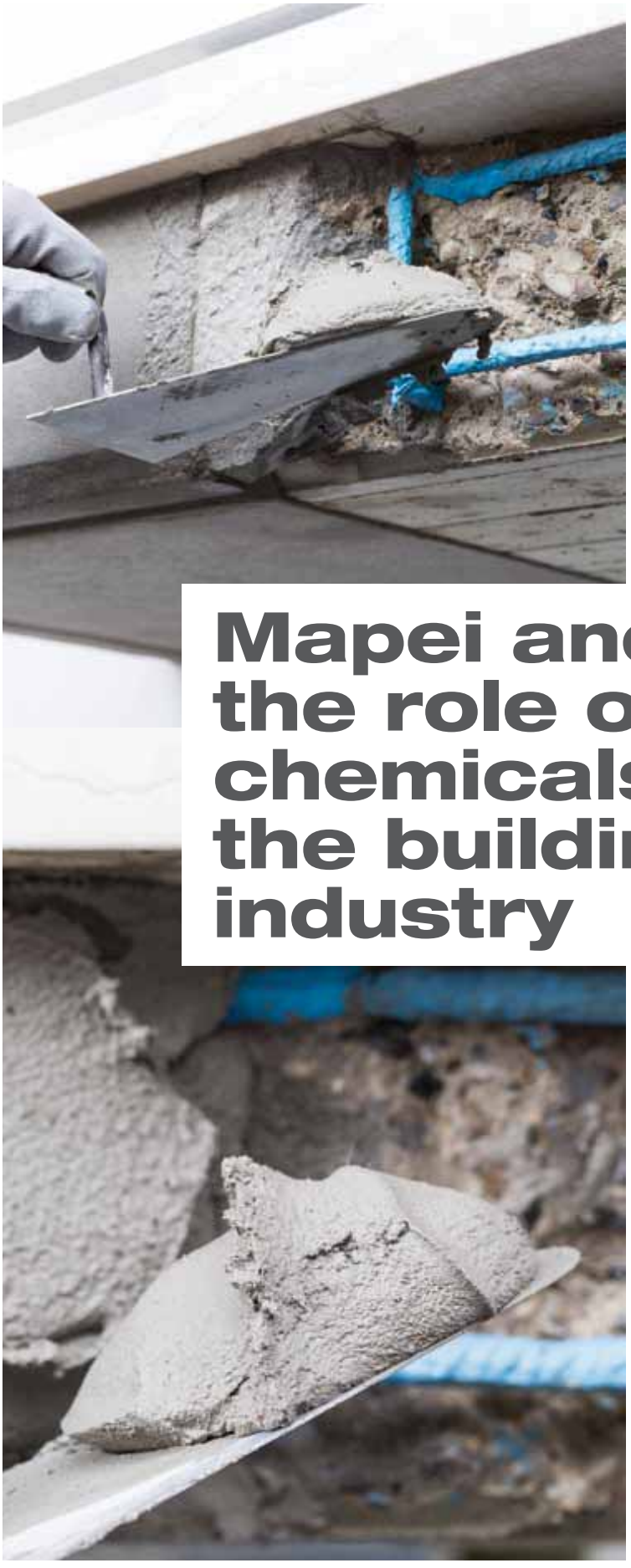

Mapei and the role of chemicals in the building industry

The importance of sustainability and compliance to standards

For many years chemicals have played a leading role in the building industry. In fact, their role is so important that we can safely say that no activity is carried out in the construction world that does not involve the use of chemicals in some way.

In the past, "concrete repairs" were based on a concept of simply replacing damaged or deteriorated areas with any cementitious product, without taking into consideration a fundamentally important aspect: the durability of the repair, which must be guaranteed to a structure at the very moment you intervene to repair it. The concept of durability also blends in perfectly with the concept of environmental sustainability, an issue that is now considered to be of primary importance in all fields, and in the building industry in particular.

Chemicals are present in every product: admixtures for concrete, adhesives, sealants, mortars, waterproofing systems, coloured finishing products, etc.; in short, in all those innovative systems that are taking the place of more traditional materials, thus allowing economically competitive and valid solutions to be proposed. What is more, thanks to the speed at which interventions can now be carried out, labour costs can also be reduced, a cost that often has a larger impact than the materials themselves. In addition, these innovative materials are easy to use and guarantee the life cycle of renovation work, considerably reducing the need for special maintenance and, therefore, wasted resources.

Mapei, world leader in the production of adhesives, sealants and chemical products for the building industry, offers innovative solutions that make the most futuristic architectural work possible by developing materials that protect and improve the quality of life. The Company's products cover every aspect of the modern building industry, from small constructions to the major infrastructure projects, offering the best solutions available to meet all the needs of designers and construction companies. There are 15 product lines within the company, all of the highest quality, aimed at new constructions and the renovation of existing constructions alike,

LEFT. Applying PLANITOP SMOOTH & REPAIR quick-setting, fibre-reinforced, compensated-shrinkage, thixotropic cementitious mortar for repairing and smoothing concrete. The product complies with the minimum requirements of EN 1504-3 for non-structural R2-class mortars and the requirements of EN 1504-2 coating (C) according to principles MC and IR for protecting concrete.

with the capacity to improve the technical characteristics of the buildings where they are used, while putting the well-being of the workmen and end users first. Mapei's strength is based on innovation ensured by the Company's international network of 18 Research & Development Laboratories all around the world that report back to the Corporate R&D Centre in Milan (Italy). The company invests 5% of annual turnover into research and has around 12% of its entire workforce employed in this field.
Sustainability must also be considered a tool to help innovate; all the products and systems must comply with the most important and most severe quality, environmental and safety certification bodies, fully aware that increased durability means using a lower amount of materials and energy resources in full respect of the environment and quality of life.

European Standard EN 1504

The products used to repair and protect concrete are governed by the guidelines in European standard EN 1504 *"Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity"*.
Within the standard, parts 2 to 7 regard the characteristics and performance requirements that each product must have in order to apply CE marking and to be used, therefore, on building sites where concrete structures are being repaired or renovated. These six parts also make reference to EN 1504-9 which defines the general principles and methods for the correct use of products, as illustrated in the table in chapter 6.2 of the standard. Below is a description of the parts dedicated to products and systems.

EN 1504-2: Surface protection systems for concrete

This part of the standard covers three different methods and, therefore, three different types of product in order to provide adequate protection for the surface of concrete:

- hydrophobic impregnation: treatment carried out on the concrete to obtain a water-repellent surface, whereby the pores and capillaries are coated internally without filling them. With this type of product a film does not form on the surface of the concrete and, therefore, its appearance does not change;
- impregnation: treatment of concrete to reduce surface porosity and strengthen the surface. The pores and capillaries are partially or completely filled;
- coating: treatment applied to form a continuous protective layer on the surface of concrete.

EN 1504-3: Structural and non-structural repairs

The main aim of EN 1504 part 3 is to define the performance characteristics of mortars used to repair and replace damaged or deteriorated concrete. The standard defines 4 mortar classes: R1 and R2 for non-structural mortars and R3 and R4 for structural mortars. Which class a product belongs to will be defined by its performance characteristics and the minimum requirements specified by the standard.

EN 1504-4: Structural bonding

This part specifies the performance and requirements of products used to structurally bond strengthening materials to an existing concrete structure:

- materials for bonding steel plates or other suitable materials (such as carbon fibre composites) externally to the surface of a structure with the aim of strengthening the said structure;
- products for bonding hardened concrete to hardened concrete;
- products to promote adhesion, to guarantee a monolithic bond, between fresh concrete and the structure to be repaired or strengthened.

EN 1504-5: Concrete injection

Injection products are defined as those that are used to fill cracks, gaps and cavities in concrete in the following cases:

- products with the capacity to bond to the substrate and allow forces to be transmitted through them;
- flexible products with the capacity to support movements when in service;
- products that have the capacity to expand if in contact with water in their reactive state.

EN 1504-6: Anchoring of reinforcing steel bars

This part concentrates on all those products made from hydraulic binders or synthetic resins (or a mixture of both) with

ABOVE. Applying by spray MAPELASTIC GUARD two-component, elastic cementitious mortar for protecting large concrete structures subjected to high stress. The product complies with the principles of EN 1504-9 and the minimum requirements of EN 1504-2 coating (C) according to principles MC and IR for protecting concrete.

ABOVE. Applying by spray MAPEGROUT EASY FLOW one-component, fibre-reinforced, compensated-shrinkage, sulphate-resistant thixotropic mortar, particularly suitable for repairing concrete structures with a rendering machine. The mortar meets the minimum requirements of EN 1504-3 for class R4 structural mortars.

a fluid or pasty consistency used to fasten reinforcing steel bars in concrete structures.

EN 1504-7: Reinforcement corrosion protection

Part 7 of the standard defines the characteristics of products with the capacity to interrupt the process of corrosion due to carbonation or chlorides that develops on steel reinforcement embedded in deteriorated concrete. The materials defined may be divided into two types:

- active coatings: contain electrochemically active pigments which may function as inhibitors and provide localised cathodic protection. Cement is considered to be an active pigment due to its high alkalinity;
- barrier coating: isolate the reinforcement steel from water present in the surrounding cementitious matrix.

Within its wide range of products, Mapei provides solutions that conform to every single part of European standard EN 1504 to guarantee certified materials, along with the relative Technical Data Sheets and Safety Data Sheets that are constantly updated and which contain all the information required to use the materials correctly and safely.

The European Construction Products Regulation and the DoPs

Apart from the documentation mentioned above, the new CPR (European Construction Products Regulation) has been in place since the 1st of July 2013, which makes it mandatory for manufacturers to supply a "Declaration of Performance" (DoP) with every product with CE marking to certify that the product conforms to the characteristics declared, with reference to a certain area of use based on the harmonized reference technical specifications. The DoP also enables clients and users to compare the various products available on the market on the basis of a series of common, well-defined, measurable elements, so that they may then identify which product is the most suitable for their specific requirements. And in so doing, thanks to the tools the chemicals sector has made available for us, by using products with CE marking and by following the indications given by current standards and the documentation available, it really is possible to carry out repair and protection work on reinforced concrete which becomes highly durable.

The Declaration of Performance of a Mapei product

MAPEI

PLANITOP RASA E RIPARA R4
Declaration of Performance
N. CPR-IT1/0472

DECLARATION OF PERFORMANCE N. CPR-IT1/0472

1) Unique identification code of the product-type: **PLANITOP RASA E RIPARA R4**

2) Intended uses: **Hydraulic mortar based on hydraulic cement (R4-CC) for structural repair of concrete in building and civil engineering works**

3) Manufacturer: **MAPEI S.p.A. – Via Cafiero, 22 – 20158 Milan – Italy - www.mapei.it**

4) Systems of AVCP: **System 2+**
System 4 (for reaction to fire)

5) Harmonized standards: **EN 1504-3:2004**

Notified bodies: **the notified body ICMQ SpA, N. 1305, performed the initial inspection of the manufacturing plant and of factory production control and the continuous surveillance, assessment and evaluation of factory production control and issued the certificate of conformity of the factory production control.**

6) Performances declared:

Essential characteristics	Performances
Compressive strength:	Class R4
Chloride ion content:	≤ 0,05%
Adhesive bond:	≥ 2,0 MPa
Carbonatation resistance:	Passes
Thermal compatibility:	
- Freeze-Thaw cycling:	≥ 2,0 MPa
Capillary absorption:	< 0,5 kg*m^{-2}*h$^{-0,5}$
Dangerous substances	see SDS
Reaction to fire:	Class A1

The performance of the product identified above is in conformity with the set of declared performances.

This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by: **Paolo Murelli – *Corporate Quality Management***

Milan, 22/01/2015

The CE marking of a Mapei product, in compliance with CPR 305/2011 and EN 1504-3:2004 standards

CE
1305

MAPEI
Via Cafiero, 22 – 20158 Milano (Italy)
www.mapei.it

14
CPR-IT1/0472
EN 1504-3:2004
PLANITOP RASA E RIPARA R4
Hydraulic mortar based on hydraulic cement (R4-CC) for structural repair of concrete in building and civil engineering works

Compressive strength:	Class R4
Chloride ion content:	≤ 0,05%
Adhesive bond:	≥ 2,0 MPa
Carbonatation resistance:	Passes
Thermal compatibility:	
- Freeze-Thaw cycling:	≥ 2,0 MPa
Capillary absorption:	< 0,5 kg*m^{-2}*h$^{-0,5}$
Dangerous substances	see SDS
Reaction to fire:	Class A1

Federico Laino. Mapei SpA Technical Services Department - Building Line

Planitop Smooth&Repair R4

1 single product
to **smooth** and **repair**
concrete surfaces.

Planitop Smooth & Repair R4

Structural R4-class, **rapid-setting**,
fibre-reinforced, **cementitious mortar**,
applied **in a single layer** from 3 to 40 mm thick,
for **repairing** and **smoothing concrete**.

CE EN 1504-2 · MC-IR · CE EN 1504-3 · R4 · GEV EMICODE EC 1 PLUS · Fast Track Ready™

Product info

/mapeispa

Mapei is with you:
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The slalom skier Manfred Moelgg during a World Championship race.

Mapei Sport out on the slopes

The Mapei Sport Research Centre and Italian Winter Sports Federation (FISI) are back in partnership

Mapei Sport Research Centre is back on the ski slopes, focusing on top-flight Alpine skiing. The Italian Winter Sports Federation (FISI) and Mapei Sport are back in partnership again to analyse and improve the sporting performance of athletes. From 2003 to 2007 the research centre was actually a partner of the FISI for the physiological assessment of athletes from the Italian National Alpine ski teams, also providing scientific support for training strategies. After momentarily parting company, last year the thirty-five men and twenty-nine women who take part in World Cup and European Cup races were once again assessed by technicians from the research centre based in Olgiate Olona (Northern Italy). So lots of skiers are at the starting gates in the 2014-2015 season, a mixture of experienced athletes who have been among the top finishers of World Cup races and also lots of up-and-coming youngsters with great prospects (photo 1). As regards the Italian men's team, we must of course mention jet racers like Christof Innerhofer, Dominik Paris, Peter Fill and Matteo Marsaglia, giant slalom specialists of the calibre of Davide Simoncelli and the youngsters Roberto Nani and Luca De Aliprandini, and, finally, the slalom skiers Manfred Moelgg, Stefano Gross, Patrick Thaler and Olympic Champion Giuliano Razzoli. The women's team features the Fanchini sisters (Elena, Nadia and Sabrina), the highly experienced Daniela Merighetti, Chiara Costazza and Manuela Mölgg, and also the youngsters Federica Brignone, Irene Curtoni and Francesca Marsaglia.

The President of the Federation, Flavio Roda, and the FISI were extremely keen to restore this partnership, which was so successful and rewarding in the past. Assessment tests have already begun in the lab in order to determine the physiological condition of the athletes. Alpine skiing has been an Olympic event ever since the very first edition of the Winter Games in 1936. Alpine skiing traditionally has four main events: the downhill (DH), Super-G (SG), Giant Slalom (GS) and Slalom (SL), although over recent years other events have been added on, such as snowboarding and freestyle. On average the races last between 60-90 seconds for the GS and SL and about two minutes for the DH and SG.

During World Cup races skiers reach extremely high speeds (up to 160 km/h in the DH) and the courses are designed on

PHOTO 1. FISI athletes from the Italian national teams, who are racing in the 2014-2015 season.

PHOTO 2. Matteo Marsaglia during the vertical jump test performed on a piezoelectric platform.

extremely steep slopes (particularly in the SL). This means the physical demands on skiers vary from event to event. In the speed events (DH and SG) performance is mainly connected with the ability to maintain the best possible aerodynamic position. The ability to make extremely tight turns one after the other is more important in the SL and GS.

Finally, it is worth remembering that most Alpine skiing races are at altitude, so there is a relative lack of oxygen in the air. This makes Alpine skiing an extremely complex sport, which means that the tests carried out to assess the athletic qualities of these athletes are inevitably equally complex and elaborate. In July 2014 (half way through the preparation period), athletes from the Italian national teams underwent an initial period of assessment and the tests were then repeated again just before the competition period (October-November). During each test the skiers underwent a barrage of tests to measure what are considered to be the most important physical qualities required for performing at the highest level out on the slopes.

The Physiological Assessment Tests

A day of tests for a skier begins by determining the percentage of body fat of the athletes using a skinfold method. A tool called a calliper (basically a high precision caliber) is used to measure the thickness of the layer of fat at certain specific points beneath the skin. The measurements made are then entered into a formula that provides an estimate of the percentage of body fat at that precise moment. Alpine skiing is not an endurance sport (like cycling or marathon running), so

PHOTO 3. Matteo Marsaglia during the test to measure his maximum oxygen consumption on a cycle ergometer.

PHOTO 4. Matteo Marsaglia during the assessment carried out on the Mognoni eccentric press.

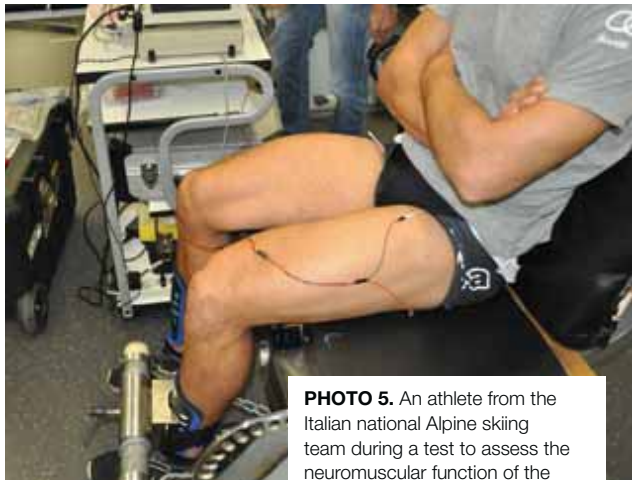

PHOTO 5. An athlete from the Italian national Alpine skiing team during a test to assess the neuromuscular function of the quadriceps at peripheral level.

the percentage of fat is not a key factor in performance. Nevertheless, in order to withstand the heavy training loads (both athletic and, more specifically, out on the ski slopes) they are put through, the athletes must, in any case, have an acceptable percentage of body fat. This percentage may be seen as reflecting the standard of the skier's nutrition programme.

After this initial analysis, the skiers perform a vertical jump test carried out on a special piezoelectric platform (photo 2). The athletes basically perform a series of maximal vertical jumps on a special force plate. This tool can measure the force exerted during the test and, above all, can also measure the muscular power exerted by the lower limbs during the jump. It is not unusual for athletes performing this test to jump approximately 70 cm from a standing position without using their arms. In a nutshell, most skiers can easily jump up onto your desk from a standing position without the help of their arms (to avoid injuries I would advise most of us not to try this…).

The third assessment is the traditional test to determine the working out the maximum oxygen consumption on a cycle ergometer. The test is designed to measure the athlete's engine from a metabolic viewpoint. This is referred to as an incremental maximal test to exhaustion. Basically, the athletes must pedal at a constant cadence (90-95 rpm) throughout the entire test, with the load gradually increasing from an initial value of 75 W for women and 100 W for men. Athletes must carry on pedalling until reaching the maximum power output that they can sustain (exhaustion).

During the evaluation, heart rate and, above all, oxygen consumption is measured in order to determine the athletes' aerobic efficency (photo 3). At this point the assessments become more skiing-specific and the athletes perform a test involving the use of a special motorised leg press (the Mognoni press, named after the researcher who invented it), specially developed for skiers by the Mapei Sport Centre (photo 4).

The Mognoni press can simulate, with a good degree of approximation, certain specific physical demands of the skier during the specific actitivity on the snow. The skiers are basically subjected to a series of cycles of eccentric-concentric contractions simulating what happens while skiing during a turn. This allows the athlete's muscles to be subjected to the same kind of stress they will undergo while skiing, in order to make a more accurate "diagnosis" of the skier's physical conditions.

Indeed, when skiers enter the Mapei Sport Laboratory it is rather like entering the laboratory of the famous Dr Frankenstein, who cleverly manipulated electrical current to bring bodies back to life. Joking apart, the skiers undergo a test involving the use of an electrical current to assess the neuromuscular function of the quadriceps at peripheral level (photo 5).

While seated on a special ergometer (very similar to a leg extension), the athletes' tights are electrically stimulated to measure the muscles' ability to generate force independently of the athletes' voluntary action. This kind of assessment is repeated both at rest (measuring the maximum peripheral force of the quadriceps) and in a fatigue state (measuring the peripheral neuromuscular fatigue of the quadriceps caused by a skiing-specific exercise carried out on the Mognoni press).

So lots of elaborate assessments are carried out, mirroring the fact that skiing is often quite unpredictable and influenced by a great number of variables.

Anybody who follows Alpine skiing knows that the difference between winning and taking part is often just a matter of details. With this in mind, the FISI decided to begin working with the Mapei Sport Centre again, because in modern-day competitive sport nothing can be left to chance.

So have fun on the slopes everybody!

Ermanno Rampinini. Human Performance Lab, Mapei Sport Research Centre, Olgiate Olona (Italy)

MAPEI STADIUM
Città del Tricolore: a passion that brings us closer together

The new "Barrierless open stadium" project was officially launched at the match between Sassuolo and Juventus

Leaving aside the final result on the pitch, with the Green-and-black of Sassuolo holding the Black-and-white of Juventus to a 1-1 draw, the match played between Sassuolo and Juventus on the 18th of October, 2014, signalled the start of a courageous journey to progressively eliminate all the barriers that separate the fans from the players on the pitch at the Mapei Stadium – Città del Tricolore.

The stadium in Reggio Emilia (Central Italy), owned by Mapei, is following in the footsteps of the Juventus Stadium in Turin (Italy) and, by removing the fence barriers in front of the terraces behind the goals, and creating a parapet between the terraces and the pitch, there is now a clearer view, just like the view from the front and main stands.

In doing so, Sassuolo Calcio is offering their collaboration and firm backing to the "Barrierless open stadium" initiative, a project promoted and financed by the company Mapei Stadium Srl along the guidelines of the governing body of the Lega Serie A, the Italian National Observatory for Sporting Events, the Prefect and Police Authority of Reggio Emilia, the Reggio Emilia City Council and the Provincial Supervisory Commission with the aim of making the stadium more welcoming and safer, and to transform it into an area where people can meet and cheer on their team in a healthy, sporting manner based on mutual respect and respect for the rules of the game.

Thanks to this initiative, Mapei Stadium is leading the way in encouraging youngsters and families to follow soccer correctly, with passion and fun, as close neighbours to the players on the pitch.

This initiative was presented to local and national journalists during a press conference in the press room at the Mapei Stadium the day before the match against Juventus.

The order of speakers at the press conference were the CEO of Mapei Stadium Srl Carlo Pecchi, the Chief of Reggio Emilia Police Isabella Fusiello, Councillor Valeria Montanari from the Reggio Emilia City Council, the Managing Director of Sassuolo Calcio Giovanni Carnevali, the Chairman of Reggiana Calcio Alessandro Barilli and the two teams' managers Eusebio Di Francesco and Alberto Colombo.

All the speakers expressed their satisfaction in managing to bring such improvements to the stadium, which has been described as safe and welcoming.

All this is a practical application of the new philosophy in sport which, as was underlined by Isabella Fusiello, aims at making the fans responsible for returning the stadium to its real function as a place of entertainment for everybody, and not a place of conflict. In fact, it has been demonstrated that fencing and preventive, almost military occupation of stadiums does nothing more than set off a negative spiral of violent behaviour.

The words spoken by the Sassuolo manager Di Francesco are particularly significant: "As a player I would have loved to have played against great teams such as Juventus in a stadium without barriers, in close contact with the fans. I sincerely hope that the project launched by Sassuolo acts as an impetus for other clubs but we must remember that, to change the mentality and general culture of a nation, you have to start from the families and schools, although sport can make a large contribution in shaping people and creating the right spirit".

Good football, plenty of excitement and a little bit of disappointment for the Mapei-sponsored team from Central Italy that already has 25 points in the Serie A championship half way through the season

Sassuolo, this year we can go for it

IN THE FACING PAGE. The official picture of Sassuolo squad for the 2014-2015 season taken in November 2014. From February 2015 Ariaudo, Manfredini, Gliozzi and Pavoletti are no longer in ths squad which now also includes Donis and Lazarevich.
IN THIS PAGE. Some moments of the Genoa-Sassuolo match.

Sassuolo has really performed admirably during the first half of only its second season in Italy's top football league, closing the first leg of the competition with an exciting game against Genoa that ended in a 3-3 draw.
The team has been really great and… generous. Great in terms of its performances out on the field and generous in terms of both the wonderful football it has played and points it has left to teams, which were second-best to Sassuolo out on the pitch.
Sassuolo is quite a different prospect from last year. No longer suffering from the kind of inferiority complex that affected the team last season, when it only knew it was mathematically safe from relegation just two games before the end of the season, this year Sassuolo is showing it really knows how to play bold and confident football.
The number of points it has already gained speak for themselves: at the halfway mark in the league championship, Sassuolo has 25 points, just one less than Palermo and such prestigious teams as Inter Milan and A.C. Milan, and nine more than Cagliari that is third from bottom of the table (and in the "relegation area"). The team now seems to have solid foundations, the right attacking mentality and plays spectacular football of the kind preached by the manager Eusebio Di Francesco. The game against Genoa, which marked the end of the first half of the season, sums up what we have seen so far.
After conceding yet another goal in added time against Genoa, the team has lost seven points around the 90th minute mark in matches in which the team deserved better luck, paying the price for defensive mistakes and a lack of experience in holding onto the ball. In the only game out of the last seven league matches when the black-and-greens did not give it away in the last few minutes, they took all three points against A.C. Milan at San Siro stadium, only to concede a goal by De Jong four minutes from the end of their cup tie against the same team. All these wasted points take nothing away from all the great things that Sassuolo has done so far.
Manager Di Francesco's post-match analysis really hit the mark when, although admitting that he was really disappointed about the result since the team's performance deserved better, he pointed out that: "It is a pity, we have to be a bit smarter in handling certain situations but our position in the league is excellent and reflects the 15 matches during which we have played really well and showed real character". It should not be forgotten that all the press and pundits agree that Sassuolo has been one of the most exciting revelations during this first part of the league championship.

IN THIS PAGE. Some moments of the Sassuolo-Udinese match that ended in a 1-1 draw.

A squad of mainly Italian players

Sassuolo is setting an example that probably ought to be followed, with a very young team containing a number of players, whom the big teams would love to sign, and with its own stadium. The team which, once again this season, can boast fielding almost exclusively Italian players.

The manager put it extremely well after the game in Genoa when he said: "I would really like to hold on to my Italian players". In the league game against A.C. Milan, for instance, the manager fielded a team of 11 Italian players. A policy which proves that, in the world of football, it takes more than money to create something special, it also takes ideas and planning. This is how we should interpret a project focusing on home-grown players, who, judging from the club's league position, are by no means inferior to foreigners, and this policy is continuing to produce results. What has happened at Sassuolo over the last few years is not a miracle, just the outcome of careful, longsighted and transparent management capable of creating a team that is surprising everybody and will continue to do so.

Serenity, organisation and expertise: three words proving that even within the frenetic and, at times, limited world of Italian football, Sassuolo is the example to follow. A view also expressed by the President of the Mapei Group and owner of Sassuolo, Giorgio Squinzi, at the beginning of the season, who, when questioned about Berardi and Zaza being chosen to play for Italy, stated: "I believe this is rightful recognition for our policy, a policy based around youngsters and home-grown players; the ideal model for re-launching Italian football after performing so poorly at the World Cup in Brazil".

Meanwhile Sassuolo is increasingly in the spotlight worldwide and, as a consequence, so is Mapei. This is confirmed by recent statistics proving that the number of visits to all of the team's social networks (Facebook, Twitter, YouTube with the Sassuolo Channel) has increased by almost 300% compared to January last year. Really exciting figures, which, nevertheless, should not distract our attention from the serious business of getting the right results out on the pitch.

As for the Italian league championship, everybody needs to keep their feet firmly on the ground and, in this respect, manager Di Francesco's wise words are extremely realistic and prudent: "Let's work on the assumption that our first aim is to stay up in Serie A and we are on course for that; we will work hard and humbly to reach 40 points as soon as possible. Before the game against Inter we thought we were "pretty good", and that is not the right attitude. First we need to reach 40 points, then perhaps we can have fun". Let's hit this target as quickly as possible and then start enjoying ourselves. In fact, if possible, let's keep the dream alive. This year Sassuolo can really go for it!

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SPORT DIVISION

Cadel, a true great

On 1st February Cadel Evans, a truly great sportsman and friend of Mapei's, retired from professional cycling

After initially being announced at the end of last summer to everybody's surprise and then virtually forgotten about as the cold winter began, in the end the news turned out to be true and it really has happened.

Cadel Evans, a clean rider during one of the darkest periods in the history of cycling, retired from professional cycling on 1st February. And he did it his way. Down Under in Australia, his homeland, and riding his bike in a race named after him, the Cadel Evans Great Ocean Road Race, one of the most important races for Australian amateur and professional cycling that he has described as "the most beautiful race on earth".

It was an extremely intense weekend's sport – it all began on Saturday 31st January with a fun ride in the morning followed by the Elite Women's race in the afternoon and Elite Men's race on Sunday, 1st February – with all his fans and friends attending an event that was a mixture of joy and commotion.

An event that Mapei could not possibly miss for various reasons. First and foremost due to the great friendship it has had for over 10 years now with this Australian champion, but also due to its close ties with Australia and the world of professional cycling. Mapei's support for this event allowed the Company to express its gratitude towards an icon of Australian sport, who has represented Mapei with distinction over the last twelve years, both as a professional sportsman and as a man.

His retirement brings down the curtain on an incredibly

RIGHT. Cadel Evans with Giorgio Squinzi and Andrea Morelli from Mapei Sport Research Centre (left); Evans winning the Tour de France in 2011 (right).

LEFT. Cadel Evans winning the Road World Championships in Mendrisio (Switzerland) in 2009.

successful career that saw Cadel become the first and only Australian winner of the Tour de France.

The partnership between Mapei and Cadel was built around their joint ambition and reciprocal respect, thanks to men like Giorgio Squinzi (CEO of the Mapei Group) and the never-to-be-forgotten Professor Aldo Sassi (co-founder and former General Manager of the Mapei Sport Research Centre, who passed away in December 2010), who helped create an environment in which Cadel's great natural talent could be expressed to the maximum.

Cadel wore the famous coloured cubes jersey of the Mapei cycling team during the 2002 season and then continued training at the avant-garde Mapei Sport Reseach Center based in Olgiate Olona, Northern Italy, (located in Castellanza back then), where he developed from being a promising mountain biker into a top cyclist. It is worth remembering that Cadel was first a great cross country mountain biker, winning two World Cups in the event, before becoming a professional road cyclist in 2001, specialising in stage races. He finished third at the Vuelta España Race in 2009, and won the Road World Championships in Mendrisio (Switzerland) in 2009, the Flèche Wallonne in Belgium in 2010 and Tour de France in 2011.

After deciding to take part in the Giro d'Italia (Tour of Italy) again in 2013, Evans finished third in the overall classification, making him the first Australian to make the podium in all three Grand Cycling Tours.

He explained his decision to retire from professional racing with great simplicity: "I began thinking about retiring from cycling after last year's Tour of Italy. My training had gone fantastically and I hadn't had any problems, but I realised I was no longer able to compete at such a high level. I knew I could no longer win a major stage race and I must admit that was something I found hard to accept".

In an interview with the Italian sport newspaper *Gazzetta dello Sport*, Giorgio Squinzi gives his own profile of Evans: "Honest: the only rider over the last 25 years I would put my hand in the fire for. He was a real athlete and a real man: a person of values, principles, and both physical and moral strength. Somebody who gives everything. I thought the darkest years

ABOVE. A training session at Mapei Sport Centre (left) and a big hug after a wonderful victory but also a final farewell (right).

of cycling were the 1990s, unfortunately history has shown that the black period continued into the year 2000. So Evans raced during the worst time and yet he proved you can still win a World Championship".

Giorgio Squinzi spoke with a mixture of expertise and emotion: "Evans produced a physical and tactical masterpiece at Mendrisio, he chose just the right moment to make his move and for me it was something special. I felt very emotional during the prize-giving ceremony: he left everything, the winner's podium and prizes, to come down among the people and embrace me and Aldo Sassi, and we carried on hugging each other for five minutes with tears in our eyes. His incredible victory at the Tour de France turned out to be a piece of sporting – moral – justice. Nobody deserved to win more than him. And if we look at the list of riders (only the clean ones),who finished at the top of the general classification at the Tour over the last 10 years, then Cadel would clearly have had more wins and more podium finishes. When we celebrated Mapei's 75th anniversary in February 2012, Cadel dedicated a yellow jersey to me and then, as he gave it to me, he whispered in my ear: 'Giorgio, we did it'. I still get emotional when I think back to that moment".

Aldo Sassi's favourite athlete has no doubt about what makes him happiest now he is retiring: "What makes me prouder than anything else is the length of my sporting career, my credibility as a sportsman. Throughout my entire career I raced all year round, and in my mind that is the best thing of all. The way we have fought against all the negative aspects of our sport is something with even greater implications. Other sports should look at what we have done in cycling and try and match what we have achieved. During those dark years, as an athlete, I could not afford to get angry. I just carried on working and accepted the situation as it was, but I always went at my own pace. With pride".

A style shared by Mapei, whose corporate philosophy is based on the same determination, willingness to make sacrifices, team play and desire to excel.

On 1st February cycling lost one of its greatest exponents over the last fifteen years, a fine example of strength and professionalism.

The professional cyclist has retired but the man certainly has not. And Cadel, who managed some unexpected victories even when his physical fitness seem to be diminishing as the years went by, will certainly manage to surprise us yet again in the future.

After all, he will always be remembered for this famous quote: "As a matter of principle I never retire from a race. I would rather die on the bike. If I set off I want to get to the finish. Winning is always the best, but coming last is better than not finishing at all".

With that kind of determination, who knows what might happen. In the meantime Mapei would like to thank you and bid you a fond farewell.

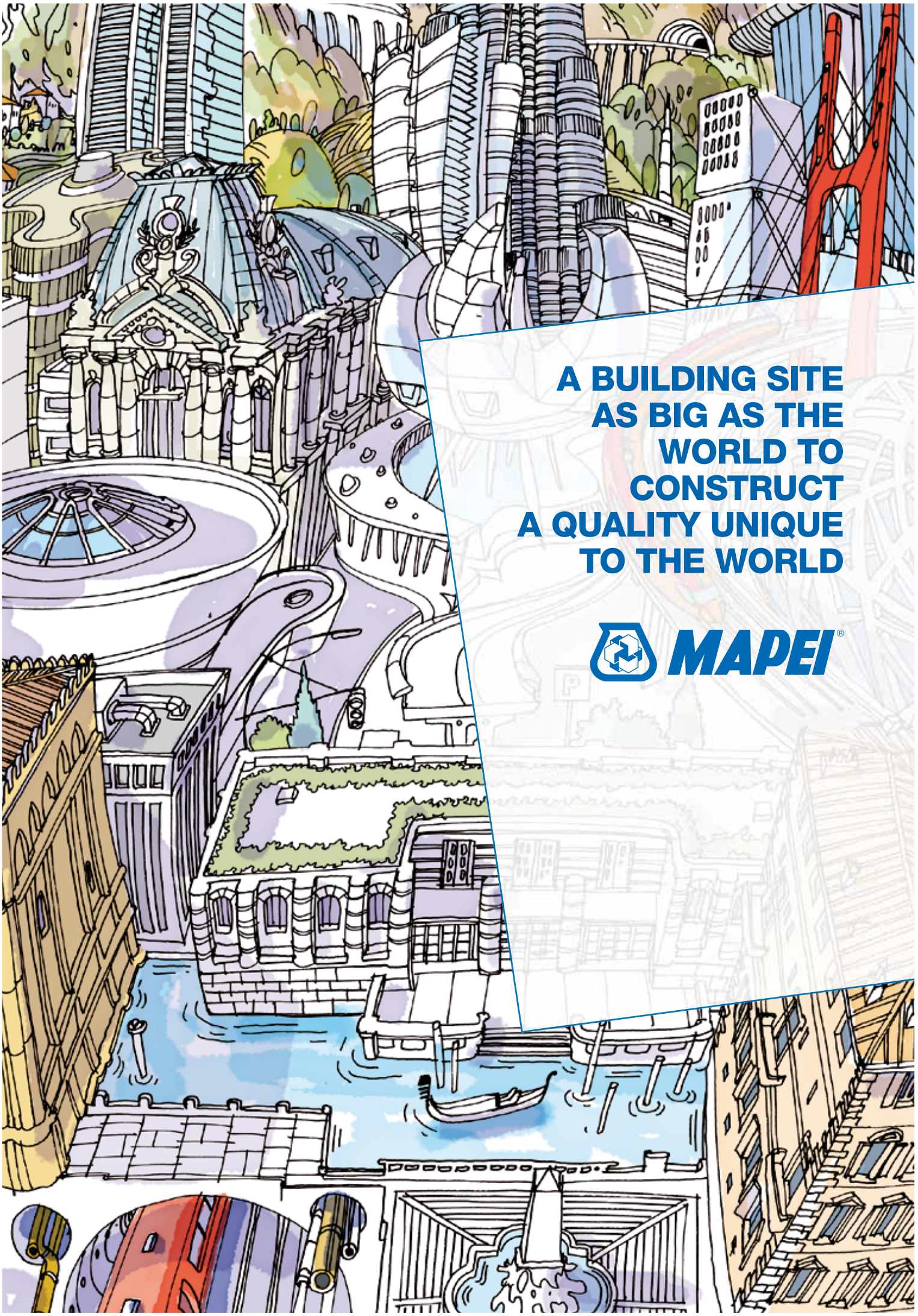
IN THIS PAGE. The finishing line of the Cadel Evans Great Ocean Road Race, held from 31st January to 1st February, and an image of Cadel Evans with Mapei Australia's staff at the event.


Thanks Cadel,
you are
a true great!

A world of projects

This is a special edition of *Realtà Mapei International*. As in previous years, we are presenting the winners of the last edition of the Mapei Reference Grand Prix. They are prestigious building sites and eco-sustainable projects that have been completed thanks also to the use of Mapei products.
This panorama contains projects divided by product line, each one with a brief summary of the building site's data.
And for those readers who would like to find out more about other Mapei projects, visit the company website at **www.mapei.com**.

Enjoy your read!



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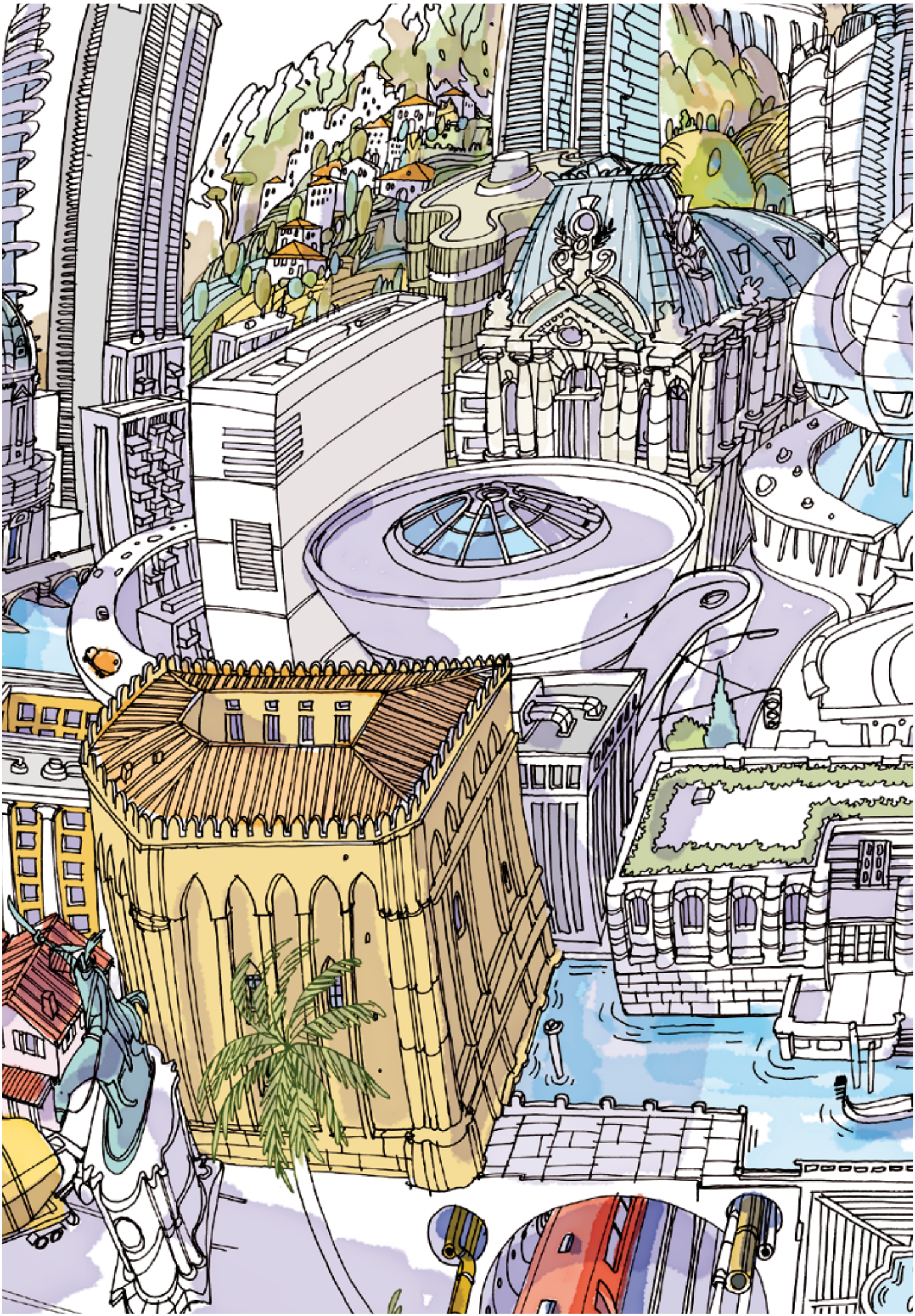
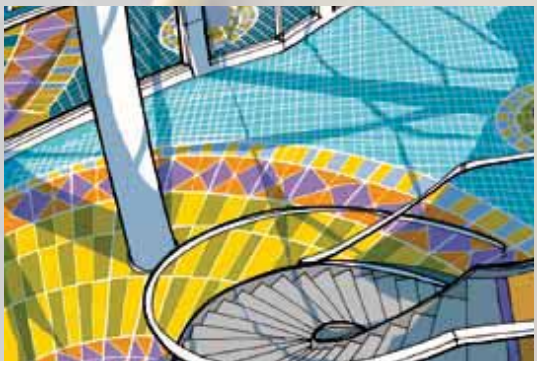


SPECIAL FEATURE PROJECTS **SUMMARY**

PRODUCTS FOR CERAMICS AND STONE MATERIALS

Mapei offers a complete range of products to help select the most suitable laying system for ceramics and stone materials. The range includes cementitious and paste adhesives, hydraulic binders and pre-blended mortars for screeds, primers, skimming compounds, sealants, complementary products, and grouts.



Novinsky Passage Mall
Moscow (Russian Federation)

The "Novinsky Passage" is one of the most prestigious business centers in Moscow. It includes the Novinsky business and retail center, one of the largest, high-level multi-purpose complexes in Moscow. The new 11-level building on Novinsky boulevard amazes visitors with its innovative architectural solutions. It covers a floor area of 11000 m^2 and looks remarkably bright because of a high glass dome and white artificial marble coverings in interiors. The shopping areas are hosted on three floors and the business facilities are hosted in the remaining 8 floors. It was opened in April, 2004. In the same building there is a DHL express service, a dry-cleaner shop, air tickets cash desks, a photo studio, a beauty salon, cafés and restaurants. The parking can locate about 230 cars.

Mapei products were used during the renovation intervention carried out in 2014. The company supplied solutions for treating and leveling substrates as well as for bonding and grouting the porcelain tile floors of the shopping mall on a total surface of 4500 m^2. PRIMER G, a synthetic resin primer in water dispersion with a very low emission level of volatile organic compounds (VOC), was used to treat the new floor screeds. ULTRAPLAN self-levelling, ultra quick-hardening smoothing compound was used on the corridors' floor substrates which had to perfectly match the steps of the shops located at the first storey. Porcelain tiles were then bonded onto floors of the shopping areas with GRANIRAPID two-component, high-performance, deformable, quick-setting and drying cementitious adhesive and joints were grouted with ULTRACOLOR PLUS high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent DropEffect® and mould-resistant BioBlock® technology for joints from 2 to 20 mm wide.

Technical Data

Year of Construction: 2014
Year of the Intervention: 2014
Project: Elite Design
Client: OAO "Novinsky bulvar 31"
Contractor: Elite Design
Laying Company: Elite Design
Mapei Distributor: Elite Design
Mapei Co-ordinators: Anna Medvedeva and Savonin Alexey, ZAO Mapei (Russian Federation)

Mapei Products

Granirapid, Primer, G Ultracolor Plus, Ultraplan

New Florence Opera House
Florence (Italy)

Technical Data

Period of Costruction: 2009-2011
Period of the Intervention: 2013-2014
Client: Florence City Council
Project: Studio ABDR Architetti Associati, Rome (Italy)
Building Company: Parco della Musica Scarl
Mapei Co-ordinators: Massimo Lombardi and Matteo Venturini, Mapei SpA (Italy)

Mapei Products

Adesilex G19, Adesilex PG4, Adesilex VZ, Adesivil D3, Eporip, Keralastic, Latex Plus, Mapegrid G 120, Mapelastic Smart, Mapesil LM, Mapetex Sel, Nivoplan, Nivorapid, Planicrete, Planipatch, Planitop HDM Maxi, Topcem Pronto, Ultrabond Eco VS 90

The new Florence Opera House has been defined as a "music and culture park" with an unique range of attractions on offer: an opera house, an auditorium and an open-air amphitheatre. This complex was built to celebrate the 150th anniversary of Italian Unity and has a capacity of 5,000 spectators. Inaugurated in 2011, the building was closed and then re-opened in 2014. Mapei intervened during this closure to finish off the work, as well as to solve a number of problems on the external façades where a new substrate was made using NIVOPLAN mixed with PLANICRETE latex. To prepare the substrates of some of the walls made in sheet metal, it was decide to apply EPORIP and then smooth over the surface of the panels with PLANITOP HDM MAXI fibre-reinforced mortar with MAPEGRID G 120 glass fibre mesh embedded in the mortar. To protect the structure of the blocks against water seepage, it was decided to waterproof all the structures with MAPELASTIC SMART mortar, reinforced with MAPETEX SEL non-woven fabric. ADESILEX PG4 adhesive was used to prepare the surface of the steel rainwater runoff channels. At this point, it was decided to bond the new thin porcelain wall and floor coverings with KERALASTIC adhesive and to use MAPESIL LM silicone sealant to seal the joints between the tiles. Inside the theater works focused on laying the rubber coverings. To prepare the substrates, Mapei supplied NIVORAPID and PLANIPATCH mixed with LATEX PLUS. The rubber floors in the Opera House dressing rooms and corridors were bonded with ADESILEX G19 adhesive; the rubber covering for the stairs was bonded with ADESILEX VZ adhesive; while the wall covering and certain sections of the flooring were bonded with ULTRABOND ECO VS 90. Around 2,500 m^2 of floating prefinished wooden flooring was installed with ADESIVIL D3 adhesive. It took around 9 months to carry out all the work on the outside and on the inside.

The Interlace Complex
Singapore

The Interlace is a residential development with interlocking blocks design. 31 six-storey horizontal blocks are deliberately stacked in a hexagonal arrangement to resemble a "vertical village" with cascading sky gardens and both private and communal roof terraces. The 31 blocks house 1040 units that consist of 2-4 bedroom apartments, penthouses, garden houses and multi-generational units. The Interlace includes a 50-metre swimming pool, 2 massage pools, Jacuzzi, gym, tennis courts, clubhouse, playground and 8 retail shops.

As for the internal areas, the floors in the living rooms were covered with marble or porcelain tiles bonded with KERAFLEX MAXI S1 and KERABOND T, respectively. KERABOND T + ISOLASTIC were used for bonding tiles on the transfer decks. KERACOLOR SF was used for grouting the joints. The marble and porcelain tiles on walls in the bathrooms were laid with KERAFLEX MAXI S1 and KERABOND T respectively, and joints were grouted with KERACOLOR SF. The same products were used on the walls and floors in the kitchens. In the bedrooms, study and family rooms, ADESILEX LC/R-P was used for bonding oak wooden strips on the floors and skirtings. At the lift lobby areas, KERAFLEX MAXI S1 was used for bonding granite slabs and KERACOLOR SF for grouting wall and floor joints. For balconies and roof tops, KERABOND T was used for bonding porcelain tiles on floors and KERACOLOR SF for grouting tile joints. On metal staircases, porcelain tiles were bonded and joints were grouted with KERAPOXY. On the ground floor, the floors surrounding the pools were laid with hexagonal pebblewash tile using KERAFLEX MAXI S1 for bonding and KERACOLOR GG for grouting joints. The same products were used to bond grey tiles on the walkways.

For the swimming pools and water features, ADESILEX P10 was mixed together with ISOLASTIC 50 (N.B this product is distributed on the Singaporean market by Mapei Far East) to bond glass mosaics. KERACOLOR FF+ FUGOLASTIC were used to grout the joints. Mosaic tiles were bonded on walls in the shower and changing rooms with ADESILEX P10, while the joints were grouted with KERACOLOR FF.

Technical Data

Period of Construction: 2010-2013
Period of the Intervention: 2011-2013
Client: Woh Hup (Pte) Ltd
Contractor: Woh Hup (Pte) Ltd
Developer: CapitaLand Limited
Design: RSP Architects Planners & Engineers (Pte) Ltd
Laying Company: Woh Hup (Pte) Ltd
Mapei Co-ordinators: Jesseline Yap and Ryan Liaw, Mapei Far East (Singapore)

Mapei Products

Adesilex LC/R-P, Adesilex P10, Isolastic, Isolastic 50*, Fugolastic, Kerabond T, Keracolor FF, Keracolor GG, Keracolor SF, Keraflex Maxi S1, Kerapoxy
*This product is distributed on the Singaporean market by Mapei Far East

Technical Data

Year of Construction: 2013
Period of the Intervention: 2012-2013
Client: Impresa Piazza della Vittoria
Design: Studio Scotti
Works Direction: Fulvio Beretta
Contractor: Sfera Edilizia Srl
Laying Company: Ideal Pav Srl
Mapei Distributors: Edildelta Sas. Di Ferrari Marino e C.
Mapei Co-ordinator: Emanuele Rodolico, Andrea Peli, Andrea Serafin, and Andrea Paron, Mapei SpA (Italy)

Mapei Products

Ultralite S2, Keracolor GG, Mapesil LM, Mapelastic, Mapelastic AquaDefense

Le Magnolie Residential Complex
Lodi (Italy)

A modern, functional home in a charming building surrounded by peace and quiet. This is the "Le Magnolie" residential complex in Lodi (Northern Italy), right next to a park: a peaceful area away from the pollution and noise of the by-pass and railway line. There are three apartment blocks with six storeys above ground level and 17 homes for each building, all with an Energy Class A rating.

Porcelain tiles measuring 30x60 cm were bonded to more than 4,000 m^2 of façade using ULTRALITE S2 one-component, high-performance, highly-deformable, light-weight cementitious adhesive with extended open time, good buttering capacity, very high yield and easy to trowel for ceramic tiles and stone, ideal for thin porcelain tiles.

The expansion joints were sealed with MAPESIL LM neutral silicone mould-resistant sealant with BioBlock® technology for movements up to 25%.

The tile joints were grouted with KERACOLOR GG, pre-blended, high-performance polymer-modified cementitious mortar for grouting joints from 4 to 15 mm wide, which has excellent compressive and flexural strength and excellent resistance to freeze/thaw cycles, making it highly durable.

Two different products were used to waterproof the terraces: MAPELASTIC, the highly-renowned two-component cementitious mortar that remains flexible at temperatures down to -20 °C, and MAPELASTIC AQUADEFENSE ready-to-use, quick-drying, flexible, liquid membrane for waterproofing internal and external surfaces.

IULM University Auditorium
Milan (Italy)

The most recent extension at the IULM (International University of Languages and Media) University in Milan is part of a strategy to become a campus along the lines of American universities. The large, 700-seater auditorium is more like an indoor public arena under a ceramic-covered cupola. The small "Diamante Boa" tiles by Casalgrande Padana were bonded to the cupola with ELASTORAPID two-component, high-performance, highly-deformable, quick-setting and drying cementitious adhesive with no vertical slip and extended open time. The expansion joints were sealed with MAPESIL LM neutral silicone anti-mould sealant with BioBlock® technology for movements up to 25%. Before bonding the tiles, the surfaces of the cupola were waterproofed with MAPELASTIC two-component, flexible cementitious mortar and MAPEBAND alkali-resistant rubber tape with felt, reinforced with MAPENET 150 alkali-resistant glass fibre mesh for reinforcing protective waterproofing layers, anti-fracture membranes and thermal insulation systems.
The surfaces in the Auditorium on which textile floors were laid were initially evened out with a layer of NIVORAPID quick-drying, thixotropic, cementitious smoothing compound for thicknesses of 1-20 mm, and then smoothed over with ULTRAPLAN ECO self-levelling, ultra quick-hardening smoothing compound for thicknesses from 1 to 10 mm, with a very low emission level of volatile organic compounds (VOC).
The textile floors were then bonded using ULTRABOND ECO FIX solvent-free adhesive in water dispersion which remains permanently tacky, with very low emission level of VOC, and ROLLCOLL multi-purpose adhesive in water dispersion for laying vinyl floors and walls and for bonding textile floors and walls with all types of backing.
The resin floor for the internal staircases was made from MAPEFLOOR I 300 SL two-component, multi-purpose, neutral-coloured epoxy formulate for industrial floor coatings up to 4 mm thick.

Technical Data
Period of Construction: 1970's
Year of the Intervention: 2014
Client: IULM University
Design: Studio 5+1AA - Alfonso Femia, Gianluca Peluffo, Simonetta Cenci
Laying Company: Italiana Costruzioni
Mapei Coordinators: Antonio Salomone and Dario Casale, Mapei SpA (Italy)

Mapei Products
Elastorapid, Mapelastic, Mapeband, Mapenet 150, Mapesil LM, Nivorapid, Rollcoll, Ultrabond Eco Fix, Ultraplan

Piazza del Liberty
Milan (Italy)

On the 2nd of May last year, a festival with entertainment provided by the Milan City Police Band celebrated Piazza del Liberty's new look.
The redevelopment project, which had started nine months earlier, extended over an area of 2,500 m^2 and involved the old square and the intersection with Via San Paolo. The aim of the project was to make a faceless area of the city more attractive by creating a welcoming, elegant space against a background of shops and hotels.
The asphalt road surface was replaced with white Montorfano granite covering along the bands that mark the gaps in the façades of the buildings, while flame-finished Luserna stone was used for the recesses. The paving comes to an end at the intersection with Via San Paolo, where porphyry and granite slabs were laid in place.
The MAPESTONE system was chosen to install the slabs to provide sufficient mechanical strength and high resistance to de-icing salts, which are heavily sprayed onto the floors during the winter to prevent the formation of ice.
In spite of the hot weather during the summer (installation started in August 2013), thanks to the specific characteristics of MAPESTONE TFB 60 pre-blended mortar, work was completed without encountering any particular problems.
The thickness of the bed mortar was around 6 cm and the paving was designed with sufficient slopes to make sure rainwater flowed into the gutters positioned accordingly.
MAPESTONE TFB 60 was also used to grout the slabs' joints while the expansion joints were sealed with MAPEFLEX PU 40 paintable polyurethane sealant with a low modulus of elasticity for movements up to 25%.

Technical Data
Period of the Intervention: 2013-2014
Client: Milano City Council
Works Direction: arch. Turati
Contractor: Ma.Mi. Srl
Laying Company: Antica Via Srl
Mapei Co-ordinators: Dario Casale and Roberto Orlando, Mapei SpA (Italy)

Mapei Products
Mapestone TFB 60, Mapeflex PU 40

Zagreb City Centre
Zagreb (Croatia)

Renovation work was carried out in the centre of Zagreb, capital city of Croatia, in the area between the central Ban Jelacic square and the Kaptol district. The construction of several new residential buildings and the Ban Center business complex in this part of the city has led to the creation of a new square and an expansion of the existing pedestrian area.
The centre of Zagreb is characterised by its stone flooring, and the local council decided to restore the streets near Zagreb's main square and install architectonic floors on that area. The stone was installed on a substrate made from concrete reinforced with electro-welded mesh. The joints were grouted with MAPESTONE PFS PCC2 preblended, polymer-modified mortar with a low modulus of elasticity, high compressive strength and good resistance to de-icing salts and freeze-thaw cycles. The mortar helps guarantee the durability of architectonic stone floorings in exposure classes XF3 and XF4 according to UNI EN 206-1:2006.
MAPESTONE PFS PCC2 is a pre-blended, powdered cementitious mortar made from special binders, selected aggregates in a granulometric curve (maximum diameter 2 mm), special additives and polymers which reduce the modulus of elasticity of the product when it hardens and improve adhesion to the substrate.
MAPESTONE PFS PCC 2 is easy to use in that it needs only to be mixed with water. This means that dosing errors for the binders and aggregates by the user are avoided, errors which would otherwise compromise the final characteristics of the mortar.

Technical Data

Year of the Intervention: 2013
Project: Branko Siladin BSc in Arch.; I.P.B. Car d.o.o., Alojzije Car, BSc in Engineering
Client: Zagreb City Council
Laying Company: Stipe Lucic, Stone Center and Cutting Stone-masonry
Mapei Co-ordinators: Marco Pagliani, Mapei SpA (Italy); Blazenka Rukavina, Nenad Karalija, Severin Camdzic and Jozo Grgic, Mapei Croatia Ltd

Mapei Products

Mapestone PFS PCC2

Technical Data

Year of Construction: 1950
Year of the Intervention: 2014
Client: Milano City Council
Works Direction: Balconi – Milan City Council Technical Department
Building Site Direction: Michele Rago, Fabio Donzelli
Laying Company: DAF Costruzioni
Mapei Distributor: DAF Costruzioni
Mapei Co-ordinator: Dario Casale, Mapei SpA (Italy)

Mapei Products

Mapeflex PU45, Mapestone TFB 60, Mapestone PFS 2, Planicrete

Piazza Duomo
Milan (Italy)

Requalification work on Piazza Duomo, the most visited square by the inhabitants and visitors to Milan, started with cleaning and replacing the areas of floors in poor condition and completely renovating the taxi area. The intervention on the floor slabs in Piazza Duomo was carried out in preparation for Expo 2015 and cost one million Euros, including a renovation of almost half the square (for a total surface of 5,000 m^2 out of 11,000 m^2). The local city council expressly requested the company carrying out the work to use materials that would withstand rain and de-icing salts, the main cause of the deterioration since the last work carried out eight years ago, when at the end of winter the square was in a very poor state with stone slabs that were broken and sunken into the ground.

Mapei Technical Services were on hand to assist in the work carried out on the square. Instead of the conventional technique of installing and grouting the slabs with sand and cement, Mapei Technical Services proposed the use of the MAPESTONE system to the contractor and works director, a system with the ability to resist freeze-thaw cycles and de-icing salts.

After examining the slabs, it was decided to remove the broken ones and replace them with pink granite slabs from Baveno (Northern Italy), while the remaining slabs were reused after giving them a thorough cleaning. The installation screed was made from MAPESTONE TFB 60 pre-blended mortar. The slabs of granite (measuring 50x150 cm) were installed in 40 m^2 pitch areas and the expansion joints were sealed with MAPEFLEX PU45. Work was completed by grouting the joints with MAPESTONE PFS 2 pre-blended mortar, which has high mechanical strength (C45/55) and high resistance to abrasion.

Zara Showroom
Oslo (Norway)

Founded by Amancio Ortega Gaona, the Spanish textiles group Inditex manufactures and markets the brands Bershka, Stradivarius and, above all, Zara, the most widely known of all, through more than one thousand sales points all over the world. The strong point of the brand is the particular marketing policy adopted by the chain: constant turnaround of the goods on display and an open invitation to their clients to visit the stores more often. Zara stores themselves are designed to make shopping more comfortable for the clients. They are usually located in town and city centres or large shopping centres, and they stand out for their large display areas that are conceived as areas with no obstacles, minimalist to look at yet welcoming with no decorations that could distract the clients' attention from the products, all combining to make the collections the centre of attention in the store. For the new Zara store in Oslo, the flooring contractor contacted Mapei Technical Services for advice on specific systems to install the 90x45 cm ceramic tiles on the four display floors (around 3,500 m^2 in total) which are subjected to intense foot traffic all year round.
ELASTORAPID two-component, quick-setting, cementitious adhesive with no vertical slip and extended open time was selected to bond the tiles. Tile joints were grouted with ULTRACOLOR PLUS anti-efflorescence, quick-setting and drying polymer-modified mortar. The tiles for the metal stairs were bonded with KERALASTIC T two-component, polyurethane adhesive with no vertical slip, particularly suitable for bonding coverings on vertical substrates.

Technical Data
Year of Construction: 2013
Year of the Intervention: 2013
Client: Zara
Contractor: Kotablue
Laying Company: Kotablue
Mapei Distributor: Norfloor
Mapei Co-ordinators: Alf Ruud and Odd M. Storbraten, Mapei AS (Norway)

Mapei Products
Elastorapid, Keralastic T, Ultracolor Plus

As Cancelas Shopping Centre
Santiago de Compostela (Spain)

The new As Cancelas shopping centre in Santiago de Compostela, which covers an area of 50,800 m² distributed over three separate floors, as well as several floors below ground level for underground parking, is one of the most modern shopping centres in Spain. Construction of the complex required an investment of 130 million Euros and has created 5,700 new jobs. It includes a Carrefour hypermarket, numerous prestigious shops and boutiques, various restaurants and bars and 2150 parking spaces.

Mapei was involved in the installation of various types of natural stone floor and wall coverings extending over a total area of 13,100 m² in areas subjected to intense pedestrian traffic.

The product chosen to bond the internal and external stone wall and floor coverings was ELASTORAPID two-component, high-performance, highly flexible, quick-setting and quick hydration cementitious adhesive with extended open time and no vertical slip, in its white shade. The adhesive was applied and the flooring was ready for foot traffic after just two hours.

ULTRACOLOR PLUS high-performance, anti-efflorescence, fast-setting and drying polymer-modified mortar with water-repellent DropEffect® and anti-mould BioBlock® technology was used to grout the joints of the marble and granite slabs.

Technical Data

Year of Construction: 2012
Year of the Intervention: 2012
Design: Chapman Taylos España
Works Direction: Grupo Tau Coruña
Contractor: Sacyr
Laying Company: Inbobe
Mapei Co-ordinator: Carlos Rodríguez Pombo, Ibermapei (Spain)

Mapei Products

Elastorapid, Ultracolor Plus

Hollywood Casino
Maryland Heights (Missouri, USA)

Throughout 2013 and into the first quarter of 2014, the Harrah's Casino in Maryland Heights (Missouri, USA) was remodeled with the "Hollywood" brand by using 1930's art deco décor. The casino was completely renovated with more than 70 table games and 2,100 slots and video poker machines. The famous Charlie Gitto's restaurant is still there, but menus have been changed, and two new restaurants are open.
In the casino's interior, Mapei products were used to install stone floors over patterned stamped concrete in several areas. Challenges overcome included flattening thickness variances on the floors while the casino continued operating.
The existing stamped patterned concrete was bead-blasted, which exposed cracking that was treated with MAPEGUARD 2 crack-isolation and soundproofing membrane and SM PRIMER water-based primer. PRIMER T all-purpose primer and ULTRAPLAN EASY self-leveling underlayment were used to level any existing depressions. MAPECEM QUICKPATCH concrete patch was used near the elevators and in other areas where there were changes in thickness to make a gradual transition. Areas along the pathways and some floor substrates in the restaurants were treated with ECO PRIM GRIP bonding promoter and primer to prepare the substrate to receive ceramic tile covering. In the concourse, on the pathways, in the restaurants and public restrooms for the installation of a medallion-shaped pattern on the rotunda floors, the adhesives ULTRACONTACT and ULTRACONTACT RS were used to bond a wide variety of tiles on walls and floors. MAPELASTIC AQUADEFENSE ready-to-use, flexible liquid membrane was used to waterproof substrates in the public restrooms in the casino and in the employee restrooms. Ceramic tiles were laid on the walls of these areas with ULTRAFLEX 2 and on the floors with ULTRACONTACT.
Except for ECO PRIM GRIP and MAPELASTIC AQUADEFENSE, all the products used in this project are only manufactured and distributed on the US market by Mapei Corporation.

Technical Data

Period of Construction: 1990's
Original Design: Steelman Partners
Period of the Intervention: 2013-2014
Design: Yeager Architecture, Inc.
Client: Penn National Gaming, Inc.
Works Direction: Troy Harris, LEED AP (Turner)
Contractor: Turner Construction Company
Laying Company: Tony Prince Company
Mapei Distributor: Daltile St. Louis
Mapei Co-ordinator: Bob Dienstbach, Mapei Corp. (USA)

Mapei Products

Eco Prim Grip, Mapeguard 2*, Mapecem Quickpatch*, Mapelastic AquaDefense, SM Primer*, Primer T*, Topcem Premix*, Ultracontact*, Ultracontact RS*, Ultraflex 2*, Ultraplan Easy*
*These products are only manufactured and distributed on the US market by Mapei Corporation.

ELSTIC SEALANTS AND ADHESIVES

A wide range of sealants to satisfy any technical and application requirement of craftsmen and professional users through a complete line of one- and two-component acrylic, silicone, polyurethane, epoxy- polyurethane and hybrid products.

Chu Lai International Airport
Chu Lai (Vietnam)

Chu Lai airport was once a military airport operated by The United States Marine Corps between 1965 and 1970. Abandoned after the end of Vietnam War, it was reopened commercially in April 2005. It covers an area of 2,300 hectars and strategically links the two main industrial zones of Central Vietnam. The Civil Aviation Administration of Vietnam decided to invest about 8.1 billion dollars in upgrading the airport. Once upgraded, it will have two parallel runways, a passenger terminal capable of handling 2.3 million passengers per year and a cargo terminal with a capacity of 1.5 million tons per year. The project is expected to be completed in 2025. Concrete repair works at the airport's parking area no.1 and existing runways have already been carried out by using Mapei innovative systems.

In the first phase of the repair works, the surface of the damaged existing concrete slabs was removed up to 5 cm in depth, before applying a mixture of gravels and MAPEFIL SP high-flow shrinkage-compensated cementitious grout, which is distributed on the Vietnamese market by Mapei Vietnam. To protect fresh concrete slabs from rapid water evaporation caused by wind or sunlight and reduce surface cracking, MAPECURE E anti-evaporation agent in water emulsion was sprayed on the concrete surfaces. Flexible joints among new concrete slabs were sealed with MAPEFLEX PU50 SL paintable, castable polyurethane sealant. To regulate the depth of MAPEFLEX PU50 SL, MAPEFOAM closed-cell expanded polyurethane flexible cord was inserted beforehand in the joints.

For the second phase of the repair works, MAPEGROUT SV quick-setting and hardening, compensated-shrinkage hi-flow mortar was used for cracks and damages along the flexible joints and on the existing concrete slabs. The damaged flexible joints were treated mechanically and then sealed with MAPEFLEX PU50 SL combined with MAPEFOAM. MAPEFLEX PU50SL was also used to seal cracks on the surfaces.

Technical Data

Period of Construction: 2013-2025
Year of the Intervention: 2013
Client: Airports Corporation of Vietnam
Design: Airports Corporation of Vietnam
Contractor: Nam Viet Construction and Investment Development Company
Building Company: Nam Viet Construction and Investment Development Company
Mapei Co-ordinator: Tong Phan Long, Mapei Vietnam

Mapei Products

Mapecure E, Mapefill SP*, Mapeflex PU50 SL, Mapefoam, Mapegrout SV

*This product is manufactured and distributed on the Vietnamese market by Mapei Vietnam

Nagyerdei Football Stadium
Debrecen (Hungary)

The Nagyerdei Football Stadium was inaugurated in 2013 in Debrecen after the existing stadium was demolished and a brand-new facility was built. The structure can now host over 20.000 fans. IDROPRIMER primer for bituminous membranes was used on 20,000 m² substrates before waterproofing with PLANA P plastomeric membrane. MAPEGROUT 430 fine-grained, fibre-reinforced, thixotropic mortar was used for repairing reinforced concrete elements. MAPEFINISH two-component cementitious mortar was then used to finish the concrete surfaces. In the entrance area, 17,000 m² of wear-resistant smoothed concrete floors were built using MAPETOP N pre-blended, ready-to-use industrial hardener for concrete floors. The product, which is the counterpart of MAPETOP N AR6, is distributed on the Hungarian market by Mapei Kft. In the kitchens, MAPEFLOOR SYSTEM 31 ensured the creation of a highly non-slip surface on industrial floors which is also resistant to chemicals, by using PRIMER SN and MAPEFLOOR I 301 SL. In both areas, the joints were filled using MAPEFLEX PU45 one-component, thixotropic, polyurethane sealant. Mapei products were also used for laying ceramics and stone materials. In the bathrooms, restrooms, and locker rooms PRIMER G was applied on the substrates; ULTRAPLAN ECO 20 ultra-fast hardening self-levelling smoothing compound (which is distributed on the Hungarian market by Mapei Kft.) was used to level the surfaces. Waterproofing was carried out with MAPELASTIC two-component flexible cementitious mortar and MAPEBAND rubber tape. ADESILEX P9 adhesive was used for bonding ceramic tiles in these areas, while the joints were grouted with KERACOLOR FF FLEX water-repellent, cementitious grout, which is distributed on the Hungarian market by Mapei Kft. MAPESIL AC one-component mildew resistant acetic cross-linking silicone sealant was used to seal expansion joints in matching color shades. In the corridors, after preparing the substrates in a similar way, KERAFLEX MAXI S1 was used for bonding ceramic tiles before grouting the joints with KERACOLOR FF FLEX and sealing the expansion joints with MAPESIL AC.

Technical Data

Period of Construction: 2013-2014
Period of the Intervention: 2013-2014
Project Design: Bord Épìtész Studio
Contractor: Hunep Zrt. & Épker Service Zrt.
Waterproofing Company: Aqua-Stop Kft.
Laying Companies: Jova Kft. and Krismerker Kft (for cementitious floorings); Fülöp és Fia Bt. (for ceramic floorings)
Mapei Distributor: GSV Kft.
Mapei Co-ordinator: Szénás Krisztián, Mapei Kft. (Hungary)

Mapei Products

Adesilex P9, Keracolor FF Flex*, Keraflex S1*, Mapefinish, Mapeflex PU 45, Mapefloor System 31, Mapegrout 430, Mapelastic, Mapesil AC, Mapetop N*, Plana P**, Primer G, Ultracolor Plus, Ultraplan Eco 20*

* These products are distributed on the Hungarian market by Mapei Kft
** Products manufactured by Polyglass, Mapei Group

Piazza Gino Valle
Milan (Italy)

The Portello district was once home to the main production hub for Alfa Romeo car manufacturer. Since 2001 work has been ongoing to construct a new district covering an area of 260,000 m^2. The man in charge of the urban development and reconversion plan for this former industrial area and the development of business, commercial and residential buildings and footpaths was the Italian architect Gino Valle. The architects Cino Zucchi and Guido Canali also worked on the development plan for the industrial area and designed, respectively, several residential buildings completed in 2007 and an office complex incorporating the original façade of the Alfa Romeo canteen, and six towers. The new square, named in honour of Gino Valle, has three glass-fronted parallelepiped buildings around it designed by the Studio Valle design studio. Behind the square there is also the new headquarters of A.C. Milan football club, designed by Fabio Novembre and including a red and black glass wall. This is a pedestrian only, raised square with a slight slope of 5%. At the entrance to the square there is also an imposing bas-relief in cement by the Italian artist Emilio Isgrò entitled "The Great Cancellation for Giovanni Testori".
Slabs of grey stone were used to pave the area, inlaid with a pattern of white marble slabs to form a series of decorative rhombi. After bonding the slabs on the concrete floor slab reinforced with electro-welded mesh, the joints were grouted with MAPESTONE PFS 2 pre-blended mortar for architectonic stone floors. The expansion joints were sealed using MAPEFLEX PU 45 one-component, thixotropic, rapid-hardening polyurethane sealant and adhesive with a high modulus of elasticity.

Technical Data
Period of Construction: 2013-2014
Year of the Intervention: 2014
Project: Studio Valle Architetti Associati
Client: Milan City Council
Works Direction: Falcetti
Laying Company: CGG Costruzioni Generali Gilardi
Mapei Co-ordinator: Antonio Salomone, Mapei SpA (Italy)

Mapei Products
Mapeflex PU45, Mapestone PFS 2

PRODUCTS FOR RESILIENT AND TEXTILE MATERIALS

Mapei offers a wide range of adhesives, admixtures, binders and pre-blended mortars for screeds, primers, insulating materials, consolidating agents, moisture barriers, skimming compounds and accessory products for installing durable resilient and textile floor and wall coverings.

Driver Indoor Park
Como (Italy)

Inaugurated in March 2014, the Driver Indoor Park in Como is a covered theme park dedicated to the world of motor sports extending over an area of 8,000 m^2. Apart from a go-kart track, there is an authentic F1 car - the Jordan driven by Barrichello in 1994 – that has been turned into a simulator. There is also entertainment for younger visitors and a number of restaurants and bars.

Resilient floor coverings by Virag Srl have been installed in numerous areas of the park using the most technically-advanced bonding systems by Mapei, with full respect for man and the environment.

In the children's play area, the surfaces were initially treated with ECO PRIM T solvent-free acrylic primer with a very low emission level of volatile organic compounds (VOC), and then smoothed over with ULTRAPLAN ECO self-levelling, ultra-fast hardening smoothing compound, with a very low emission level of VOC.

ADESILEX G20 two-component, low viscosity epoxy-polyurethane adhesive was used to bond the PVC floor coverings.

The same procedure was used for the changing rooms, with non-slip PVC floor covering bonded with ULTRABOND ECO V4 SP all-purpose adhesive in water dispersion with very low emission level of VOC and extended open time for resilient floorings.

ULTRABOND ECO V4 SP was also used to bond the Virag LVT Evolution flooring in the entrance areas and in the bars and restaurants, and again to bond the Matè vinyl flooring by Virag for the area around the F1 simulator and in various public areas.

Technical Data

Year of the Intervention: 2013
Laying Company: Pavisistem
Mapei Distributor: Virag Srl
Mapei Coordinators: Angelo Nobili and Davide Ottolini, Mapei SpA (Italy)

Mapei Products

Adesilex G20, Eco Prim T, Ultrabond Eco V4 SP, Ultraplan Eco

Technical Data
Year of Construction: 1973
Period of the Intervention: March 2011-December 2012
Project Design: Héctor Viglieca
Contractor: Consórcio Arena Multiuso Castelão (Galvão Engenharia S.A.; Serveng Civilsan S.A.; BWA Tecnologia LTDA.)
Laid Materials: rubber floors by Nora
Laying Company: Baueco
Mapei Co-ordinator: Nathaniel Woodhead, Mapei Brasil

Mapei Products
Eco Prim T, Mapecontact, Ultraplan Eco, Ultrabond Eco V4 SP Fiber

Castelão Stadium
Fortaleza (Brazil)

The Éstadio Governador Plácido Castelo stadium in Fortaleza was chosen as one of the 12 host stadiums for the FIFA 2014 World Cup and the 2013 Confederations Cup. The facility, also known as "Castelão" or "Gigante da Boa Vista", was officially inaugurated in 1973 and can host 67,037 people. In order to prepare for the World Cup events, the stadium underwent a relevant renovation intervention.
The works lasted from 31 March, 2011 till December 2012, when the facility was again opened to the public. The reconstruction project involved the addition of a larger roof, the construction of an underground car park with 4,200 parking spaces, and a new lower tier. On over 16,000 m^2 of floorings in several areas (changing rooms and service areas) Mapei products were used to repair and levelling the substrates, as well as for bonding new rubber floorings by Nora. ECO PRIM T solvent-free acrylic primer with a very low emission level of volatile organic compounds (VOC) was used to treat the substrates, which were then levelled with ULTRAPLAN ECO self-levelling, ultra quick-hardening smoothing compound, with a very low emission level of VOC. The Nora rubber covering was bonded with ULTRABOND ECO V4 SP FIBER multi-purpose, acrylic adhesive in water dispersion with extended open time, improved by adding fibres. MAPECONTACT reinforced adhesive strip was used for laying profiles, baseboards, covings and resilient and textile coverings on steps and on all the areas where bonding had to be immediate. Thanks to Mapei's fast installation system, the flooring contractor was able to complete this large project ahead of schedule and, consequently, this was one of the first stadiums to be ready for the Confederations Cup in 2013.

Skanska and Nordea Headquarters
Stockholm (Sweden)

Skanska is a world leading project development and construction group and Nordea is a financial services group in the Nordic and Baltic region. The two groups are now sharing brand-new headquarters in Stockholm hosted by the Entré Lindhagen building. This is a very low-energy consumption office building with an expected delivered energy of 49 kWh/m^2. It was designed to be one of the most eco-sustainable office complexes in the Northern European countries, ensuring an ideal indoor climate and high functionality for the users. The Entré Lindhagen building lies in Stockholm downtown and has 57,500 m^2 of rentable floor area, with 9 levels devoted to offices and a common basement floor including a 3-storey parking area. Skanska leases half of the building and Nordea Bank leases the other half.

The building was completed in January 2014. Construction works included laying textile and resilient floors in several areas. About 13000 m^2 textile floors were bonded with AQUACOL T, solvent-free, ultra quick-setting synthetic polymer adhesive in water dispersion with a very low emission level of volatile organic compounds (VOC), ideal for bonding textile flooring and linoleum.

Around 15000 m^2 vinyl floors were laid with ULTRABOND ECO 375, adhesive in water dispersion with a strong and quick initial bond, long open time, ideal for vinyl floors. Rubber floorings by Nora was bonded on over 5000 m^2 with ULTRABOND ECO V4 SP FIBER, a multi-purpose, acrylic adhesive in water dispersion with extended open time and a very low emission level of VOC, improved by adding fibres, particularly suitable for laying rubber and PVC flooring.

The use of Mapei innovative adhesives ensured a perfect installation, able to meet the client's expectations in terms of eco-sustainability.

Technical Data

Period of Construction: April 2013-January 2014
Period of the Intervention: 2013-2014
Clients: Skanska, Nordea
Contractor: Skanska
Design: Strategisk Arkitektur
Laying Company: Metodgolv
Mapei Co-ordinator: Stefan Blücher, Mapei AB (Sweden)

Mapei Products

Aquacol T, Ultrabond Eco 375, Ultrabond Eco V4 SP Fiber

PRODUCTS FOR SPORT FACILITIES

Products for major and small sports facilities, from city tennis courts to Olympic athletic tracks. The Company is committed not only to developing cutting-edge products and systems, but also evaluating the characteristics of synthetic grass-adhesive systems. Mapei also offers innovative soil-stabilisation solutions for sub-bases for synthetic grass pitches.

Cesare and Achille Bortolotti Sports Centre
Zingonia (Italy)

On the 8th of October last year, the Cesare and Achille Bortolotti sports centre in Zingonia (Italy) inaugurated its new pitch made from recycled rubber tyres, which will be used by the Atalanta youth football team.
Thanks to its partnership with Ecopneus, the only non-profit organisation dealing with recycled tyres in Italy, Atalanta has become the first Serie A football club with a synthetic grass pitch incorporating rubber from recycled tyres, offering the highest performance characteristics using the most modern technology available.
The granules of rubber from recycled tyres were used as a infill material for the Atalanta's new synthetic pitch. The function of the filler granules is to absorb impact shock and control vertical deformation of the surface so that the ball bounces and rolls correctly.
MAPESOIL 100 was used to prepare the sub-base and lay the turf, a high-performance, fibre-reinforced powdered stabilising agent for sports sub-base construction surfaces.
MAPESOIL 100 contains specially selected pozzolanic-action minerals (not derived from the use of cement) with high binding properties (> 22% in weight), which considerably increase the durability of the sub-base and its resistance to leaching after treatment.
ULTRABOND TURF PU 2K was used to bond the jointing strips between the grass sheets, a special solvent- and water-free two-component polyurethane adhesive.

Technical Data
Year of the Intervention: 2014
Client: Atalanta Bergamasca Calcio SpA
Design: Angelo Cavanna
Works Direction: Angelo Cavanna
Contractor: Del Bono SpA
Synthetic Grass Laying Company: Inverardi Lavorazioni Agricole & Moviter CT Srl
Mapei Co-ordinators: Elisa Portigliatti and Marco Cattuzzo, Mapei SpA (Italy)

Mapei Products
Mapesoil 100, Ultrabond Turf PU 2K

Bottagisio Sports Centre
Chievo (Italy)

The brand new Bottagisio sports centre, commissioned by the Chievo Verona football club, is used by Chievo Verona football team for training. It has four pitches made from the latest generation of synthetic turf: two full-size pitches and two for 7-a-side matches. The service building is also particularly attractive and has numerous changing rooms, coaching rooms and all the other services you would expect to find in a modern sports centre.
The MAPESOIL system was employed in this case, an innovative soil-stabilisation solution for sub-bases for synthetic grass.
MAPESOIL 100 is a fibre-reinforced stabilising agent in powder form made from hydraulic components which is used to stabilise soil and raw or recycled aggregates, allowing playing surfaces to be created with a good horizontal drainage system.
ULTRABOND TURF PU 2K was used to bond the jointing strips between the grass sheets, a special solvent- and water-free two-component polyurethane adhesive.
ULTRABOND TURF 2K, used in combination with MAPESOIL 100 for the sub-base allows to build pitches in compliance with FIFA regulations.

Technical Data

Year of the Intervention: 2014
Client: A.C. Chievo Verona
Design: Marcello Ottolini
Works Direction: Marcello Ottolini
Contractor Italgreen SpA
Synthetic Grass Laying Company: Gli Specialisti del Verde Srl
Mapei Co-ordinators: Elisa Portigliatti and Marco Cattuzzo, Mapei SpA (Italy)

Mapei Products

Mapesoil 100, Ultrabond Turf PU 2K

Mapei Stadium
Reggio Emilia (Italy)

After more than two decades of intensive use, during the 2013-2014 football season the Mapei Stadium pitch highlighted issues related to the grass coverage due to the excessive wear, caused mainly by the loss of effectiveness of the deep drainage system of the field.
In fact, the playing field was no longer able to dispose of storm water during heavy rains and needed a preventive protection with tarpaulins. Moreover, when precipitation occurred during the match, the excess of water on the grass surface could compromise the functionality of the pitch.
During summer of 2014, a new pitch with high drainage capacity thanks to MAPESOIL, an innovative system for the sub-base of the pitch, able to renovate the deep drainage of the old natural or hybrid grass fields.
The great innovation of the stratigraphy realized for the sub-base of the Mapei Stadium's pitch is the absence of drainage pipes distributed in the field: in fact all the water of the field is collected by a drainage system (built within only 8 cm thick screed with the high performance hydraulic binder MAPESOIL VD) and then sent to the sides by the slope.
This technical solution provides several advantages. The drainage of the field made with MAPESOIL VD significantly reduces the total thickness of excavation: the removal of the old system field only involves 35 cm of thickness. The drainage of the new surface also allows to store and reuse the water sent to the sides of the field by exploiting the existence of a water channel along the perimeter. MAPESOIL technology, facilitating the flow of water, allows more accurate control of the moisture content of the substrate and hence improves the living conditions of the grass, at the same time reducing the maintenance costs.

Technical Data
Period of the Intervention: June - August 2014
Client: Mapei Stadium Srl
Works Direction: Beltrami Studio, Studio Tecnico Castelli sas
Contractors: excavation works, supplying and laying the hybrid grass surfaces, installing the heating system: Mixto Srl; building the sub-base with Mapesoil: Sama Srl; laying grass surfaces on the sides: Limonta Sport SpA
Mapei Co-ordinators: Angelo Nobili, Elisa Portigliatti, and Marco Cattuzzo, Mapei SpA (Italy)

Mapei Products
Mapesoil 50, Mapesoil VD, Chronos VF202, Ultrabond Turf PU 2K, DMA 1000, Planitop Smooth & Repair, Mapecoat I24, Triblock P

Vaga Products
Sabbia naturale (Natural Sand) 0.1-2 mm, Ghiaietto (Fine Gravel) 6-10 mm, Risetta (Fine Gravel) 1.5-3 mm, Ghiaia (Gravel) 10-20 mm, Calcestruzzo Strutturale (Structural Concrete) Rck 37

La Martella Sporting Club
Matera (Italy)

Technical Data
Period of the Intervention: 2014
Client: Sporting Club Matera
Design: Nicola Montemurro
Works Direction: Nicola Montemurro
Contractor: CO.PRO.IM Sport Srl
Laying Company: EMMEPI Sport Srl
Mapei Co-ordinators: Michelangelo Occhiogrosso, Francesco Dragone, Giuseppe La Neve, Mapei SpA (Italy)

Mapei Products
Mapecoat TNS Grey Base Coat, Mapecoat TNS Finish 3, Mapecoat TNS Line, Mapecoat TNS White Base Coat

The passion for tennis has become a profession: this is the story of the Fossanova brothers Fabio and Daniele, tennis coaches with a long experience of tennis in the Apulia region in Southern Italy who decided to set out on this fascinating adventure. They bought Matera's historical "La Martella" district sporting club and turned it into a tennis club.
The club has three tennis courts; two are covered courts while the third one, with a multipurpose synthetic grass surface, was transformed using MAPECOAT TNS CUSHION. This product is used to create relatively flexible playing surfaces with excellent playing comfort and performance characteristics for players such as the bounce of the ball, safety, sudden changes in direction and an excellent balance between stability and sliding. The first step was to remove the old synthetic grass. A 2-3 cm mat of fine bitumen asphalt was then hot-installed and finished by hand to guarantee perfect planarity. The surface of the substrate was prepared by applying MAPECOAT TNS GREY BASE COAT, a medium-elasticity coating product, made from a balanced mix of acrylic resins in water dispersion, granules of SBR (Styrene-Butadiene Rubber) and selected fillers. This system was used on the surfaces before applying the coloured finishing coats of MAPECOAT TNS FINISH 3 (classified in ITF3 COD. 15-COD.20), an elastic coating paste used to finish off multi-purpose playing surfaces made from acrylic resins in water dispersion and selected fillers, available in 23 different colours from the colour chart or in sample colours upon request.
Work was completed by marking out the lines of the court using MAPECOAT TNS LINE acrylic resin-based paint in water dispersion.

Isla Sports Centre
Tres Cantos (Spain)

The Isla Sports Centre in the town of Tres Cantos, around 22 km to the north of Madrid, has a large outdoor court which is used for various sports such as football, basketball and volleyball. The playing surface was recently renovated using the MAPECOAT TNS CUSHION system.
The substrate, a layer of rubber around 2.5 mm thick, was badly damaged due to intense use over the years. MAPECOAT TNS WHITE BASE COAT semi-flexible acrylic resin basecoat and filling paste in water dispersion was applied to bring the substrate up to standard.
Once the surface had dried, a coat of MAPECOAT TNS GREY BASE COAT was applied, another type of semi-flexible, acrylic resin-based basecoat, but with a coarser grain size than MAPECOAT TNS WHITE BASE COAT, in order to create a thicker substrate.
After preparing the surface as specified, a coat of MAPECOAT TNS FINISH 1 coloured acrylic resin-based coating product in water dispersion with selected fillers was applied, the ideal product for indoor and outdoor tennis courts and multi-purpose playing surfaces. Red MAPECOAT TNS COLOR was chosen for this particular project.
For finishing the surface, MAPECOAT TNS COLOR fine-grained coloured coating was chosen. This product is made from acrylic resin in water dispersion and micro-granular quartz sand. It is ideal for maintenance work on indoor and outdoor tennis courts, multi-purpose playing surfaces, cycle tracks and footpaths.

Technical Data
Year of the Intervention: 2013
Client: Ayuntamiento de Tres Cantos
Contractor: Ayuntamiento Tres Cantos
Laying Company: Two Lines Sport
Mapei Co-ordinators: Eugenio Vigueiras and Pedro Pardo, Ibermapei (Spain)

Mapei Products
Mapecoat TNS Color, Mapecoat TNS Grey Base Coat, Mapecoat TNS Finish 1, Mapecoat TNS White Base Coat

Athens College
Athens (Greece)

The Hellenic-American Educational Foundation was founded in 1925 in the beautiful Athens suburb of Psychico by a group of high-class Greeks with the support of American philhellenes. It includes elementary, middle and upper school and classes are both in Greek and English language. The "Athens College", as it is commonly called, is considered to be one of the best private schools in Greece, with a fine reputation in Europe and the USA. The school boasts a long list of successful students in politics, business, and the arts. The school also offers education programs for grown-ups, with a yearly attendance of over 2.000 students. Approximately 98% of its graduates go on to university, half of them abroad. The mission of the Athens College is to provide the highest quality education according to international standards and to cultivate those habits necessary to become a responsible citizen of both Greece and the world. A great deal of education programs involves sport activities. The school has a swimming pool, soccer, basket ball, tennis and badmington fields as well as racing tracks around the soccer field.

In April 2014, the school's three outdoor basketball fields and two badmington fields were renovated using the MAPECOAT TNS PROFESSIONAL system. The existing coatings were first removed so that the cementitious substrate became visible which was then treated with MAPECOAT I 600 W two-component transparent epoxy primer in water dispersion. Thereupon MAPECOAT TNS WHITE BASE COAT two-component transparent epoxy primer in water dispersion was applied using a rubber trowel. Two coats of MAPECOAT TNS FINISH coloured acrylic resin-based coating product in water dispersion were then applied, in red or green color shade.

All field lines were created using MAPECOAT TNS LINE acrylic resin-based paint in water dispersion for marking out indoor and outdoor sports courts and pitches.

Technical Data

Year of Construction: 1925
Year of the Intervention: 2014
Design: American College Technical Department
Client: Hellenic-American Educational Foundation
Contractor: American College Technical Department
Laying Company: Ergosport
Mapei Distributor: Domiko Dikto
Mapei Co-ordinators: Ioannis Koropoulis, Alexandros Racovolios, Mapei Hellas (Greece)

Mapei Products

Mapecoat I 600 W, Mapecoat TNS White Base Coat, Mapecoat TNS Finish, Mapecoat TNS Professional

Alojzije Stepinac Primary School
Zagreb (Croatia)

The Alojzije Stepinac Primary School in Zagreb is located in the Vrbani III district of the Croatian capital and is known as one of the most modern primary schools in Croatia. Designed by the architect Davor Mateković, it includes the school and a sports complex with outdoor fields and terraces for outdoor teaching.
Lately, the floors in the sports hall were renovated using innovative Mapei products for sport courts. The substrates were first carefully prepared for the following application of the MAPECOAT TNS MULTISPORT COMFORT system. MAPECOMFORT flexible rubber matting made from granules of recycled rubber was then bonded on the surfaces with ADESILEX G19 two-component epoxy-polyurethane one-buttering adhesive, ideal for bonding resilient floors on internal and external absorbent and non-absorbent substrates.
MAPECOAT I 600 W two-component, shiny, transparent epoxy primer in water dispersion was then applied on the MAPECOMFORT rubber matting. MAPECOAT TNS GREY semi-flexible, acrylic resin-based basecoat and filling paste in water dispersion with selected fillers was then applied followed by a layer of MAPECOAT TNS FINISH coloured acrylic resin-based coating product in water dispersion with selected fillers. The finishing was carried out with MAPECOAT TNS PAINT coloured acrylic resin-based coating product in water dispersion with selected fillers for indoor and outdoor tennis courts and multi-purpose playing surfaces.

Technical Data
Year of Construction: 2013
Year of the Intervention: 2013
Design: Proarh Ltd., Zagreb, Davor Mateković. BSc in Architecture
Client: Tehnika Vrbani Ltd.
Contractor: Tehnika Plc.
Laying Company: Visio Ltd.

Mapei Co-ordinators: Nenad Karalija and Jozo Grgić, Mapei Croatia Ltd.

Mapei Products
Adesilex G19, Mapecoat I 600 W, Mapecomfort, Mapecoat TNS Finish, Mapecoat TNS Grey, Mapecoat TNS Paint

PRODUCTS FOR WOODEN FLOORINGS

To make work quicker and more simple for installers and guarantee the durability of wooden floors over the years: these are the objectives set by Mapei, proposing technologically-advanced products which are, at the same time, easy to use without undermining the increasingly important themes of the user's health and respect for the environment.

Hawthorn Arts Centre
Boroondara (Australia)

Since its opening in 1888, the Hawthorn Town Hall has been an iconic fixture of the city of Boroondara, near Melbourne, and a venue for civic and community functions. In 2009, redevelopment works began turning the Hawthorn Town into an arts and cultural facility. Construction of the Hawthorn Arts Centre was completed in September 2013.

The foyer to the Main Hall has been completely renovated, with the space opened up to include the new café. Town Hall Gallery has been transformed into three new professional gallery spaces allowing for a broader exhibition calendar and educational program. Other key redevelopment features include new kitchens, amenities and meeting rooms; new arts studio and workshop spaces; new, expanded exhibition spaces; an annex building, etc. During the redevelopment works, over 2400 m^2 of wooden floors were installed throughout the Town Hall including the main and foyer areas. The substrates were first treated using NIVORAPID quick-drying, thixotropic, cementitious smoothing compound. Wooden floors were bonded with ULTRABOND P990 1K one-component, ready-to-use, solvent-free, flexible polyurethane adhesive. All installed wooden floors were then treated with ULTRACOAT PREMIUM BASE two-component, NMP (N-Methyl-pyrrolidone)-free, water-based undercoat and then finished with two coats of ULTRACOAT HIGH TRAFFIC two-component, 100% polyurethane water-based varnish.

In other areas textile and vynil floors were installed after repairing the concrete substrates with PRIMER G and ECO PRIM T and smoothing out any levelling differences with PLANIPREP FF, which is distributed on the Australian market by Mapei Australia. Textile floors were bonded with ULTRABOND ECO TACK.

ULTRABOND ECO 350 was instead used to install vinyl floors in the kitchen and corridor areas. ROLLCOLL was also applied to install vinyl coverings on the walls. MAPECONTACT was used to bond textile floors to many flights of stairs.

Technical Data

Period of Construction: 2009-2013
Year of the Intervention: 2013
Client: City of Boroondara
Contractor: APM Group
Design: Pebble Thorp Architects
Laying Companies: Floor 91 (for vynil and textile floors); D. Borthwick & Sons (for wooden floors)
Mapei Co-ordinator: Scott Coutts, Mapei Australia Pty Ltd

Mapei Products

Eco Prim T, Mapecontact, Nivorapid, Planiprep FF*, Primer G, Rollcoll, Ultrabond P990 1K, Ultrabond Eco 350, Ultrabond Eco Tack, Ultracoat High Traffic, Ultracoat Premium Base
*This product is distributed on the Australian marlket by Mapei Australia

Grand Hotel et de Milan
Milan (Italy)

The so-called "Albergo di Milano", now known as the Grand Hotel et de Milan, was inaugurated in 1863, and is the oldest hotel in Milan. The building is in an eclectic style and, towards the end of the 19th century, became particularly important because it was the only hotel in the city that offered a postal and telegraph service, making it a favourite haunt for diplomats and businessmen. Amongst the most illustrious guests that made the Grand Hotel et de Milan famous were Giuseppe Verdi, who chose to stay here from 1872, and who also died here on the 27th of January 1901. In the 1920's one of the most extraordinary guests was the painter Tamara de Lempicka. The beautiful Polish artist was a guest in Milan of the Italian writer Gabriele D'Annunzio. The coming and going of illustrious guests that have chosen the Grand Hotel et de Milan as their "home in Milan" over the years is celebrated by the suites that have been named in their honour.
And it is precisely suite 105, where Giuseppe Verdi passed away, and the one which is now dedicated to Tamara de Lempicka, as well as the restaurant, that have had their wooden flooring renovated. Mapei proposed an innovative fire-resistant system. After a roughing operation with sandpaper, the surfaces were grouted with ULTRACOAT BINDER solvent-free, water-based binder with no NMP (N-Methyl-pyrrolidone), which is mixed with sawdust from any type of wood. A coat of ULTRACOAT PREMIUM BASE was then applied, a two-component, water-based undercoat with high insulating capacity, specially developed to enhance the natural colour of wood without creating undesired colour variations in species rich in tannins or other extracts (oak, teak, etc.). The final finishing operation was carried out by applying ULTRACOAT HIGH TRAFFIC, a two-component, 100% polyurethane and water-based varnish containing no NMP for wooden floors, with a very low emission level of volatile organic compounds (certified EMICODE EC1 R) and high resistance to wear and abrasion.

Technical Data
Period of Construction: 19th century
Year of the Intervention: 2013
Laying Company: Angelo Cattaneo
Mapei Co-ordinator: Davide Zanotti, Mapei SpA (Italy)

Mapei Products
Ultracoat Binder, Ultracoat Premium Base, Ultracoat High Traffic

National Library
Riga (Latvia)

For Riga, the capital city of Latvia, 2014 was a very successful year: apart from joining the Eurozone it was also nominated European Capital of Culture along with the Swedish city of Umeå. This event was just the right occasion to inaugurate the true symbol of the "New Riga": the National Library.
Designed by the Lithuanian-American architect Gunnar Birkerts, the building of the Gaismas Pils, or Castle of Light, is characterised by its asymmetric surfaces with transparent glass inserts set in steel frames which reflect onto the River Daugava. The building's 13 floors can house around 4 million antique and modern books, newspapers, photographs and videos.
The construction company contacted Mapei Technical Services, who recommended a wide range of products. Products from the MAPEWRAP SYSTEM line were proposed to repair and strengthen the reinforced concrete structure, consisting of MAPEWRAP C UNI-AX unidirectional carbon fibre fabric, MAPEWRAP PRIMER 1 two-component epoxy primer, MAPEWRAP 11 epoxy putty and MAPEWRAP 31 adhesive.
Around 6,000 m^2 Canadian maple floorings were bonded with LIGNOBOND two-component solvent-free epoxy polyurethane adhesive. The wooden floor was then varnished with ULTRACOAT HIGH TRAFFIC two-component, 100% polyurethane water-based varnish with high resistance to wear and abrasion with low emission of volatile organic compounds (VOC) for wooden floors subject to very high foot traffic.

Technical Data

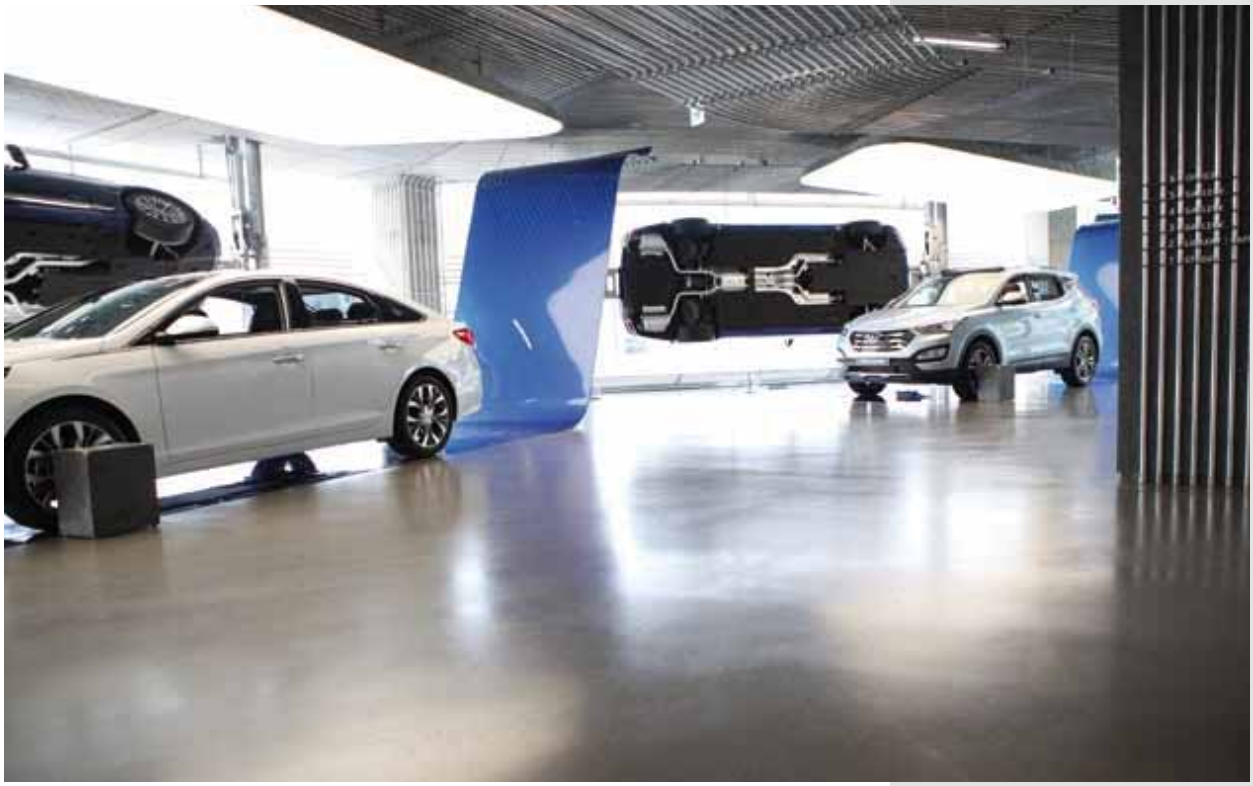
Period of Construction: 2008-2013
Period of the Intervention: 2008-2013
Client: Republic of Latvia Ministry of Culture
Design: Gunars Birkerts, Modris Ģelzis Architectural Firm, Mārcis Mežulis and Sandra Laganovska
Contractor: National Association of Construction (AS "Rbsskals", SIA "Re&Re" and SIA "Skonto Būve").
Laying Company: Projekts Ltd.
Mapei Distributor: Velve M.S. Tehnoloģijas Ltd.
Mapei Coordinators: Marco Albelice and Derk Borneman, Mapei SpA (Italy)

Mapei Products

Adesilex P9, Adesilex PG1, Adesilex PG4, Carboplate E170, Colorite Beton, Dynamon SX-N, Lignobond, Mapeband, Mapecrete, Mapecure SRA, Mapefill, Mapeflex PU30, Mapeflex PU45, Mapegrout T40, Mapegrout T60, Mapelastic Smart, Mapetex Sel, MapeWrap 11, MapeWrap 31, MapeWrap C UNI-AX, MapeWrap Primer 1, Mapeband TPE, Planicrete, Primer G, Primer KL, Topcem Pronto, Ultracoat High Traffic, Ultracolor Plus

PRODUCTS FOR CEMENTI-TIOUS AND RESIN FLOORINGS

Mapei developed systems for epoxy, polyurethane and cementitious flooring which allow users to match floors to their real use. A designer may choose an attractive finish without neglecting technical aspects, flatness and easy cleaning.



Hyundai Motor Showroom
Seoul (Korea)

Hyundai is a global leading car-manufacturer which continuously expands its brand and sales power all over the world. In May 2014 the Hyundai Group opened a brand-new car showroom in a district of Seoul which has a long tradition of luxurious imported car display areas. Since its official opening, it has been attracting about 400-450 people a day. The showroom was born out of Hyundai Group's plan to create a special venue where customers can not only purchase cars, but also experience car-related culture, arts and communication.

Mapei Korea contributed to this project by providing high-quality products and on-site technical assistance. The company suggested the use of ULTRATOP flooring system which perfectly matched the project's philosophy aiming at a natural, luxurious and strong aesthetic effect.

The showroom include 6 storeys and each floor has difference purposes and concepts. On all storeys the ULTRATOP system was used to build the floors on a total surface area of 2500 m^2. The system encloses PRIMER SN two-component fillerized epoxy primer, ULTRATOP self-levelling, ultra-fast setting, self-levelling mortar in its grey shade, MAPEFLOOR FINISH 630 two-component, protective acrylic filming agent, and MAPELUX OPACA double-reticulating, high-strength matt metallic wax.

The system satisfied the Hyundai Group's requirements to obtain luxurious floors with a special aesthetic effect, able to match its brand image. At the same time, the client required high-durability, easy-to-clean and easy to-maintain floors with strong resistance to pedestrian traffic.

Technical Data

Period of Construction: 2013–2014
Period of the Intervention: April-May 2014
Client: Hyundai Group
Contractor: Hyundai Engineering & Construction
Design: SEO Architects
Interior Design: Daehye Architects
Laying Company: Floor Tech
Mapei Co-ordinator: Kijun Sung, Mapei Korea Ltd.

Mapei Products

Mapelux Opaca, Mapefloor Finish 630, Primer SN, Ultratop, Quartz 1.2

Nike Stores
Madrid and Barcelona (Spain)

For the joy of all sports lovers, Nike has just opened a new store in Barcelona's Gran Vía 2 Shopping Centre. A further two stores in Madrid, on the other hand, have been completely renovated.
Mapei supplied products for the flooring in all three stores to help create seamless, high performance surfaces in full compliance with the design specifications and the requirements of shopping areas subject to high pedestrian traffic.
Grup Idea, the company in charge of the project, supervised the work to make sure it complied with the design specifications.
The substrates were prepared and levelled off using mechanical means to ensure the ULTRATOP coating was well anchored. The surface was then treated with PRIMER SN and broadcast with special QUARTZ 1.2 sand to guarantee the mechanical grip of the flooring system. The following day the entire surface was coated with a continuous flow of anthracite-coloured ULTRATOP. The expansion joints were sealed with MAPEFLEX PU 30 sealant. Special diamond-tipped polishing machines were then used to dry-polish the surface. Two coats of MAPECRETE STAIN PROTECTION anti-stain treatment was applied in two coats.
A similar intervention was carried out in Madrid. The first step was to mill the existing substrates which were then vacuumed thoroughly to remove all dust. The distribution joints were then formed and rebuilt to ensure the correct size and the repairs with resin. After the preparation of the substrates and joints, the ULTRATOP floor was laid.

Technical Data
Period of Construction: 2013-2014
Year of the Intervention: 2013
Project and Works Direction: Esther Catalan, Grup Idea
Laying Company: Prima Pavimenti Speciali
Mapei Co-ordinators: Pedro Pardo and Sergi Sánchez, Ibermapei (Spain)

Mapei Products
Mapecrete Stain Protection, Primer SN, Quartz 1.2, Mapeflex PU30, Utratop,

Fuzhou Thai Hot Plaza
Fuzhou (People's Republic of China)

Thai Hot Plaza was recently built in the heart of Fuzhou, the capital and one of the largest cities in Fujian province, South Eastern China. Named after developer's name (Thai Hot Group Co. Ltd), it is the city's most successful retail mall, also due to its central location and innovative design. 12-hour daytime retail activities are concentrated in a 7-level shopping mall which also offers full service dining and cinema.
Thai Hot Group Co. Ltd strictly selected all the materials adopted for the buildings. For the car park construction, the requirements were even higher because most of the customers come by car and the mall is supposed to receive thousands of visitors annually.
In the underground first floor and ramp, noise control was the prior concern. A Mapei epoxy flooring system was selected with features slip-resistance (non-slip rank>R10), noise-reducing properties, high abrasion-resistance, durability as well as easy workability and eco-sustainability of products. MAPEFLOOR I 900 two-component epoxy binder was applied on the substrates as a primer; MAPEFLOOR I 312 (N.B This product is distributed on the Chinese market by Mapei Construction Materials (Guangzhou) Co. Ltd) was used as middle/finishing coat.
On the underground second floor, it was necessary to prevent any moisture arising from below ground, causing detachment of the epoxy flooring from concrete.
Mapei proposed a waterproof water-based slip-resistant flooring system. Cracks were repaired on the concrete substrate and MAPECOAT I 600 W two-component transparent epoxy impregnator in water dispersion was applied as primer. MAPEFLOOR I 500 W two-component, vapour-permeable, epoxy formulate in water dispersion was laid thereupon as middle/finishing coat.

Technical Data
Period of Construction: 2011-2013
Period of the Intervention: December 2012-September 2013
Client: Thai Hot Group Co., Ltd
Design: UK Sparch Studio
Contractor: Fuzhou Long Qiang Construction Materials Co., Ltd
Laying Company: Fuzhou Long Qiang Construction Materials Co., Ltd
Mapei Distributor: Fuzhou Long Qiang Construction Materials Co., Ltd
Mapei Co-ordinator: Frank Qiu, Mapei Construction Materials (Guangzhou) Co., Ltd. (P.R.C)

Mapei Products
Additix PE, Mapecoat I 600 W, Mapefloor I 900, Mapefloor I 312*, Mapefloor I 500 W
*This product is distributed on the Chinese market by Mapei Construction Materials (Guangzhou) Co., Ltd.



Budapest Liszt Music Academy
Budapest (Hungary)

Technical Data
Year of Construction: 1875
Year of the Intervention: 2013
Design: Főterv Kft., Béla Pazár, Éva Magyari, Ferenc Potzner
Contractor: ZAK Építő Kft.
Project Manager: Balázs Memeshegyi
Laying Company: Palazzo Kft.
Mapei Co-ordinator: Orsolya Szabó, Mapei Kft. (Hungary)

Mapei Products
Mapefloor I 300 SL, Mapecolor Paste, Rete 320, Mapefloor I 914, Eporip, Poromap Intonaco, Poromap Rinzaffo, Poromap Finitura, Keracolor FF Flex*
*This product is manufactured and distributed on the Hungarian market by Mapei Kft.

The reconstruction of the Budapest Liszt Music Academy had a dual purpose: it was aimed, on the one hand, at the restoration of the original splendour of this 100-year old building. On the other hand, it aimed at the development of a modern equipment worthy of a 21th century educational building and cultural centre. The building's epoxy terrazzo floorings were restored using Mapei products.
The new flooring was laid down in all the storeys, from the basement to the fifth floor, in common areas, in the aulas, in the corridors, in the buffet area, in conference rooms and in two elevators, for a total surface of approximately 3,500 m^2. The aim was to design epoxy terrazzo flooring looking similar the original, matching the place's atmosphere. The replacement of the old flooring was due to its damaged state as well to fire safety, cleanability and acoustic reasons. The choice of the floor and its colour took into account the surrounding colors and matches the shade of both the natural stone slabs on the stairs and the ceramic tiles on the walls. Accordingly, MAPECOLOR PASTE color system was used in red, green and black shades. MAPEFLOOR I 300 SL two-component neutral-coloured epoxy formulate was chosen as floor coating and was filled with different types and pieces of natural stone chippings. The stone mix embedded into the epoxy binder had to look like authentic cementitious terrazzo. The surfaces were then carefully polished. The flooring was laid on new screeds in most areas. However, 20% of the susbtrates were cracked or damaged reinforced concrete slabs, which were repaired and reinforced with MAPEFLOOR I 914 two-component epoxy primer, RETE 320 glass fibre mesh, and EPORIP two-component, solvent-free, epoxy adhesive.

Leonardo da Vinci National Museum of Science & Technology
Milan (Italy)

For a number of years the National Museum of Science & Technology in Milan has been setting up new exhibition areas and, as a result, has to update the rooms where they are held quite often. The most recent update was a complete renovation of the old flooring in the monumental pavilion in the new Space area (250 m^2) and the new i.Lab Leonardo interactive laboratory (150 m^2) on the first floor, along with the New Frontiers Gallery (500 m^2) on the ground floor. After carefully cleaning the substrate to be treated, the installation surface was primed with PRIMER SN two-component, fillerized epoxy filling primer and MAPENET 150 alkali-resistant glass fibre mesh was embedded into the primer. The surface was then broadcast with QUARTZ 0.5 to help the floor covering bond perfectly. After removing the excess sand and cleaning off all the dust with a vacuum cleaner, the surface was smoothed over using again PRIMER SN with a new broadcast of QUARTZ 0.5. The next step was to trowel-apply ULTRATOP LOFT F big-size, coarse-grained cementitious paste and ULTRATOP LOFT W fine-textured cementitious paste. These products are used to create floors with a pronounced materic, decorative effect which are resistant to abrasion and suitable for floors subjected to intense foot traffic. To reduce the absorption of the flooring, the floor coating was built with the two-component, polyurethane finishing compounds in water dispersion MAPEFLOOR FINISH 52 W and MAPEFLOOR FINISH 58 W.

Technical Data

Year of Construction: 16th century as for the main structure
Year of the Intervention: 2014
Client: National Museum of Science & Technology in Milan
Laying Company: Pavimenti Speciali
Mapei Co-ordinators: Giovanna Novella, Alberto Arosio, Massimo Seregni, Mapei SpA (Italy)

Mapei Products

Mapefloor Finish 52 W, Mapefloor Finish 58 W, Mapenet 150, Primer SN, Quartz 0.5, Ultratop Loft F, Ultratop Loft W

Versilia Hospital
Lido di Camaiore (Italy)

Technical Data
Year of the Intervention: 2014
Client: Estav Nord Ovest Toscana
Design: A. De Caprio
Works Direction: Libero Gazzotti
Laying Company: Prima Pavimenti Speciali Srl
Mapei Co-ordinators: Roberto Migliorini and Valerio Verdigi, Mapei SpA (Italy)

Mapei Products
Mapecoat I 600 W, Mapefloor I 500 W, Quartz 0.5, Mapeflex PU 45, Mapefloor Finish 58 W

The Versilia Hospital is a modern structure in Lido di Camaiore, Central Italy. It falls within the Ausl 12 Viareggio Health Authority district which covers numerous hospitals in the towns of Viareggio, Camaiore, Pietrasanta e Seravezza.
The employees' underground car-park with 600 parking spaces was renovated in 2014, to make it safer and more functional, by installing a slip-resistant floor with transpiration properties to overcome the problem of damp.
The solution adopted for the floor, installed by Prima Pavimenti Speciali Srl, was MAPEFLOOR SYSTEM, a solvent-free, multi-layered, matt epoxy system, vapour-permeable to water vapour with a slip-resistant finish, for industrial floors applied in layers with 3 mm thickness. This is a solvent-free, water-based system which is safe for the environment. It is highly durable and is characterised by its high resistance to wear and abrasion caused by constant use and frequent cleaning.
After the surfaces had been thoroughly cleaned and prepared according to specification, they were treated with MAPECOAT I 600 W two-component, transparent epoxy primer in water dispersion.
MAPEFLOOR I 500 W two-component, multi-purpose, vapour-permeable, neutral-coloured epoxy formulate in water dispersion was then applied in two coats; both coats were broadcast with QUARTZ 0.5 quartz sand.
The expansion and fraction joints were then sealed with MAPEFLEX PU 45 polyurethane sealant with a high modulus of elasticity for movements of up to 20%.
MAPEFLOOR FINISH 58 W was used to finish off the surfaces, the ideal product for MAPEFLOOR SYSTEM coating cycles, to improve the floor's resistance to wear and scratches and limit dirt pick-up, making routine cleaning and maintenance work much easier.

Imperial War Museum
London (UK)

The Imperial War Museum in London has recently undergone a major building redevelopment and transformation, to mark the Centenary of the First World War.
The project cost about 45 million Euros and transformed the museum by creating new First World War galleries in time for 2014.
The main atrium has been revamped as part of the project. The galleries are now 45% larger than the existing First World War areas, enabling the museum to display much more of its world renowned collection. Original objects, such as personal items, letters and diaries, are exhibited in new interactive, multimedia displays which explore the personal stories of those who lived, fought and died in the First World War. The museum has also opened Truth and Memor: the largest exhibition of British First World War art for almost 100 years.
During the renovation works, ULTRATOP mortar was specified to build cementitious floors complementing the exhibits and to give a low maintenance finish for the museum's internal floorings.
First the screeds were built with TOPCEM special hydraulic binder for fast drying (4 days) and controlled shrinkage screeds.
PRIMER SN two-component, fillerized epoxy primer was then used to treat the substrates. ULTRATOP ultra-fast setting self-levelling mortar based on special hydraulic binders was then applied to build abrasion-resistant floor coverings.

Technical Data

Year of Construction: 1917
Period of the Intervention: 2013-2014
Client: Imperial War Museum
Contractor: Lend Lease
Works Direction: Cliff Hook Polished Concrete Designs.
Laying Company: Lend Lease
Mapei Co-ordinator: Steven Price, Mapei UK

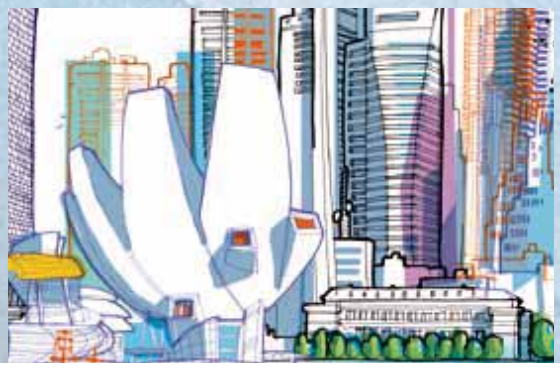
Mapei Products

Eporip, Mapecem, Mapeflex PU30, Mapegrout SV, Primer SN, Topcem, Ultratop Industrial*, Ultratop

*This product is manufactured and distributed on the British market by Mapei UK.

PRODUCTS FOR ACOUSTIC INSULATION

Mapei offers the most suitable soundproofing systems for floors made of ceramic, stone, wood, and other materials. They respect criteria determining the minimum level of soundproofing in buildings according to their final use.



Giax Tower
Milan (Italy)

Giax Tower is an example of a new building in a busy district of Milan, where the post-industrial areas have been slowly replaced by buildings of last generation. Comprising 106 apartments and 211 garages, Giax Tower has plant and service systems that exploit geothermal energy and has photovoltaic panels to reduce energy consumption.

To guarantee even higher standards of living comfort it was decided to apply the MAPESILENT soundproofing system against the noise of footsteps. After several site surveys, Mapei Technical Services suggest to lay MAPESILENT ROLL sheets over the screed. All the overlapping sheets were sealed with MAPESILENT TAPE adhesive sealing tape. MAPESILENT BAND R 50/160 was then applied around the perimeter of walls and around all the elements passing through the screed. To improve thermal insulation of the floor slabs, extruded polystyrene foam panels were applied over the MAPESILENT system. A floating screed was then built, made from TOPCEM normal-setting, quick-drying hydraulic binder. The screed was reinforced with an electro-welded steel mesh and once the screed was fully cured, the floor coverings were then installed.

For the porcelain tiles, the recommended adhesive was KERAFLEX MAXI S1 high-performance cementitious adhesive, while the tile joints were grouted with KERACOLOR FF. After preparing the substrate, wooden flooring was installed using ULTRABOND P902 2K adhesive. When work had been completed, an external inspection agency tested the system's excellent soundproofing capacity.

Technical Data

Period of Construction: 2011-2014
Period of the Intervention: 2012-2013
Project: De Architectura Srl, Stefania Beltrame & Sandra Gelmetti Architetti Ass.
Client: Milano 1 Srl
Works Direction: Nunzio Alessandro Castiglione, Emiliano Conti, Alberto Vintani
Building Site Director: Oscar Turri
Contractor: CMB Coop. Muratori e Braccianti Srl
Laying Companies: Emmezeta Snc, Ceramiche Frattini Srl
Mapei Co-ordinators: Massimiliano Nicastro and Antonino Munafò, Mapei SpA (Italy)

Mapei Products

Keracolor FF, Keraflex Maxi S1, Mapesilent Band R 50/160, Mapesilent Roll, Mapesilent Tape, Topcem, Ultrabond P902 2K

Porta Nuova
Milan (Italy)

The Porta Nuova project is an urban and architectonic development plan for the Isola, Varesine and Garibaldi areas of Milan. It created an integrated system of commercial, business and residential spaces interspersed with green parks. The design involved Pelli Clarke Pelli Architects, Kohn Pedersen Fox Architects and Stefano Boeri Architetti studios. The area of the project covers a total of 290,000 m^2. This urban redevelopment operation may be considered one of the largest sites in Europe, with a value of around 2 billion Euros. The new buildings are characterised by their height, with gardens and parks with footpaths and cycle tracks. The entire operation had to meet the severe requirements set by the US Green Building Council in order to obtain LEED certification for all the buildings in the area. Mapei contributed to the construction of the the Solea, Aria and Solaria Towers, the Vertical Wood, the UniCredit Tower and the Building E1/E2. At the UniCredit Tower, metal elements were anchored in the concrete with MAPEFILL fluid expansive mortar. MAPEGROUT T60 thixotropic mortar was recommended to restore and repair certain parts of the structure, while MAPELASTIC two-component cementitious mortar was used for waterproofing work. KERAFLEX adhesive was used to bond the ceramic tiles.

In the Vertical Wood building, ELASTORAPID and KERAFLEX MAXI S1 adhesives were chosen to bond marble slabs. MAPEGROUT FAST-SET shrinkage-compensated mortar was used in those areas where the concrete needed to be repaired.

In the E1/E2 building, the floor substrates of some corridors and stairs were treated with PRIMER SN followed by a dry-shake finish of QUARTZ 1.2. ULTRATOP mortar was then applied. Surfaces were thereafter protected with MAPEFLOOR FINISH 52 W. In other corridors and stairs the substrates were treated with PRIMER SN followed by a dry-shake finish of QUARTZ 0.5.

Work continued by coating the surface with MAPECOAT I 24 epoxy paint (mixed with MAPECOLOR PASTE) and with MAPEFLOOR FINISH 55.

Solea, Aria and Solaria Towers at Porta Nuova District
Milan (Italy)

These three towers in varying heights form a residential complex spread over a large area in the heart of the Varesine district, just a short walk from Piazza Gae Aulenti. Solaria, which with its height of 143 m and 37 storeys (34 above ground) makes it the tallest residential building in Italy, and Aria (17 storeys) were designed by the Arquitectonica design studio from Miami together with Caputo Partnership. Solea, the lowest building with 15 storeys and a height of 69 m, was designed by the Italian studio Caputo Partnership. For these towers, Mapei supplied DYNAMON SP1 super-plasticizer based on a modified acrylic polymer. The admixture was used to prepare the concrete for building the foundations and underground walls. Inside the apartments in the three towers, the client wanted good soundproofing against the noise caused by footsteps. Mapei proposed floating screeds soundproofed with the MAPESILENT system including MAPESILENT ROLL sheets, MAPESILENT TAPE closed-cell foam polyethylene adhesive sealing tape, and MAPESILENT BAND R 50/160 roll. A 5 cm thick self-bearing floating screed was made using TOPCEM PRONTO ready-to-use, normal-setting mortar. Wooden floors were also bonded with ULTRABOND P913 2K two-component adhesive and SILWOOD acrylic sealant was used to seal perimeter joints and floor joints. Natural stone slabs were installed on the floors and walls in the bathrooms using the adhesives KERALASTIC, KERALASTIC T and KERAFLEX MAXI S1.

Technical Data

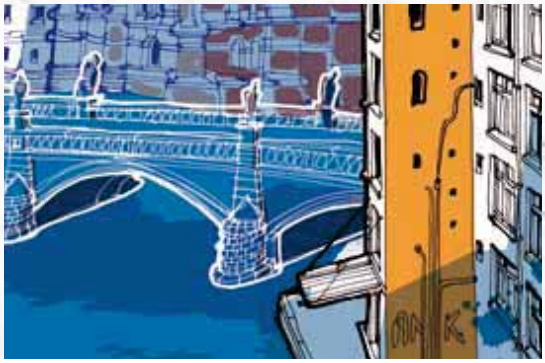
Period of Construction: 2010-2014
Period of the Intervention: 2012-2014
Designers: Bernardo Fort-Brescia and Laurinda Spear for Arquitectonica (Miami, USA) for the Solera and Aria towers; Paolo Caputo for Caputo Partnership (Milan) for the Solea tower
Client: Hines Italia SGR
Contractor: ATI CMB-Unieco
Building and Laying Companies: Emmezeta Snc for building the screeds; Impresa Edile Lamotta Srl for laying the wooden floors; Milgem for laying the marble slabs
Mapei Distributor for Concrete Admixtures: Holchim
Mapei Co-ordinators: Pietro Lattarulo, Antonino Munafò, Massimiliano Nicastro, Alessio Risso, Alessandro Sacchi, Massimo Seregni, Mapei SpA (Italy)

Mapei Products

Mapesilent Band R 50/160, Mapesilent Roll, Mapesilent Tape, Planitop Fast 330, Topcem Pronto, Silwood, Ultrabond P913 2K, Keraflex Maxi S1, Keralastic, Keralastic T, Planitop Fast 330

PRODUCTS FOR BUILDING

This is Mapei's most famous line, first introduced in 1937 and constantly enriched over the years with newer, more up-to-date systems. Products created specifically for repairing concrete structures, renovating buildings of historical interest, strengthening and consolidating structures, as well as chemical anchoring solutions for all design needs on site.



Brescia-Bergamo-Milan Motorway (Italy)

A completely new motorway based on the concept of durability by developing, together with Mapei, the most appropriate technical solutions to increase the service life of the motorway. An excellent example of teamwork, with Mapei engineers working in close contact with the client, the works direction and the contractors, with the common objective of constructing a great, long-awaited new road.
With this spirit in mind, the design mixes of the various types of concrete for the various areas of the motorway were developed and perfected, the systems to seal the joints were identified and the most appropriate protection and waterproofing systems for the various elements were proposed. All this with a clear objective: durability.
The interventions were initially developed and then tested in the R&D laboratories, proposed to the site engineers, assessed and then approved: an ongoing commitment carried out with enthusiasm and skill.
For the most important parts of the project, such as the viaducts and underpasses a layer of light shade version of MAPELASTIC was applied on the abutments, strips and in the rainwater collection areas on the beams of the viaduct to protect them against carbon dioxide penetration and the effect of de-icing salts.
All these features were then protected even further and standardised in colour by applying a protective elastomeric coat of ELASTOCOLOR PAINT or ELASTOCOLOR RASANTE SF for the underpasses.

Technical Data

Period of Construction: 2010-2014
Periodo of the Intervention: 2010-2014
Contract Awarding Company: Brebemi SpA
Client: C.A.L. Concessioni Autostradali Lombarde SpA
Main Contractor: Consorzio BBM
Subcontractor: VER-POINT Srl
Works Direction: Pegaso Ingegneria
Mapei Co-ordinators: Massimo Seregni, Pietro Lattarulo, Andrea Siboni, Stefano Barachetti, Davide Michelis, Paolo Banfo, Mapei Technical Services (Building Division), Gianluca Brichese, Mapei Coating Lab, Mapei SpA (Italy)

Mapei Products

Adesilex PG1, Adesilex PG4, Cablejet, Dynamon SP1, Dynamon SX22, Dynamon SX24, Dynamon NRG 1010, Dynamon NRG 1012, Elastocolor Paint, Elastocolor Rasante SF, Epojet LV, Eporip, Expancrete, Foamjet F, Ghiaietto per malte 6-10 mm, Lamposilex, Malech, Mapecure SRA 25, Mapegel UTT System, Mapeair AE 20, Mapetard, Mapefibre ST42, Mapefill, Mapelastic, Mapelastic Smart, Mapefoam, Mapeflex PU 40, Mapeflex PB25, Planigrout 300, Mapeband TPE 170, Mapegrout T60, Mapegrout Hi-Flow, Mapecoat I650 WT, Planitop 100, Resfoam 1 KM, Resfoam 1 KM Flex

Gioveretto Dam
Bolzano (Italy)

Technical Data
Period of Construction: 1954-1956
Period of the Intervention: 2010-2014
Client: Hydros Srl
Works Direction: Mauro Scienza
Client: BtM Srl
Mapei Co-ordinators: Paolo Banfo, Stefano Barachetti, Mapei Corporate R&D Labs, Vito Pedretti, Pasquale Zaffaroni, Mapei SpA (Italy)

Mapei Products
Adesilex PG4, Antipluviol S, Idrosilex Pronto, Mape-Asphalt Repair 0/8, Mapeband TPE, Mapeflex PU30, Mapeflex PU40, Mapefoam, Mapegrout 430, Mapegrout Easy Flow, Mapelastic Guard

The Gioveretto dam is located in the Alto Adige region (Northern Italy), right next to the Stelvio National park at an altitude of 1852 m above sea level, and was built between 1954 and 1956. It is a concrete dam which is 85 m high and 380 m wide at the top of the wall. From 2009 up to 2010 Mapei took part in the dam's waterproofing works supplying MAPEFLOOR DECK PU600, a product that today has been replaced by the PURTOP line. During this phase Mapei Research & Development Laboratory played a very relevant role on site for surveys and technical assistance giving a special support to the supervising team. From 2011 up to 2014, Mapei supplied several products for concrete repair and for waterproofing the upstream face of the dam. Due to the high extension of the surface, the repair works lasted 4 years. Particularly, after preparing the substrate to provide a rough surface able to increase the bonding between the old concrete and the new repair material, MAPEFOAM closed-cell, extruded foam polyethylene cord was used to fix the joints, acting as a support to apply MAPEFLEX PU30 and MAPEFLEX PU40 sealants.
The operation was completed by applying MAPEBAND TPE tape for flexible sealing and waterproofing, bonded with ADESILEX PG4 adhesive; both products were also used to bond the joints at the top, before applying MAPE-ASPHALT REPAIR 0/8 one-component, ready-to-use reactive asphalt. Concrete repair works were then carried out with MAPEGROUT EASY FLOW and MAPEGROUT 430 mortars. For waterproofing all surfaces MAPELASTIC GUARD two-component, elastic cementitious mortar, ideal for for protecting large concrete structures subjected to high stress condition, was also used. Works were completed using ANTIPLUVIOL S ultra high-performance, transparent, siloxane resin water-repellent impregnator to protect the down-stream face of the dam wall and using IDROSILEX PRONTO osmotic cementitious mortar for smoothing the dam's inner surfaces.

Branzola Viaduct
Mondovì (Italy)

The Branzola Viaduct is located along the Turin-Savona motorway near Mondovì town (Northern Italy). The viaduct itself is 510 m long and 12.3 m wide and is made up of 18 spans, 2 abutments and 17 piers. The piers are made up of reinforced concrete cast on a loom-castle structure. Mapei supplied products for the structural strengthening of the columns, the transversal beams, the overhanging parts of the deck bridge and semi-piers and other products as protection linings of all the concrete surfaces in order to increase the durability. The structural reinforcement was required because some areas of the viaduct were badly deteriorated and the aim of this phase of the work was to improve the overall structure and slightly increase the live load of the structure. The repair work of the columns was done by using high power water-jetting to remove the damaged old concrete up to 3 cm depth by applying a new 9 cm thick layer of MAPEGROUT GF BETONCINO B1 cementitious mortar which increased the structural section by 6 cm around the perimeter. At the bottom part of the columns, the thickness of the new lining was 12 cm, resulting in an increased size of the section of 9 cm all around the perimeter.
The transversal beams connecting the columns were repaired by removing 3 cm of old concrete and then applying a 4 cm thick layer of MAPEGROUT EASY FLOW GF thixotropic mortar, in order to match the final lining of the columns.
This intervention has restored the service life of the viaduct and has considerably increased the residual strength of its superstructures.

Technical Data

Period of the Intervention: 2012-2013
Design: SPEA Ingegneria Europea (Fulvio di Taddeo)
Client: ATS Torino-Savona SpA
Works Direction: SPEA Ingegneria Europea (Gianluca Bordi)
Works Supervisor: Carlo Gastaldi
Contractors: Pavimental, Mga
Mapei Co-ordinators: Gianpiero Peluso and Bruno Zamorani, Mapei SpA (Italy) and Effegi

Mapei Products

Mapecoat E23, Mapecoat PU33, Mapefer 1K, Mapefix, Mapegrout GF Betoncino B1, Mapegrout Easy Flow GF

The Mostika Burgas Bridge
Burgas (Bulgaria)

The overall reconstruction of one of the symbols of the Bulgarian city of Burgas, the Mostika Burgas Bridge, lasted almost one year. It was built in 1968 and is 278 m long. In the past it was only involved in maintenance interventions, but never properly repaired. The overall reconstruction of the bridge is part of a local government's program of regional development involving the cultural heritage of the city of Burgas and the near-by Saint Anastasia island, which are both attractive and renown tourist destinations. The contract for implementation of the project was won by the company OCAC "Trace 2012", which includes "Trace - Burgas" EAD, "Trace - Sofia" and "Eco-Art Engineering" Ltd. The first step involved securing the entrances to the bridge and the connections to the two adjacent beaches, carrying out a detailed technical survey of the structure, and removing its dangerous sections. Works included strengthening damaged columns, laying new flooring, installing lighting and video monitoring equipment, making the environment accessible for disabled people. The project for reconstruction of the bridge was designed by a team led by arch. Kostadin Hristov. It was one of the winning projects in the design competition organized by the City Council of Burgas at the end of 2009. The selected option aimed at preserving as much as possible the original appearance of the bridge. The final design was made by prof. Todor Krastev, who participated in the reconstruction.
The reinforcements rods were treated with MAPEFER 1K one-component, anti-corrosion cementitious mortar. The structure's concrete elements were repaired with MAPEGROUT T60 fibre-reinforced, sulphate-resistant thixotropic mortar, which is classified as R4 according to EN 1504-3 standard. MAPEWRAP PRIMER 1 and MAPEWRAP 11 were used for fixing the new strengthening elements to the existing structure. Some new elements were anchored to the structure with MAPEFIX EP 385 pure epoxy, resin-based chemical anchor. The whole structure's surfaces were waterproofed with MAPELASTIC two-component, flexible cementitious mortar and COLORITE BETON semi-transparent, anti-carbonatation acrylic paint.

Technical Data

Period of Construction: 1968
Year of the Intervention: 2012 -2013
Client: Burgas Municipality
Contractor: Burgas Municipality
Design: Kostadin Hristov
Laying Company: Trace Burgas EAD
Mapei Distributor: Keramika Burgas
Mapei Co-ordinators: Pasquale Zaffaroni and Emanuele Rodolico, Mapei SpA (Italy); Marin Skarlev and Damyan Dimitrov, Mapei Bulgaria

Mapei Products

Mapelastic, Mapefer 1K, Eporip, Mapegrout T60, Mapefix EP, Mapewrap Primer, Mapewrap 11, Colorite Beton, Topcem Pronto

Split Airport
Split, Croatia

Split Airport was built in 1966 and, together with those in Zagreb and Dubrovnik, is considered to be one of the most important airports in Croatia. It is located in the Resnik area, around 25 km from the centre of Split. As with the other airports in Croatia, there has been a considerable increase in traffic at Split Airport, especially during the summer.

In 2013 the runways were resurfaced. The challenge was particularly difficult: the runways had to be ready for take-offs and landings just three hours after completing the work. Mapei Technical Services recommended the use of products that would enable work to be carried out rapidly and efficiently.

MAPEFLEX PB27 two-component, castable, modified polyurethane sealant was poured into the cracks and joints. This product is resistant to hydrocarbons and ideal for use on airport runways.

The damaged areas of the surface were then removed and rebuilt with MAPEGROUT SV hi-flow, compensated-shrinkage, quick-setting and hardening mortar that is ideal for repairing industrial flooring and airport runways that need to be put back into service quickly.

Part of the surface was repaired using ADESILEX PG1 RAPID fast-set epoxy adhesive. Other products used include MAPECURE SRA, EPOJET, MAPEGROUT T60, MAPEFOAM, MAPEGROUT SV FIBER and PRIMER PU60.

Technical Data

Year of Construction: 1966
Year of the Intervention: 2013
Client: Zracna Luka Split Ltd
Design: Geoekspert IGM Ltd, Marko Ozbolt, BSc in Engineering
Contractor: Spegra Inzenjering Ltd
Mapei Co-ordinator: Nenad Karalija, Mapei Croatia d.o.o.

Mapei Products

Adesilex PG1 Rapid, Epojet, Mapecure SRA, Mapeflex PB27, Mapefoam, Mapegrout T60, Mapegrout SV, Mapegrout SV Fiber, Primer PU60

National Velodrome
Saint-Quentin-en-Yvelines (France)

The velodrome was constructed on the occasion of Paris's bid for the 2012 Olympic Games. Apart from being the headquarters of the French Cycling Federation, it has a capacity of 5,000 spectators. The track is a ring 250 m long and 8 m wide and has a 44° camber around the bends, the only one of its kind in the world.
Mapei products were chosen to repair and smoothing the concrete: PLANITOP 400 F mortar was used for quick repairs to the concrete surfaces, while PLANITOP 450 was used for more important works. NIVOPATE F and NIVOPATE G smoothing paste compounds were used to make the surfaces perfectly smooth. The walkways along the top of the external steps, on the other hand, were smoothed over with PLANEX. All the above-mentioned products are manufactured and distributed on the French market by Mapei France. MAPEFILL F mortar was used for anchoring and sealing on the terraces.

Technical Data

Period of Construction:
2011-2013
Period of the Intervention:
2012-2013
Client: Communauté d'Agglomération de Saint-Quentin-en-Yvelines (CASQY)
Contractor: Bouygues Bâtiment IDF
Design: Chabanne & Partenaires Architects
Mapei Distributors: Réseau Pro Grands Comptes (Arnaud Stephan) and Réseau Pro Mantes-la-Jolie
Mapei Co-ordinator: Cédric Le Page, Mapei France
Photos: CASQY - C.Lauté

Mapei Products

Mapefill F, Nivopate F*, Nivopate G*, Planex*, Planitop 400 F*, Planitop 450, Primer G, Ultraplan Maxi
*These products are manufactured and distributed on the French market by Mapei France

Hainaut Stadium
Valenciennes (France)

The new stadium in Valenciennes is used by the local football team, Valenciennes Football Club, to play its home matches. The building site was opened in 2008 but had to be stopped for administrative reasons. Work then started again and the stadium was completed in July 2011. In the meantime this forced interruption had caused the concrete to deteriorate and Mapei products were used to bring it up to standard.
The first phase involved sealing the metal structures with MAPEFILL F high performance mortar, which was also used to anchor the threaded rods.
The areas damaged by the weather were then repaired with the mortars PLANITOP 400 F and MAPEGROUT T60 F, which are manufactured and distributed on the French market by Mapei France. The pre-cast concrete terraces were repaired with MAPEGROUT COULABLE F and then finished off with NIVOPLAN G (both products are manufactured and distributed on the French market by Mapei France) and MAPEFINISH.
The expansion joints in the car-park were waterproofed with MAPEBAND TPE bonded with ADESILEX PG1 adhesive.

Technical Data

Period of Construction: 2008-2011
Year of the Intervention: 2011
Contractors: Groupement Norpac, Bouygues Construction et Sogea, Vinci Construction
Client: Valenciennes Métropole
Design: SCAU Architectes, Escudié et Fermaut
Works Direction: Ginger CEBTP (Jean-Michel Cucalon)
Mapei Distributor: AccessBat (Paul-Emmanuel Frys)
Mapei Co-ordinators: Carlos Carvalho and Anthony Boussin, Mapei France
Photos: VAFC, François Lo Presti, Samuel Dhote

Mapei Products

Adesilex PG1, Mapeband TPE, Mapefill F, Mapefinish, Mapegrout Coulable F*, Mapegrout T60 F*, Nivopate F*, Nivopate G*, Nivoplan F*, Nivoplan G*, Planitop 400 F*
*These products are manufactured and distributed on the French market by Mapei France

PRODUCTS FOR STRUC-TURAL STRENG-THENING

The Mapei strengthening systems were developed to meet the requirements of structural engineers, using polymer-matrix carbon fibre and glass fibre fabrics and plates. This line includes epoxy primers, skimming compounds, adhesives and other materials to strengthen and provide protective and decorative coatings.

Ilyich Iron and Steel Works of Mariupol
Mariupol (Ukraine)

Ilyich Iron and Steel Works of Mariupol is one of the largest integrated steel producing enterprises in Ukraine. It is specialised in the production of high quality sheet steel. It is also the only plant in Ukraine that produces cold-rolled galvanized sheet. It has an annual production capacity of around 6.1 million tonnes of steel, 12 million tonnes of agglomerates, more than 5.5 million tonnes of pig iron and more than 5 million tonnes of rolled products.

The concrete slabs, that cover the cold-lamination shop, were produced in 1962, and after more than 50 years of service were badly deteriorated and the reinforcement was partially rusted. To increase the load-bearing capacity, a structural strengthening system needed to be applied. MAPEWRAP SYSTEM was the solution chosen for this project. Once the surface of the slabs has been prepared, the first step of the strengthening operation was the application of MAPEWRAP PRIMER 1, a two-component epoxy primer on the longitudinal ribs. MAPEWRAP 11 epoxy putty was then used to smooth and even out the surfaces, followed by three layers of MAPEWRAP C UNI-AX unidirectional high-strength carbon fibre fabric impregnated with MAPEWRAP 31 epoxy adhesive.

The second step was to strengthen the transversal ribs. MAPEWRAP PRIMER 1 was used in this case for consolidating the cementitious substrate and MAPEWRAP 11 was used for smoothing and evening out the surfaces, followed by a layer of MAPEWRAP C UNI-AX impregnated with MAPEWRAP 31. U-shaped reinforcement elements were then applied on the longitudinal ribs with a step-by-step application of MAPEWRAP PRIMER 1, MAPEWRAP 11 and of one layer of MAPEWRAP C UNI-AX impregnated with MAPEWRAP 31.

Technical Data

Year of Construction: 1962
Period of the Intervention: 2013-2014
Client: Metinvest Holding
Contractor: Rosmax Service Llc
Mapei Distributor: Uspech-Plus Llc
Mapei Coordinator: Giulio Morandini, Mapei SpA (Italy)

Mapei Products

Adesilex PG1, Mapefer, Mapegrout Fast-Set, MapeWrap 11, MapeWrap 31, MapeWrap C UNI-AX, MapeWrap Primer 1, Triblock Finish

Batu Kawa Bridge
Kuching (Malaysia)

Technical Data

Period of Construction: March 2013-July 2013
Period of the Intervention: April 2013-June 2013
Client: Jabatan Kerja Raya
Contractor: Awi Builders Sdn Bhd
Design: RSP Architects Planners & Engineers (Pte) Ltd
Building Company: Structural Repairs (EM) Sdn Bhd
Mapei Co-ordinator: Hanson Foong, Mapei Malaysia

Mapei Products

Adesilex PG2 SP*, Carboplate, Epojet LV, Colorite Primer 800 S*, Colorite 880 W*
*These products are distributed in the Malaysian market by Mapei Malaysia

Batu Kawa is a suburban area in Kuching, the capital of Sarawak, which is the largest state in Malaysia.
The 20-year old Batu Kawa bridge is one of the only two bridges linking Kuching to the western areas of the state and has, therefore, been heavily used and loaded, which resulted in the formation of cracks in the structure.
A refurbishment and structural strengthening intervention was lately carried out on the 292 m long bridge with the purpose of repairing all cracks and restoring its structural integrity; strengthening the main structural sections and making the bridge safe for increased traffic; providing protective and decorative coating to the strengthened structure.
Strict deadlines were imposed for completion of the works in view of the heavy traffic expected during the coming harvest festival.
The following Mapei products were selected and approved for use: ADESILEX PG2 SP two-component, thixotropic epoxy adhesive, which is distributed on the Malaysian market by Mapei Malaysia, was used to repair surface cracks; EPOJET LV two-component epoxy resin with very low viscosity was used for injections into microcracks; CARBOPLATE pultruded carbon fibre plate was used for structural strengthening; COLORITE PRIMER 800 S and COLORITE 880 W, which are distributed on the Malaysian market by Mapei Malaysia, provided protective and decorative coating.

Dante Alighieri High School
Gorizia (Italy)

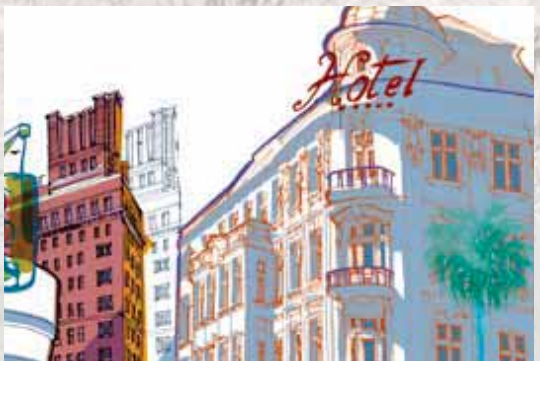
Within the framework of upgrading work to meet the requirements of current Italian anti-seismic legislation, the structure of the newest part of the building that houses the Dante Alighieri high school in Gorizia, dating back to the 1970s, has been strengthened.
The intervention included the use of MAPEWRAP EQ SYSTEM, an innovative strengthening system developed to distribute dynamic loads more efficiently on non-structural elements.
In this specific case, the function of the system was to provide an efficient connection between the various masonry panels and the reinforced concrete framework.
To prevent walls tipping over in the event of an earthquake, and so give people more time to evacuate the building, during the intervention all the buffer walls were fastened to the masonry and reinforced concrete frame.
The finishing coats were initially removed from the walls down to the render, which had to be mechanically strong with no damaged areas.
The surface of the walls was then coated with roller-applied MAPEWRAP EQ ADHESIVE one-component, ready-to-use, polyurethane-based adhesive in water dispersion with a very low emission level of volatile organic compounds (VOC). After this operation, MAPEWRAP EQ NET bi-directional, primed glass fibre fabric was applied on all the walls. A second coat of MAPEWRAP EQ ADHESIVE was applied with a roller to completely impregnate the strengthening fabric. After around 24 hours, the surfaces were skimmed with PLANITOP 210 one-component cementitious mortar.
Once the walls had been skimmed, they were primed with MALECH micronised acrylic resin undercoat in water dispersion. The following day they were painted with DURSILITE modified acrylic resin-based washable water paint.

Technical Data
Period of Construction: 1629, with the newest section built in the 1970's
Year of the Intervention: 2014
Design: Mariano Del Piccolo
Client: Lara Carlot, Gorizia Provincial Government
Works Direction: Stefano Morandin
Contractor: Tecnomalte
Strengthening System Installation Company: S.E.I. Società Edile Isontina
Mapei Distributor: Edil Casa Macuzzi
Mapei Co-ordinators: Giuseppe Melcangi, Paolo Baldon, Claudio Azzena, Ivan Carlon, Mapei SpA (Italy)

Mapei Products
Malech, MapeWrap EQ Net, MapeWrap EQ Adhesive, Planitop 210

PRODUCTS FOR THE REPAIR OF MASONRY BUILDINGS

The combined use of lime and Eco-Pozzolan led to the formulation of the MAPE-ANTIQUE range of products for consolidating and renovating brick, stone, tuff and mixed masonry on buildings. These products have high chemical-physical resistance to aggressive action from the environment and within the wall itself.



The Royal Palace of Monza
Monza (Italy)

It was the Empress of Austria Maria Theresa who commissioned the construction between 1777 and 1780 of what was to be the summer residence for her son, the Archduke Ferdinand of Austria, Governor of the Lombardy Region. The project for the Royal Palace in Monza was entrusted to the architect Giuseppe Piermarini. Since then the building has been fought over by nobles, closed and reopened on various occasions and renovated numerous times. On the 8th of September last year, the Royal Palace finally reopened its doors again, following a two-year closure for renovation work (2012-2014) costing more than 24 million Euros. Mapei also took part in the renovation project by supplying products for work carried out on the ground floor of the main central body of the Palace. MAPE-ANTIQUE STRUTTURALE NHL mortar was used to rebuild missing areas of the foundation walls. The masonries were then strengthened with threaded steel bars fastened with steel plates treated with EPOJET resin. After filling the holes with MAPE-ANTIQUE F21 hydraulic binder, MAPEGRID G 220 glass fibre mesh was fastened to the masonry. The entire surface was then spray-rendered with MAPE-ANTIQUE STRUTTURALE NHL. Mapei systems were also used to consolidate the masonry vaults. While the cracks in the surface of the masonry were being grouted with MAPE-ANTIQUE ALLETTAMENTO mortar, small rubber tubes were inserted which were used for micro-injections of the consolidating product MAPE-ANTIQUE F21. The Royal Palace will also be used as a prestigious liaison centre for Expo 2015.

Technical Data

Designer: Giuseppe Piermarini
Period of Construction: 1777-1780
Period of the Intervention: 2012-2014
Sole Process Managers: Antonio Giulio Rognoni, Chiara Datta
Construction Job Order Manager: Silvio Songini
Works Manager: Francesco Mazzeo
Works Direction: Laura Lazzari
Safety Co-ordinator: Roberto Ferrari
Contractor: Restauro Nuova Villa Reale Monza S.c.a.r.l.;
Temporary Association: Italiana Costruzioni S.p.A; Na. Gest. Global Service S.r.l.; Malegori Comm. Erminio S.r.l.
Building Site Technical Director: Giuseppe Colini, Carlo Leati
Building Site Technical Department: M. Partner S.r.l.
Building Site Director: Ugo Cappello
Structural Design: Studio Croci & Associati; Giorgio Croci; Aymen Herzalla
Architectural Design/Restoration: Massimo Mazzoleni, Maria Signorelli, Francesco Augelli, Giuseppina Suardi
Safety Design: Luciano Brusaferro
Plant Engineering Design: Virginio Brocajoli
Restoration Intervention Manager: Giulia Putaturo
Lombardy Region Supervision: Alberto Artioli, Annamaria Terafina
Mapei Co-ordinators: Davide Bandera, Dominica Carbotti, Flavio Filippone, Dario Casale, Massimo Seregni, and Andrea Peli, Mapei SpA (Italy)

Mapei Products

Epojet, Mape-Antique Allettamento, Mape-Antique F21, Mape-Antique Strutturale NHL, Mapegrid G 220



Porta Bozzolo Palace
Casalzuigno (Italy)

Technical Data

Year of Construction: 16th century
Period of the Intervention: 2014
Client: FAI (Italian National Trust)
Works Direction: Roberto Segattini, Roberto Belfiore
Contractor: Engeco S.r.l.
Mapei Coordinators: Davide Bandera, Paolo Giglio and Massimo Seregni, Mapei S.p..A (Italy)

Mapei Products

Mape-Antique LC, Mape-Antique Strutturale NHL, Mape-Antique FC Civile, Planicrete

From the original nucleus built in the 16th century, this elegant complex was turned into a "palace-farm" in the middle of the 17th century by its owners, the Della Porta family, by adding a new building around a courtyard overlooking a garden. In the first half of the 18th century, the estate was further transformed into a refined guest residence with a picturesque park and precious decorations and frescoes adorning the interior. In 1877 the entire estate passed to Italian Senator Camillo Bozzolo. After a period of neglect, the estate was finally donated to the FAI (Italian National Trust), which then carried out all the necessary work to enable it to be opened to the general public, along with extensive structural work, such as the renovation of the minor façades and the outbuildings, with some of them transformed into exhibition areas or rooms for events. Mapei is a Corporate Golden Donor of the FAI and Mapei Technical Services, which has been collaborating with the FAI for a number of years, proposed a technical solution to the client and contractor for the installation of the stone slabs for the steps leading to the entrance, which were all in different shapes and sizes. After removing the stone slabs, the first step was to cast a compensation and stabilising layer of MAPE-ANTIQUE LC cement-free, salt-resistant hydraulic binder based on lime and Eco-Pozzolan, mixed with aggregates.
The slabs were then installed on a layer of bed mortar composed of the pre-blended cement-free mortar in powder MAPE-ANTIQUE STRUTTURALE NHL, made from natural hydraulic lime, Eco-Pozzolan, micro-fibres and glass fibres and special additives, and using a bonding slurry made from MAPE-ANTIQUE FC CIVILE mixed with PLANICRETE latex.

Victoria Theatre & Concert Hall
Singapore

The Victoria Theatre & Concert Hall was built between 1856 and 1862 as a Town Hall and a stage for theatrical entertainment. In 1901, the community decided to build a new theatre which was joined to the existing Town Hall. In 1905, the Town Hall was converted to a 500-seat theatre. By 1906, the entire structure was completed. Thereafter, the Theatre underwent three renovations/additional works. In June 2010, Victoria Theatre was closed for refurbishment, restoration and redevelopment.

After about one and a half centuries, the structure had generally deteriorated badly overtime. After the existing plaster was removed to the brick surface, cracks and hollowness in between the bricks were revealed. PLANITOP HDM RESTAURO two-component, high-ductility mortar and MAPEGRID G 220 primed alkali-resistant fibre-glass mesh were used to reinforce the structural strength of the masonry substrates. MAPE-ANTIQUE I fillerized hydraulic binder was used for injection slurries to consolidate brick cavity walls.

MAPE-ANTIQUE ALLETTAMENTO salt-resistant masonry mortar was applied to fill in the gaps between the bricks and create a solid foundation. Subsequently, a 5 mm thick layer of MAPE-ANTIQUE RINZAFFO was applied to level the surface to prevent soluble salts from penetrating and creating a mechanical key which made it easy to receive the next coating. MAPE-ANTIQUE MC was then applied as a dehumidifying rendering mortar.

This enabled the last coating of MAPE-ANTIQUE FC CIVILE/MAPE-ANTIQUE FC ULTRAFINE to perfectly bond to the surfaces and produce a smooth finish.

Technical Data

Period of Construction: 1856-1906
Period of the Intervention: 2012-2014
Client: STS Themeworks Pte Ltd
Project Design: W Architects Pte Ltd
Contractor: Sato Kogyo (S) Pte Ltd
Building Company: STS Themeworks Pte Ltd
Mapei Co-ordinator: Rodney Heng, Mapei Far East (Singapore)

Mapei Products

Mape-Antique I, Mape-Antique Allettamento, Mape-Antique MC, Mape-Antique Rinzaffo, Mape-Antique FC Civile, Mape-Antique FC Ultrafine, Planitop HDM Restauro, Mapegrid G 220

PRODUCTS FOR THERMAL INSULA-TION

The Mapetherm thermal insulation system guarantees a reduction in energy consumption in both winter and summer, improves living comfort and eliminates interstitial condensation of water vapour in the walls. This system ensure energy efficiency and conforms to the strictest European standards.

Miramare Eretria Hotel
Evia (Greece)

The island of Evia, which is located near Athens, offers the opportunity to make small escapes from everyday urban routine in a peaceful and romantic setting. Miramare Eretria hotel is built on this island, in the famous ancient village of Eretria. The hotel offers on the same time a very comfortable and relaxing environment. The beach, which is located around five minutes walk from the hotel, overlooks the Gulf of Evia and gives a breathtaking view of the coastline and mountains of Mainland Greece. Miramare hotel was originaly built back in the 1980's by Strati family which still owns it. In 2008 it was renovated in order to meet the new market standards with a big swimming pool and indoor and outdoor activities.

During 2013 a new building was added to the existing hotel complex of 91 rooms. The new section has 17 large rooms which overlook the surrounding trees. The external insulation of the new section was made using the MAPETHERM SYSTEM. MAPETHERM EPS insulation panels were installed on all external walls using the cementitious adhesive MAPETHERM AR1.

For reinforced smoothing on the thermal insulation system, the panels were covered with MAPETHERM AR1 levelling compound combined with MAPETHERM NET glass fibre mesh.

As a finishing layer, the colored acrylic coating QUARZOLITE TONACHINO 0.7 was used combined with QUARZOLITE BASE COAT.

The works were also made in the interiors of the building. In all bathrooms marble tiles were installed on walls and floors using the high performance cementitious adhesive ADESILEX P9 in its white shade. In all balconies and bedrooms, porcelain tiles were laid on the floors using the cementitious adhesive KERAFLEX in its white shade.

Technical Data

Period of Construction: 1980's
Period of the Intervention: 2012-2013
Designer: Dikaiakou Alkistis
Client: Stefanos Stratis
Works Direction: Miramare Hotel Technical Services
Laying Company: Kalatzis Georgios
Mapei Co-ordinators: Ioannis Koropoulis, Markopoulos Nicolaos, and Konstantinos Refoulias, Mapei Hellas (Greece)

Mapei Products

Adesilex P9, Keraflex, Mapetherm EPS, Mapetherm AR1, Mapetherm Net, Quarzolite Base Coat, Quarzolite Tonachino

São João de Deus School
Ponta Delgada (Portugal)

Technical Data

Period of Construction: 2011-2013
Year of the Intervention: 2013
Designer: Consulmar Açores - Projectistas e Consultores Lda.
Client: Azorean Islands Government
Contractor: Somatex Ediçor
Thermal Insulation Installing Company: Spitex II
Works Direction: Tiago Simas
Mapei Distributor: Spitex II
Mapei Co-ordinator: Marco Ferro, Lusomapei (Portugal)

Mapei Products

Mapeflex PU45, Mapenet 150, Mapesil AC, Mapetherm AR2*, Silexcolor Base Coat, Silexcolor Primer, Silexcolor Tonachino
*This product is distributed on the Portuguese market by Lusomapei (Portugal)

The Associação Jardins-Escolas João de Deus is a century-old Portuguese non-profit organisation dedicated to promoting solidarity through educational and cultural activities. The organisation takes care of 8,268 people in its 55 education centres in Portugal and employs 1,261 workers, teachers, support staff and collaborators. It has 37 schools, 7 nurseries and family centres, 2 travelling play-schools, 2 museums, a college and a welcome centre for babies and children, as well as other structures.
In spite of the recession that has hit the Portuguese economy and construction market, the Associação Jardins-Escolas João de Deus has continued to invest and extend its network of educational, assistance and cultural services.
On the 1st of September, 2013 a new school was opened in Ponta Delgada, the Association's first educational centre in the Azorean islands. Around 4.5 million Euros were invested in this school, which offers its services to around 300 students.
Mapei took part in the construction of the school by supplying an efficient external thermal insulating system using MAPETHERM AR2 one-component cementitious mortar (which is distributed on the Portuguese market by Lusomapei) to bond and skim the insulating panels and thermal insulation systems; SILEXCOLOR PRIMER highly transpirant silicate undercoat to treat the insulated surfaces; SILEXCOLOR BASE COAT coloured silicate undercoat and SILEXCOLOR TONACHINO thick-layered silicate coating product for the final finish.
MAPEFLEX PU45 and MAPESIL AC were also used to seal various types of joints.

Eco-funded Residential Complex
Berwick-upon-Tweed (UK)

A new eco-funded residential project was lately completed in Berwick-upon-Tweed in England, on the Scottish borders. The project made the most of the British Government funding system designed to improve energy efficency levels in properties and help vulnerable householders reduce energy costs.
The complex includes 182 houses which were built based on a 6 week schedule, with 23 - 25 houses being completed each week.
MAPETHERM thermal insulation and protection system was installed throughout the complex.
MAPETHERM EPS extruded sintered polystyrene insulating panels were bonded to the external walls using MAPETHERM AR1 GG one-component, large-grained cementitious mortar, with high bonding properties, which allowed to minimise the requirement for mechanical fixings.
The polystyrene panels were then reinforced with MAPETHERM AR1 GG and a reinforcing layer of MAPETHERM NET alkali-resistant glass fibre mesh, prior to application of SILANCOLOR BASE COAT water-repellent, coloured acrylic undercoat with a smooth finish and good filling properties.
All surfaces received a protective decorative coating of SILANCOLOR TONACHINO highly transpirant, thick-layered silicate coating product with high filling properties for internal and external surfaces.

Technical Data
Period of Construction: February 2014-May 2014
Year of the Intervention: 2014
Client: Berwick-upon-Tweed Housing Association (Coldstream Housing)
Main Contractor: Lime Technology
Thermal Insulation Installing Company: Lime Technology
Mapei Co-ordinators: Adrian Jones and Martin Andrews, Mapei UK

Mapei Products
Mapetherm AR1 GG, Mapetherm EPS, Mapetherm Net, Silancolor Base Coat, Silancolor Tonachino



A. Manzoni Primary School
San Cesario di Lecce (Italy)

Technical Data

Year of the Intervention: 2013
Client: San Cesario Di Lecce City Council
Design: Società di Ingegneria Barletti – Del Grosso & Ass. Srl
Works Direction: Luigi del Grosso
Contractor: De Giorgi Global Service Srl
Thermal Insulation Installation Company: De Giorgi Global Service Srl
Mapei Distributor: CO.M.EDIL Sas
Mapei Coordinators: Agenzia De Matteis and Luca Carcagnì, Mapei SpA (Italy)

Mapei Products

Mapetherm AR 1 GG, Mapetherm EPS, Malech, Quarzolite Tonachino Plus

Part of the renovation project in 2013 for the Alessandro Manzoni Primary School in San Cesario di Lecce (Province of Lecce, Italy) included upgrading the insulation of the building and installing MAPETHERM thermal insulation system.
Developed by the Mapei Research and Development laboratories, this system guarantees a reduction in energy consumption in both winter and summer (around 30-35%), increases living comfort by perfectly balancing the room temperature and the temperature of the walls, eliminates condensation of water vapour in correspondence with thermal bridges on walls and, above all, offers a further important advantage: the Mapei guarantee based on an undisputed leadership in the adhesives sector.
After removing the damaged concrete from the façades and cleaning all the surfaces, MAPETHERM EPS extruded sintered polystyrene insulating panels were bonded to the surface with MAPETHERM AR 1 GG one-component cementitious adhesive.
Once the skim coat had cured, the surfaces were treated with a coat of MALECH micronised acrylic resin based primer in water dispersion, which penetrates better than traditional water-based primers.
The intervention was completed by applying a layer of QUARZOLITE TONACHINO PLUS highly protective, mould and mildew-resistant acrylic coating product for internal and external surfaces. In fact, it is often used for decorating buildings located in particularly damp climates favourable to the growth of such micro-organisms.

H Udine Sud Apartment Block
Udine (Italy)

The redevelopment project for the H Udine Sud apartment block in Udine (Italy), included the installation of MAPETHERM thermal insulation system.
After preparing the substrates by removing the damaged concrete from the façades, and cleaning the surfaces, MAPETHERM AR 1 GG one-component cementitious adhesive was used to bond MAPETHERM EPS extruded sintered polystyrene and graphite insulating panels to the surfaces.
Two layers of MAPETHERM AR 1 GG were then applied, with MAPETHERM NET alkali-resistant glass fibre mesh embedded between the first and second layer.
Additional reinforcement was applied around the openings for the doors and windows by placing pieces of mesh diagonally to the openings to prevent cracks developing in correspondence with the corners and edges, where the stresses in the system are normally concentrated.
For extra safety, special MAPETHERM FIX stud with a plug with a metal/nylon pin and polypropylene body was also used for fixing.
To protect the external insulation system, a joint was built around any opening (e.g. window and door frames), which were then protected with special metal profiles sealed with MAPEFOAM closed-cell polyethylene foam cord and MAPEFLEX AC4 one-component acrylic sealant in water dispersion.
Once the skim coat had cured, the system was finished off with SILANCOLOR BASE COAT water-repellent, coloured acrylic undercoat and SILANCOLOR TONACHINO AC water-repellent, thick-layered acrylic-siloxane coating with high filling properties.

Technical Data

Year of the Intervention: 2013
Client: Condominio H Udine Sud
Design and Works Direction: eng. Querin
Thermal Insulation Installation Company: Completedil 3
Mapei Distributor: Edil Rodighiero di Rodighiero Massimo
Mapei Co-ordinators: Francesco Faggian and Cristiano Bordignon, Mapei SpA (Italy)

Mapei Products

Mapetherm AR1 GG, Mapetherm EPS, Mapeflex AC4, Mapefoam, Mapetherm Fix, Mapetherm Net, Silancolor AC Tonachino, Silancolor Base Coat

WALL PROTECTIVE AND DECORATIVE COATINGS

Mapei offers a range of wall finishing products providing added value to the building itself. The Company's wall coatings feature excellent coverage, easy application, good filling properties, water-repellence, elasticity, resistance to UV rays, good transpiration and good cleanability.

Living Art Residential Complex
Moscow (Russian Federation)

A joint Italian-Russian collaboration has conceived “Living Art” residential project. It is the fruit of the collaboration between KROST (leading company in the building sector in Russia), the architect Dante Oscar Benini and the Milan artist Mario Arlati. Living Art occupies an area of 45,000 m^2 where there are four towers with 45 floors and a tower with 33 floors. The project has been conceived within a framework of urban requalification. It also has a strong aesthetic impact. And that is how the artist Mario Arlati had the idea to create “affrescoes” on the skyscrapers. The colours have been developed and supplied by Mapei who, right from the initial design phase, worked alongside the artist, the designer and the client. The client opted for a technical solution which eliminated the application of a thermal insulation system in favour of traditional render on walls insulated on the inside. Mapei researchers prepared the surfaces with coloured acrylic QUARZOLITE BASE COAT. The choice included the application of a coating of white QUARZOLITE GRAFFIATO SP 1.8 mm, a product manufactured for the Polish market. This product is a fibre-reinforced, single-spread coating with a scratch-effect finish for interior and exterior walls. Another finishing product employed was COLORITE PERFORMANCE paint for protecting and decorating surfaces where a satin, semi-matt finish is required along with protection from aggressive surroundings and sunlight. COLORITE METALLIC GOLD has the same characteristics but was tailor-made for this important project. Colours were also the dominating feature for the resin floorings in some of the communal areas in no. 1, 3 and 4 Towers. In this case, after treating the surfaces with PRIMER SN, the two-component epoxy formulate MAPEFLOOR I 300 SL was applied, the ideal product for resin floors with a highly attractive smooth, non-slip finish. The artistic chromatic effects were obtained by adding MAPECOLOR PASTE, a specific colouring system, to the product.

Technical Data

Period of Construction: 2014-2016
Year of the First Intervention: 2012
Client: Krost
Project: Dante O. Benini & Partners Architects
Art Director: Mario Arlati
Mapei Corporate Technical Services and Coatings Lab: Massimo Seregni, Gianluca Brichese, Massimiliano D’Ambra, and Gino Kuijpers, Mapei SpA (Italy)
ZAO Mapei Co-ordinators: Irina Boldyreva and Vladimir Kovalenko, ZAO Mapei (Russian Federation)

Mapei Products

Colorite Metallic Gold, Colorite Performance, Mapecolor Paste, Mapefloor I 300 SL, Primer SN, Quarzolite Base Coat, Quarzolite Graffiato SP 1.8*
*This product is distributed on the Russian market by ZAO Mapei

Soho Tower
Komárno (Slovak Republic)

Technical Data

Period of Construction: 2012-2013
Period of the Intervention: 2012-2013
Design: IMMO-MEM s.r.o.
Works Direction: Mr. Alexander Czech
Laying Company: Renostavmal, s.r.o
Mapei Co-ordinators: Stanislav Hošek and Martin Bokroš (Mapei SK sro)

Mapei Products

Adesilex P9, Eco Prim Grip, Mapelastic, Mapeband, Mapegum WPS, Mapetherm AR2*, Nivoplan Plus, Keraflex, Mapesil AC, Keracolor FF, Silancolor Tonachino, Silancolor Base Coat, Topcem Pronto, Ultracolor Plus
*This product is distributed on the Slovak market by Mapei SK sro

Soho Tower is located near the historic centre of Komárno (Slovak Republic), in an area including a pedestrian zone, a thermal swimming-pool, and one of the biggest and most beautiful park of the city.The natural surroundings ensure the apartments' owners nice, quiet and peaceful living conditions.
The tower is a multifunctional residential building designed and completed to raise the level of the housing in Komárno. During the renovation and reconstruction works the most modern building materials were used to meet the client's most demanding requirements.
On the ground floor there is a café, two commercial areas and 7 commercial premises for business and services activities. 42 housing units are located from the second to the eighth floor and include one-bedroom apartments, double-bed apartments, and 7 three-room apartments with different sizes. On the ninth floor there are two penthouse apartments with large glass walls and terraces.
MAPETHERM AR2 cementitious adhesive (which is distributed on the Slovak market by Mapei SK sro), SILANCOLOR BASE COAT water-repellent, coloured acrylic undercoat and SILANCOLOR TONACHINO highly traspirant, thick-layered silicate coating product were used on the external façades to ensure proper thermal insulation and decorative and protective coating.
Several waterproofing products (MAPEBAND, MAPEGUM WPS, MAPELASTIC) were used to waterproofing substrates in interiors and exteriors.
Mapei also supplied products, such as ADESILEX P9, KERAFLEX, KERACOLOR FF, ULTRACOLOR PLUS, and MAPESIL AC, to lay ceramic tiles on walls and floors in interiors and exteriors.

Hotel Nacional de Cuba
Havana (Cuba)

The Hotel Nacional de Cuba is one of the most emblematic building with a rich history in Havana. Built in just two years and inaugurated in 1930, it stands out for its elegance and first class service. The hotel has been recognised as a World Heritage site and has large gardens characterised by an eclectic architectural style.
Many illustrious guests have graced the halls of the hotel, such as Frank Sinatra, Buster Keaton, John Wayne, Marlene Dietrich, Gary Cooper, Marlon Brando and Ernest Hemingway.
The hotel has eight floors and is built on the top of a hill offering panoramic views of Havana. There is a majestic lobby for the hotel's guests as well as six bars and a cabaret room.
A three-year renovation project was recently carried out on the hotel. The following Mapei products were used during the work: MAPESHIELD I pure zinc anodes for galvanic cathodic protection of the metallic structure of buildings; MAPEFER 1K anti-corrosion cementitious mortar to protect steel reinforcement rods in reinforced concrete elements (beams, columns, balustrades, etc.); MAPEGROUT T60 fibre-reinforced thixotropic mortar for renovating concrete; MAPEFRONT RASPADO (distributed on the Cuban market by Arca '99) single-layered finish mixed with PLANICRETE rubber latex applied on the external façades; INTOMAP R1 base render based on air lime and hydraulic binders (also distributed on the Cuban market by Mapei Arca '99) for coating internal and external walls; MAPELASTIC flexible cementitious mortar for waterproofing substrates under the terracotta coverings; KERACRETE+KERACRETE POWDER two-component adhesive system for bonding natural stone on the façades; ULTRACOLOR PLUS high-performance grout for joints from 2 to 20 mm wide; ADESILEX PG1 thixotropic epoxy adhesive, INTOMAP R1 and MAPESIL AC acetic silicone sealant were also used to repair the balustrades and various decorative features.

Technical Data
Period of Construction: 1928-1930
Period of the Intervention: 2010-ongoing
Client: Gran Caribe S.A.
Contractor: Ecme
Mapei Distributor: Arca '99
Mapei Co-ordinators: Pedro Graniela, Arca 99 and Renato Soffi, Mapei SpA

Mapei Products
Adesilex P9, Adesilex PG1, Antipluviol W, Colorite Matt, Disarmante DMA 3000, Intomap R1*, Keracrete+Keracrete Powder, Mapecoat I 24, Mapefer 1K, Mapefront Raspat*, Mapegrout Hi-Flow, Mapegrout T60, Mapelastic, Mapenet 150, Mapesil AC, Mapeshield I, Planicrete, Primer FD, Ultracolor Plus
*These products are distributed on the Cuban market by Arca '99

Le Nereidi Residential Complex
San Salvo Marina (Italy)

Technical Data

Period of the Intervention: 2012-2013
Client: Condominio Le Nereidi
Design: Marco Cimini
Works Direction: Marco Cimini
Coatings Applying Company: Tecnopittura Snc
Mapei Distributor: Paganelli Group
Mapei Co-ordinators: Alessandro Barnabè, Fabio Ruffini, and Mariano Verlengia, Mapei SpA (Italy)

Mapei Products

Mapefer 1K, Mapegrout Thixotropic, Nivoplan, Planicrete, Planitop 200, Mapenet 150, Malech, Quarzolite Tonachino, Silancolor Primer, Silancolor AC Tonachino

Numerous Mapei products were employed during this renovation project to repair the façades and the balconies at the B1 apartment block, part of the Le Nereidi residential complex in San Salvo Marina, in the Province of Chieti (Italy).
After the important work of removing all the damaged concrete from the balconies, followed by thoroughly cleaning all the surfaces, the steel reinforcement rods were treated with MAPEFER 1K one-component, anti-corrosion cementitious mortar.
The concrete substrates were repaired and smoothed over with MAPEGROUT THIXOTROPIC fibre-reinforced, shrinkage-compensated mortar. The substrates of the façades were smoothed over with PLANITOP 200 water-repellent cementitious skimming mortar with a fine-textured, natural finish reinforced with MAPENET 150 alkali-resistant glass fibre mesh. The areas on the balconies and façades where the render had been removed were repaired with NIVOPLAN smoothing mortar mixed with PLANICRETE for increasing mechanical strengths and improving bonding. PLANITOP 200 mortar reinforced with MAPENET 150 was again used for this part of the work to smooth over the surfaces. Before applying the finishing products, all the concrete surfaces were treated with MALECH acrylic resin undercoat in water dispersion to even out the absorption of substrates and help the next products bond better. Once the smoothing layer had cured, the surfaces were treated with QUARZOLITE TONACHINO high-protection, thick-layered acrylic coating product. Work was completed by finishing the surfaces with SILANCOLOR PRIMER transpirant siloxane undercoat and SILANCOLOR AC TONACHINO water-repellent, acrylic-siloxane coating with high filling properties for internal and external use.

Via Abate Gimma n.3 Apartment Block
Bari (Italy)

Key players in this important restructuring work were the Mapei technicians and products used to repair the façades of this apartment block in Bari (Italy).
After removing the damaged concrete from the façades and cleaning all the surfaces, the steel reinforcement rods were treated with MAPEFER 1K one-component corrosion-inhibiting cementitious mortar.
The concrete surfaces were smoothed with PLANITOP SMOOTH & REPAIR quick-setting, fibre-reinforced, compensated-shrinkage, thixotropic cementitious mortar. The remaining surfaces of the façade were smoothed with PLANITOP 200 one-component cementitious mortar reinforced with MAPENET 150 alkali-resistant glass fibre mesh.
Before finishing off the façades, the smooth concrete surfaces were primed with MALECH micronised acrylic resin based primer in water dispersion to even out the surfaces and promote bonding of the next products.
Once this layer had cured, the surfaces were treated with QUARZOLITE BASE COAT water-repellent, coloured acrylic undercoat. Work was completed by painting the façades with ELASTOCOLOR PAINT protective and decorative elastic paint for concrete and renders, based on acrylic resins in water dispersion. ELASTOCOLOR PAINT forms a flexible finishing coat which is impermeable to water and aggressive agents in the atmosphere. It has excellent resistance to ageing, freezing weather conditions and de-icing salts, and makes it very difficult for dirt to remain attached to the surface.

Technical Data

Period of the Intervention: 2013-2014
Client: Condominnio Via Abate Gimma 3
Design: Francesco Lucatuorto Buonamassa
Works Direction: Francesco Lucatuorto Buonamassa
Contractor: Operae Costruzioni Srl
Mapei Distributor: Centro Edile Quartarella Srl
Mapei Co-ordinators: Luca Carcagnì, Giovanni Villani, and Michelangelo Sorrenti, Mapei SpA (Italy)

Mapei Products

Elastocolor Paint, Malech, Mapefer 1K, Planitop Smooth & Repair, Planitop 200, Mapenet 150, Quarzolite Base Coat

PRODUCTS FOR WATER-PROOFING

Mapei offers a wide range of safe and durable waterproofing solutions from foundations to roof tops. The leading product for waterproofing above ground is MAPELASTIC.
For waterproofing below ground, the Company offers MAPEPROOF bentonite sheets.
For major civil works, there are the MAPEPLAN synthetic membranes.

The Thief Hotel
Oslo (Norway)

The thief hotel is located in Tjuvholmen, an Oslo downtown district which was once home to criminals and shady dealings. Today it is the new arts and business district hosting international-calibre restaurants, cosy eateries and high-quality galleries. The Astrup Fearnley Museum designed by Renzo Piano is the hotel's nearest neighbour. With its most spectacular location on a small island, the hotel is able to "steal" its guests away from everyday life. Many rooms offer a gorgeous view on the fjord. Interiors sport contemporary art pieces and design furniture from quality producers. The Thief lifestyle hotel recently won the "Best City Hotel" and "The Best New Hotel Launch" awards at the Norwegian Travel Association "Grand Travel Award" award show. In the hotel's bathrooms floor and wall substrates were waterproofed with MAPEGUM WPS quick-drying flexible liquid membrane, before bonding ceramic coverings with MEGAFIX adhesive, which is distributed on the Norwegian market by Mapei AS. The bathtubs' surfaces were treated with PRIMER G synthetic resin primer, before bonding mosaics with MEGAFIX WHITE (also distributed on the Norwegian market by Mapei AS) and sealing the joints with MAPESIL AC.
Natural stone floors were bonded in the hotel's lobby, on the stairs and on the toilets' walls and floors with MEGARAPID 2K, also distributed on the Norwegian market by Mapei AS. Ceramic tiles were laid on walls in the kitchens and dressing rooms with MEGAFIX. All the joints were grouted with KERAPOXY.
In the bathrooms of the hotel's suites, the substrates were primed with PRIMER G and waterproofed with MAPEGUM WPS, before bonding ceramic tiles with MEGAFIX and sealing the expansion joints with MAPESIL AC.
In the luxurious spa MAPEGUM WPS was applied on the substrates of walls, floors and ceilings, before bonding stone slabs on walls and floors with MEGARAPID 2K, mosaics on walls with MEGAFIX WHITE, and ceramic tiles on walls and floors with MEGAFIX. All joints were grouted with KERAPOXY.

Technical Data
Period of Construction: 2010-2013
Year of the Intervention: 2012
Client: The Thief Hotel
Contractor: Viking Entreprenør AS
Design: Mellbye Arkitekter AS
Laying Company: Viking Entreprenør AS
Mapei Distributor: Scantools AS
Mapei Co-ordinators: Tore Karlsen and Alf Ruud, Mapei AS (Norway)

Mapei Products
Conplan ECO VR*, Kerapoxy, Mapelastic, Megafix*, Megafix White*, Megarapid 2K*, Mapegum WPS, Mapesil AC, Nonset 400, Primer G*, Ultracolor Plus, VR Band*, VR Støp*.

*These products are distributed on the Norwegian market by Mapei AS (Norway)

Technical Data

Period of the Intervention: April-August 2013
Client: Sava Hotels Resorts
Company in Charge of Repairing the Areas around the Pools: Uni-Mobil, d. o. o.
Company in Charge of the Terrace's Repair: Eko-Gradvest, d. o. o.
Laying Companies: Dacomm, d.o.o. (for the areas around the pools); Keramicarstvo Simoncic Božo, s. p. (for the terrace)
Works Direction: Mrož, d. o. o., Andrej Gantar, i.g.
Mapei Co-ordinator: Gregor Knez, Mapei d.o.o. (Slovenia)

Mapei Products

Adesilex PG1, Eco Prim Grip, Keraflex Easy, Keraflex Maxi S1, Kerapoxy CQ, Mapeband, Mapeband SA, Mapeband TPE, Mapeflex PU45, Mapefoam, Mapelastic, Mapenet 150, Planitop Fast 330, Primer AS, Ultracolor Plus

Terme 3000
Moravske Toplice (Slovenia)

The Terme 3000 water park in Moravske Toplice is one of the largest of its kind in Slovenia. Mapei supplied products for the renovation of the floorings around the pools and the renovation of the terrace at the Livada Prestige Hotel.
In the summer of 2013, renovation work was carried out on the large terrace in the east wing of the hotel. On the terrace, the old ceramic tile floor was completely removed along with the adhesive and the waterproofing layer.
The following Mapei products were then used: ADESILEX PG1 to bond the drainage system; MAPEBAND TPE and ADESILEX PG1 to form a flexible, waterproof seal for the structural joints; ECO PRIM GRIP and PLANITOP FAST 330 to treat the old substrate; MAPELASTIC, MAPENET 150 to waterproof the surfaces; MAPEBAND to waterproof the expansion joints and fillets between the horizontal and vertical surfaces; MAPEBAND SA to waterproof fillets between vertical and horizontal surfaces on terraces and balconies and in bathrooms and showers. The porcelain tile flooring was bonded with KERAFLEX MAXI S1. The joints were grouted with ULTRACOLOR PLUS. All the expansion joints, the fillets between the horizontal and vertical surfaces and the other joints between the various elements were cleaned and treated with PRIMER AS and then sealed with MAPEFLEX PU45. During the renovation works of the flooring around the swimming pools, the cracks in the screed were repaired and sealed with EPORIP. PLANITOP FAST 330 was used to smooth the surface of the substrate and to form the slopes required. The tiles were bonded with KERAFLEX EASY, while the joints were grouted with KERAPOXY CQ. MAPEFLEX PU45, PRIMER AS and MAPEFOAM were used to seal the expansion joints.

Aqualand Moravia
Pasohlávky (Czech Republic)

Aqualand Moravia, the most modern aquatic park in the Czech Republic, was opened in August 2013. The complex can host 8000 visitors and offers 12 pools, 24 saunas, 4 whirlpools, 20 water slides, special outdoor water attractions, a big wellness zone, solar and Roman baths, and restaurants for almost 500 customers.
In the showers and the toilettes MAPECEM PRONTO and TOPCEM PRONTO ready-to-use, controlled-shrinkage mortars were used to build the screeds on reinforced concrete surfaces. PLANITOP FAST 330 fibre-reinforced cementitious mortar was used to level the substrates. PRIMER G synthetic resin primer in water dispersion was used as an adhesion promoter on the substrates of the changing rooms and ECO PRIM GRIP ready-to-use primer was applied on the stairs' substrates. On the showers' wall substrates were waterproofed with MAPEGUM WPS flexible membrane and MAPEBAND alkali-resistant rubber tape. MAPELASTIC flexible cementitious mortar was used to waterproof surfaces in the area of the swimming pools and aquatic attractions. MAPEBAND SA was used to waterproof the corners and seal the gutters. Ceramic tiles were laid on floors and walls in the showers and toilettes with KERAFLEX MAXI S1 deformable cementitious adhesive. ELASTORAPID highly-deformable, quick-setting and drying cementitious adhesive was instead used in the swimming pools and aquatic attractions areas. Mosaic tiles were bonded in the spa areas with KERAQUICK quick-setting, deformable cementitious adhesive mixed with LATEX PLUS elasticising latex.
Joints in the surfaces of galleries and corridors were grouted with ULTRACOLOR PLUS mortar. KERAPOXY anti-acid epoxy mortar was instead used for the joints in the swimming pool and aquatic attractions areas.
The fillets were sealed with MAPESIL AC acetic silicone sealant.
Ceramic tiles were bonded in the indoor swimming pool for children and in the showers' basins with KERALASTIC two-component, polyurethane adhesive and the joints were grouted with KERAPOXY.

Technical Data

Period of Construction: 2012-2013
Year of the Intervention: 2012-2013
Contractor: Metrostav a.s.
Project Manager: eng. Schneider
Laying Company: Karstav s.r.o., VS-Build s.r.o., EuroBalneo s.r.o.
Mapei Distributor: Metrostav a.s.
Mapei Co-ordinators: Michal Lukas and Tomáš Brožek, Mapei spol s.r.o (Czech Republic)

Mapei Products

Elastorapid, Keraflex, Keraquick, Keralastic, Keraflex Maxi S1, Mapelastic, Silancolor Tonachino, Mapeband Butyl, Kerapoxy, Topcem Pronto, Mapesil, Planitop Fast 330

Motor-racing International Circuit
Sepang (Malaysia)

Technical Data

Period of Construction: 1997-1999
Period of the Intervention: July 2013 – August 2014
Client: Sepang International Circuit Sdn Bhd
Contractor: Adroit Builder (M) Sdn Bhd
Design: SNO Architects Sdn Bhd
Waterproofing Company: Matlamat Anggun Sdn Bhd
Mapei Co-ordinator: Khor Peh Lin, Mapei Malaysia

Mapei Products

Mapeband, Mapelastic, Mapenet 150

The Sepang International Circuit is a motor-racing complex in Sepang-Selangor located near the Kuala Lumpur International Airport. It has been used as the venue for the Malaysian leg of the Formula 1 racing calendar since 1999 and hosts other major events including the Motorcycle Grand Prix.
The heart and focal point of the circuit is the three-storey pit building facing the main grandstand. The complex hosts 33 pits, race control rooms, time keeping rooms, luxurious paddock clubs and management offices. The top deck is covered with ceramic tiles and is used on race days as a viewing area for personnel from the racing teams.
Renovation works became necessary as the waterproofing layer was no longer effective and there were leakages into the function areas below. The works, including removal of the ceramic tiles and existing waterproofing layer, and application of a new waterproofing layer and a new covering, had to be completed well in time for the Malaysian MotoGP preparations.
Mapei proposed an innovative, easy, and fast-to-apply waterproofing system. After the ceramic tiles were removed, the substrate was carefully cleaned and prepared before applying MAPEBAND alkali-resistant rubber tape with felt for corner and fillet. MAPELASTIC two-component, flexible cementitious mortar, reinforced with MAPENET 150 alkali-resistant, glass fibre mesh, was sprayed on the substrate.

Parco dei Principi Hotel
Rome (Italy)

Situated next to the famous Villa Borghese park, this grand hotel, designed by Giò Ponti, has been completely renovated. It offers 178 rooms and suites, a magnificent view of Rome and a park with a swimming pool in one of the most beautiful and largest parkland areas in the Italian capital. The hotel also has a modern congress centre with 18 meeting rooms and a wellness centre and spa extending over an area of 2000 m^2 spread over three levels. The service rooms under the outdoor swimming pool were interested by water seepages. The old mosaic covering the pool was also in bad condition and detached in several areas. The restoration began with the mosaic's removal from all the pool's surfaces. Afterwards, the screed on the pool's bottom was also removed. After carefully cleaning the surfaces by high-pressure hydro-washing, all the elements passing through the pool (drains, outlets and lighting) and the cold joints were sealed with MAPEPROOF SWELL hydro-expansive, rubber-based hydrophilic sealant paste, while the substrates were repaired with MAPEGROUT 430 thixotropic mortar. TOPCEM PRONTO and PLANICRETE were used to build new screeds. Three sides of the pools were levelled off with PLANITOP FAST 330, suitable for layers from 3 to 30 mm thick, while the section of the fourth side needed to be increased and reintegrated, for which MAPEGROUT EASY FLOW GF was recommended. After creating concrete coves with EPORIP and MAPEGROUT 430, the pool surfaces were waterproofed with MAPELASTIC SMART two-component cementitious mortar strengthened with MAPETEX SEL fabric. The joints were waterproofed with MAPEBAND alkali-resistant tape. Once all the layers had cured, the clinker tiles were bonded with ADESILEX P10 adhesive mixed with ISOLASTIC and the joints were grouted with KERACOLOR FF and FUGOLASTIC. The expansion joints in the pool were sealed with MAPESIL AC and PRIMER FD.

Technical Data

Year of Construction: 1964
Year of the Intervention: 2014
Client: Parco dei Principi Hotel
Design: Giò Ponti as for the original project; Studio Sylos Labini for the intervention
Works Direction: eng. Di Pirro
Contractor and Laying Company: Due Effe Costruzioni Srl
Mapei Distributor: Zanier
Mapei Co-ordinators: Flavio Pallotta and Roberto Pasquali, Mapei SpA (Italy)

Mapei Products

Adesilex P10, Eporip, Fugolastic, Isolastic, Keracolor FF, Mapeband, Mapegrout 430, Mapegrout Easy Flow, Mapelastic Smart, Mapeproof Swell, Mapesil AC, Mapetex Sel, Planicrete, Planitop Fast 330, Primer FD, Topcem Pronto

Bukit Bintang Station of the KVMRT Railway Line
Kuala Lumpur (Malaysia)

Technical Data

Period of Construction: 2011-2017
Period of the Intervention: October 2013 – December 2014
Client: Mass Rapid Transit Corporation Sdn Bhd
Contractor: MMC Gamuda KVMRT (T) Sdn Bhd
Design: Mott MacDonald (M) Sdn Bhd (Engineers)
Building Company: CRT Specialist (M) Sdn Bhd
Mapei Co-ordinator: Sam Sum, Mapei Malaysia Sdn Bhd

Mapei Products

Biblock, Idrostop SW 475*, Idrostop Tuboflex*, Mapefill SP*, Mapegel UTT System, Primer SN, Purtop 1000, Tuboflex

*These products are distributed on the Malaysian market by Mapei Malaysia Sdn Bhd

The KVMRT is a rail-based network which, together with other existing services, will form the backbone of the Kuala Lumpur/Klang Valley public transport system centred in Kuala Lumpur, the capital of Malaysia. The first KVMRT line to be built is the 51 km Sungai Buloh-Kajang line and construction officially began in July, 2011. The line is expected to be fully operative by July 2017.
Among the completed stations, the Bukit Bintang is located in the so called “Golden Triangle” commercial hub of Kuala Lumpur, a very popular spot for tourists due to its many shopping, dining and entertainment outlets. The station consists of four levels. The main contractor wanted a durable, high-performance waterproofing system for the roof slab to provide long-term, low-maintenance protection against water ingress and Mapei was able to supply the ideal solutions.
After the ground was excavated and compacted, diaphragm’s vertical joints were grouted with MAPEFILL SP cementitious grout, which is distributed on the Malaysian market by Mapei Malaysia. The joints of a 1.5 cm thick concrete slab were treated with IDROSTOP SW 475 and IDROSTOP SW TUBOFLEX (N.B Both products are distributed on the Singaporean market by Mapei Far East). After the top decks were casted and immersed in water for a 7-day curing period, the concrete surfaces were cleaned by high-pressure hydro-washing to remove laitance and contaminants. Excess water was removed before applying BIBLOCK epoxy curing agent by roller and leaving the surfaces curing for 3 days. PRIMER SN two-component epoxy primer was applied by roller and all the surface defects were repaired with a mixture of PRIMER SN and quartz sand. After checking the moisture level, PURTOP 1000 two-component, solvent-free, pure polyurea membrane was applied on the surfaces to form waterproof coatings.

MTRC Contract 823B
Guangzhou-Shenzhen-Hong Kong Express Rail Link (People's Republic of China)

The Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) is an express railway to be opened in phases between 2011 and 2017. It will connect Hong Kong with the major cities of mainland China (Panyu, Guangzhou, Shenzhen). The XRL Hong Kong section is under management of the Mass Transit Railway Corporation (MTRC). It is 26 kilometer in length and includes several tunnels. This project will cost 8 billion US dollars and is split into 9 contract packages. There are a total of eight emergency access points along the XRL and an Emergency Rescue Sidings (ERS) located at approximately the middle of the XRL route. The 1.24 km long Stabling Sidings and ERS are located at Shek Kong and they belong to the so-called "MTRC Contract 823B". The scope of work for Contract 823B includes the formation of a 27 hectare job site which host the maintenance and plant buildings, the Emergency Rescue Siding, drainage system, water course diversions, roadwork, noise barriers, landscaping and linked habitat compensation works in Shek Kong. Mapei's pure and hybrid polyurea waterproofing membranes were selected to waterproof roof tops and sections of the tunnels, respectively. For the roof-tops of the maintenance and plants buildings, PRIMER SN two-component epoxy primer and PURTOP 1000 two-component, solvent-free, pure polyurea membrane were applied to waterproof and prepare the total area of about 28,000 m^2 for green roof set up. MAPEFLEX PU45 was used to repair pinholes and for defect fixing purposes. For sections of the tunnels, PRIMER SN and PURTOP 400 M two-component, solvent-free, spray applied, hybrid polyurea membrane were used to waterproof approximate 18,000 m^2. The waterproofing membranes were chosen due to their chemical resistance, flexibility and tear strength characteristics to fulfill the specific requirements for each location.

Technical Data

Period of Construction: 2012-ongoing
Period of the Intervention: June 2013-on going
Client: MTRC
Design: FTP Farrells Ltd., Ove Arup & Partners HK ltd.
Contractor: Maeda – China State JV
Building Company: Hopshing Waterproof & Construction Co. Ltd.
Mapei Co-ordinators: Stuart Watt and Sammy Fan, Mapei China (Hong Kong)

Mapei Products

Mapeflex PU45, Primer SN, Purtop 400M, Purtop 1000

Technical Data

Period of the Intervention: 2013-2014
Client: AVS (Alto Vicentino Servizi) Spa
Design: TBF+Partner AG Ingegneri Agno
Works Direction: TBF+Partner AG Ingegneri Agno
Contractor: Graffito Srl
Mapei Co-ordinator: Sonia Murer, Mapei SpA (Italy)

Mapei Products

Lamposilex, Mapefer 1K, Mapefloor Finish 55, Mapefinish, Mapegrout SV, Mapeproof Sweel, Primer M, Primer SN, Purtop 1000, Quartz 0.5

Depuration Plant
Schio (Italy)

A special maintenance intervention on the depuration plant in Schio (Province of Vicenza, Italy) was carried out on three 29.5 m diameter sedimentation tanks with a total surface area of 3000 m^2, and the work involved repairing the concrete structures, treating the edges and outsides of the tanks, sealing the cracks in the concrete and protecting and waterproofing the surfaces with a polyurea membrane.
The first tank was built in October 2013 and the other two were completed between February and May 2014. Each tank had its own set of problems. After repairing the concrete using Mapei products from the MAPEGROUT line, they were completely waterproofed with PURTOP 1000.
Once the substrate had been prepared and the surfaces had been checked to make sure there were no further seepages, the horizontal and vertical surfaces in the tanks were smoothed with MAPEFINISH two-component cementitious mortar. When this product had dried, a roller was used to apply two layers of PRIMER SN two-component epoxy primer with fillers which was then broadcast with QUARTZ 0.5. The next phase was to spray on a 2.5 mm thick layer of PURTOP 1000 solvent-free, pure polyurea membrane with a high pressure bi-mixer pump.
Once cured, thanks to its high tensile strength, tear strength and crack-bridging capacity (even at low temperatures), PURTOP 1000 forms a seamless waterproof coating which adapts to substrates with any geometric form.
In the areas of the PURTOP 1000 overlapping, a 30 cm wide band of the membrane was sanded, all the dust was removed and a coat of PRIMER M was applied. Around the edge of the tanks, the area exposed to UV rays which is not immersed in water and where the wheel for the skimming arm runs, MAPEFLOOR FINISH 55 (RAL 7046) two-component, aliphatic, polyurethane coating was applied with a roller in two coats and QUARTZ 0.5 was spread between them.

Tagliede-Costaccia Cable-car Lift
Livigno (Italy)

The new Tagliede – Costaccia cable-car lift departs from the centre of Livigno at 1,819 m above sea level and then climbs another 198 m to reach a height of 2,017 m. Installation of the cable-car lift, which has 8-seater cabins and is part of the Carosello 3000 Ski Area, started in 2009.

The intrados of the floors in the departure area showed signs of several seepages into the service rooms underneath where the large generators and all the equipment that drive the cable-car lift are housed. So in 2014, once the snow had melted, work immediately started to waterproof the floor of the departure area, and the PURTOP system was chosen. After cleaning the area involved by water-jetting, some of the concrete areas were levelled off with PLANITOP FAST 330 rapid-setting, fibre-reinforced cementitious levelling mortar for internal and external use and the reinforcement rods were treated with MAPEFER 1K.

After less than one week the waterproofing intervention began by applying a layer of TRIBLOCK P three-component epoxy-cementitious primer, followed by a layer of PRIMER SN to promote adhesion of the waterproofing membrane and then PURTOP 1000 two-component, solvent-free, pure polyurea waterproofing membrane applied by spray with a high-pressure bi-mixer pump. The grating walkways were removed to leave exposed the spacers fixed at the base. Before being waterproofed, they were sandblasted, treated with PRIMER EP RUSTOP, sealed with MAPEFLEX PU 45 and then waterproofed with PURTOP 1000.

In spite of the bad weather, spray-application of the waterproof layer on site was carried out quickly so that the technicians could re-install the cabins and start the cable-car lift after a very short down time. The finishing product chosen was MAPECOAT PU 15 mixed with grey MAPECOLOR PASTE (RAL 7040).

Technical Data

Year of the Intervention: 2014
Client: Sitas Span
Design: Davide Mottini
Works Direction: Michele Ballarini
Contractors: Sitas SpA and Proget
Waterproofing Company: Ranghetti Art Proget Srl
Mapei Distributor: Bormolini F.lli Gemelli Srl
Mapei Co-ordinators: Bielleci Tecnica Sas and Roberta Squassoni, Mapei SpA (Italy)

Mapei Products

Mapecoat PU 15, Mapecolor Paste, Mapefer 1K, Mapeflex PU45, Planitop Fast 330, Primer EP, Primer SN, Purtop 1000, Rustop, Triblock P

Siemens' Production Facility
Fürth (Germany)

Siemens' production facility in Fürth (Germany) was recently awarded the LEED Gold certification for eco-sustainable buildings. The complex hosts the manufacturing of components such as circuit boards for industrial automation as well as complete electrical enclosure units for controlling production operations. Siemens is the largest employer in Fürth with 2500 personnel with around 1000 staff involved in production. Siemens invested around 14 million Euros in restructuring the complex.
The new facility includes an one-storey production building, a two-storey office and administration block, and two external buildings. The new building has modern air conditioning and energy-saving design features. Siemens had set the highest sustainability targets for the new complex that had to meet the most stringent low-energy standards for buildings.
Mapei provided an environmentally friendly and energy saving solution for the 13,000 m^2 roof: a special white version of MAPEPLAN M15 roofing membrane featuring 97% SRI (Solar Reflectance index) and 90% thermal radiation. The white membrane reflects solar radiation and thus prevents the heating of the building.
The advantages of using MAPEPLAN M15 include savings in energy and costs for summertime air conditioning, an improved interior atmosphere, and a long service life for the roof. Therefore, MAPEPLAN M15 was an important factor in obtaining the LEED Gold certification.

Technical Data
Period of Construction: July 2013 - March 2014
Period of the Intervention: October - November 2013
Project Design: S + P
Client: Siemens Real Estate GmbH & Co. OHG
Contractor: Ed. Züblin AG
Company in Charge of Roof Waterproofing: Schmidt GmbH
Mapei Co-ordinator: Jörg Gehring, Mapei GmbH (Germany)

Mapei Product
Mapeplan M15

Lilian Towers
Dubai (UAE)

The Lilian Towers are two adjacent mixed-use twin towers in the Business Bay District of Dubai. Each building comprises three common basement levels, a ground floor and 29 floors. One tower hosts a 440-room luxurious hotel, while the other one hosts 136 apartments. The amenities at Lilian Towers include a well-equipped gymnasium, a state-of-the-art hall, a well-appointed health club, and parking space for 984 vehicles along with selection of retail outlets. Mapei offered an "one-stop" solution, the MAPEPLAN PVC waterproofing system, for basement waterproofing and constant technical assistance. The task was to secure water tightness long after the installation works and provide additional safety at pile caps, earth pits, penetrations and other weak points in the basement. Mapei system included MAPEPLAN TU WL 30* PVC-P synthetic waterproofing membrane with an orange top-side warning layer and a black bottom layer, for waterproofing the main surfaces; IDROSTOP PVC BI/BE ME PVC waterstop was used for waterproofing the construction and expansion joints and for creating the welded compartments; IDROSTOP MULTI 11 PVC-P re-injectible hose was used for sealing and waterproofing injection; MAPEGEL UTT SYSTEM three-component hydrophile gel was used to seal the construction joints permanently; MAPEPLAN DISK* PVC-P fixing element provided support for the PVC membrane during vertical installation; IDROSTOP hydrophilic, expanding rubber profiles and IDROSTOP MASTIC one-component adhesive formed watertight construction joints able to resist high hydraulic pressure; MAPEGROUT ME 05*, a shrinkage compensated, high-flow micro-concrete and thick section grout, was used for pile-top treatment and re-profiling, column jacketing, and structural repairs; PLANIGROUT 300 ME* three-component fluid epoxy mortar provided pile-cap waterproofing applications on the basement floor; sealants from the MAPEFLEX line were used for the sealing works.

Technical Data

Period of Construction: November 2012 - May 2013
Client: Marya Investments
Consultant: Khatib & Alami
Contractor: Arabtec Construction Dubai
Waterproofing Company: Al Shirawi Contracting
Mapei Co-ordinators: Tarana Daroogar, Salman Nisreen and Ramchandani Monish, IBS Mapei (UAE)

Mapei Products

Idrostop, Idrostop Mastic, Idrostop PVC BI/BE ME*, Idrostop Multi 11*, Lamposilex, Mapeflex, Mapegel UTT System, Mapegrout ME 05*, Mapegrout T60 ME*, Mapeplan TU WL 30, Mapeplan Disk, Planigrout 300 ME*

*These product are distributed on the UAE market by IBS Mapei

ADMIX-TURES FOR CONCRETE

This line includes hyper-plasticisers, super-plasticis-ers, air-entraining agents, accelera-tors, retardants, anti-evaporating agents and form release agents, de-veloped with the aim of increasing the impermeability, durability, strength and maintenance of workability of concrete.

Donau City Tower 1
Vienna (Austria)

The Donau City Tower project, in Vienna's Donau City district on the banks of the Danube, consists of two buildings: the 250 m DC Tower 1 and the DC Tower 2. Designed by Dominque Perrault, DC Tower 1 was created in collaboration with the Viennese studio Hoffmann-Janz Architekten. It is characterised by the irregular form of its dark glass façade which has surfaces with both protrusions and recesses. The skyscraper's 60 floors host the offices of international companies, apartments, a hotel, a gymnasium, a restaurant and a bar. Along the skyline of Vienna, DC Tower 1 is noticeably taller than the Millennium Tower on the other side of the Danube, although the Donauturm panoramic observation terrace, at 252 m, is still the tallest building in Vienna.

DC Tower 1 was awarded the LEED certification, respecting "green building" criteria approved by the European Commission. Work started in the summer of 2010 and required a considerable amount of resources and materials, such as 110,000 m^3 of concrete and 20,000 tons of steel. The end result is a structure weighing 290,000 tons.

Mapei supplied admixtures manufactured and distributed in Austria by Mapei Betontechnik, such as the super-plasticisers DYNAMON LZ 65 and DYNAMON LZ 100, and the retardant MAPETARD VZ used to prepare 110,000 m^3 of concrete. Mapei products were also used to bond granite and marble slabs on the walls and floors of the offices inside the building, such as the adhesives KERALASTIC, KERAFLEX MAXI S1 and ELASTORAPID, ULTRACOLOR PLUS grout for joints and the sealants MAPESIL AC and MAPESIL LM for the expansion joints.

The preparation of the substrates was completed with the primers PRIMER G and ECO PRIM GRIP and the self-levelling smoothing compound ULTRAPLAN.

Technical Data

Project: Dominique Perrault and Hoffmann Janz ZT GmbH
Period of Construction: 2010 - February 2014
Client: WED (Wiener Entwicklungsgesellschaft für den Donauraum AG)
Static Planning: Arbeitsgemeinschaft Tragwerksplanung Bollinger Grohmann Schneider Ziviltechnikergesellschaft mbH & Gmeiner Haferl Zivilingenieure TZ GmbH
Contractors: PORR Technobau und Umwelt AG and Max Bögl Bauunternehmung GmbH
Laying Company: Steinindustrie Dipl. Arch. Albert Friepess Ges.m.b.H & Co. KG
Mapei Co-ordinators: Georg Partlic, Florian Rirtz and Fares Maghsood, Mapei GmbH (Austria)

Mapei Products

Dynamon LZ 65*, Dynamon LZ 100*, Eco Prim Grip, Elastorapid, Keraflex Maxi S1, Keralastic, Keraquick, Mapetard VZ*, Mapesil AC, Primer G, Ultraplan, Planitop 400, Ultracolor Plus
*These admixtures are manufactured and distributed in Austria by Mapei Betontechnik



Termini Imerese Port
Palermo (Italy)

Technical Data
Year of the Intervention: 2013-2014
Client: Palermo Port Authority
Works Director: Paolo Tusa
Building Company: Costruzioni Bruno Teodoro SpA
Mapei Co-ordinators: Alessandro Addia, and Salvatore Costa, Mapei SpA (Italy)

Mapei Product
Dynamon SX14

The port of Termini Imerese is located halfway along the northern coast of Sicily and is served by two important roads and a railway line. It has an offshore breakwater running almost parallel to the coast and a trapezoid shaped breakwater quay and wharf which form two docks used by tourist and commercial ships and by fishing boats and pleasure boats.
The port, which had been partially abandoned for a number of years, was recently taken over by the Port Authority of Palermo, which implemented a series of redevelopment projects, one of which was the repair and renovation of the wharfs.
After removing the old bitumen coating from the Riva wharf and Trapezoid quay (around 120,000 m^2) and digging down to the various depths required, the material dug out was stabilised with cement and spread out over a 10 cm thick bed made up of material in assorted particle sizes. Work was completed by installing an anti-seepage filter made up of a film of polyethylene and 30 cm thick concrete slabs. The concrete was admixed with DYNAMON SX14 fine aggregate supplementing superplasticizer for concrete with low loss of workability and high reduction of mixing water. Thanks to the use of this admixture, the cementitious conglomerate set very uniformly through its entire section and helped prevent the formation of a surface crust. DYNAMON SX 14 ensured reduced shrinkage and made it easier to scratch the surface later on.

Portside Building
Cape Town (South Africa)

The new Portside building in Cape Town has become a landmark tower in the new financial district in the Foreshore area of Cape Town's Central Business District. Featuring 32 floors, over 52,000 m^2 of office space, 1,200 m^2 of retail and banking space, and 1,382 parking bays, the 139 m high Portside building has been jointly designed by DHK and Louis Karol Architects. Strategically situated in a prime location and comprising a full city block, the complex offers a great view on the Table Mountain, the Atlantic Ocean and the city itself. The building houses a bank's provincial headquarters, premium grade office space, and 7 retail units. The project was underpinned by a firm commitment to sustainable and responsible development. Portside building is today the tallest building in Cape Town. The building has been awarded a five star Green Star rating from the Green Building Council of South Africa as compliant technologies were specified throughout. The building has become an icon of integrated sustainability and has raised standards of design and indoor environmental quality as well as setting benchmarks for the reduction of energy, drinking water consumption, storm water run-off, waste production and harmful emissions for tall buildings.

Mapei contributed to the completion of this project by providing technical assistance and innovative admixtures for concrete such as DYNAMON EASY 31 acrylic-based super-plasticizer for ready-mix concrete with long workability; MAPETARD SD 2000 set-retardant for concrete and mortars; MAPECURE SRA 27 admixture for mortars and concrete (N.B. this product is manufactured and distributed in South Africa by Mapei South Africa Pty Ltd); MAPECURE S solvent-based film-forming curing compound to protect mortar and concrete surfaces from drying too quickly when exposed to sun and wind; and PROSFAS solvent-free water-based hardener with high penetration capacity for cement screeds.

Technical Data

Period of Construction: November 2011–December 2013
Period of the Intervention: 2011-2013
Client: Old Mutual and Firstrand Bank
Design: DHK and Louis Karol Architects
Contractor: Murray & Roberts
Works Direction: Murray & Roberts
Mapei Co-ordinators: Derk Borneman, Mapei SpA and Antony Offenberg, Mapei South Africa Pty Ltd

Mapei Products

Dynamon Easy 31, Mapetard SD 2000, Mapecure SRA 27*, Mapecure S, Prosfas
*This product is distributed in South Africa by Mapei South Africa Pty Ltd

PRODUCTS FOR UNDER-GROUND COSTRUC-TIONS

Underground works have unique characteristics. This is the reason why the Mapei UTT (Underground Technology Team) was created, as well as dedicated products: setting accelerators for shotcrete and synthetic membranes for waterproofing tunnels and underground structures.

Underground Railway Line 2
Warsaw (Poland)

The works on the second line of Warsaw underground railway started in September 2010. The new line was intended to be 31 km long end enclose 28 stations. The central part of the line runs under under the Vistula river through the city center between Daszynskiego station and Wilenski roundabout. It is 6.1 km long and was the first section to be completed. Mapei contributed to the tunnel excavation works by supplying wide range of products for tunnel boring machines such as POLYFOAMER FP/CC liquid foaming agent for ground conditioning, MAPEBLOX T and MAPEBLOX PKG tail seal grease. MAPEQUICK CBS SYSTEM 1 liquid retarding admixture with plasticizing effect and MAPEQUICK CBS SYSTEM 2 liquid activator admixture were used with cement and bentonite in the mix to fill the space during tunnel excavation behind the ground and the concrete tunnel rings. The two-component thixotropic cementitious mortar MAPEGROUT LM 2K was used to repair the tunnel segments once the rings were installed. At two stations the following products were used: MAPEFER 1K one-component corrosion-inhibiting cementitious mortar for the protection of reinforcment rods; MAPEFILL high-flow non-shrink anchoring grout for the anchorage of structural elements; MAPEGROUT 430 fine-grained, fibre-reinforced, normal-setting thixotropic mortar and MONOFINISH one-component normal setting cementitious mortar for smoothing and re-profiling damaged pre-cast concrete elements. MAPEPROOF and MAPEPROOF LW bentonite waterproofing sheets were applied for waterproofing the bottom slab of the stations while MAPEPLAN TU waterproofing membrane was used for other waterproofing works.
A lot of resin-based products were injected for sealing leakages in the tunnel and stations such as RESFOAM 1KM and RESFOAM 1KM AKS one component polyurethane resins. RESFOAM 1 KM FLEX resin, MAPEGEL UTT SYSTEM acrylic gel, FOAM JET 260 LV two component polyurethane resin, and FOAMJET F two component resin were also used for the construction works of this underground line.

Technical Data

Period of Construction: 2010 - 2014
Period of the Intervention: 2010 - 2014
Client: AGP Metro
Contractor: AGP Metro
Building Companies: AGP Metro, Imbudizol, Betonox, Dobrowolski
Mapei Co-ordinators: Krzysztof Pogan and Mikołaj Alexandrowicz, Mapei Polska Sp.z o.o. (Poland)

Mapei Products

Dynamon SR3, Dynamon SX 32, Epojet, Foamjet 260 LV, Foamjet F, Lampocem, Mapegel UTT System, Mapeblox T, Mapeblox PKG, Mapequick CBS System 1, Mapequick CBS System 2, Mapefer 1K, Mapefill, Mapeflex PU45, Mapegrout 430, Mapegrout Hi-Flow, Mapelastic, Monofinish, Mapeproof, Mapeproof LW, Mapeplan, Planicrete, Planigrout 300, Resfoam 1KM, Stabilcem T

Technical Data

Period of Construction: 2013-on-going
Period of the Intervention: 2013-2014
Client: Anglo. American
Contractor: Redpath Mining
Works Direction: Andrew Barnes and Jack Shih
Mapei Co-ordinator: Bob Marks and Gilbert Latouche, Mapei Australia Pty Ltd

Mapei Products

Mapeblox T, Mapeblox H, Mapeblox PKG, Mapebent CBS 5, Mapedrill Bio, Mapequick CBS System 1, Mapequick CBS System 3, Polyfoamer FP

Grosvenor Mine
Moranbah (Australia)

In July 2012 construction started on the Grosvenor project, a five million tonne per annum underground longwall mine planned for Moranbah in Central Queensland, Australia. Grosvenor is located immediately to the south of the existing Moranbah North mine which has been in operation since 1998. During the works, TBM (Tunnel Boring Machine) technology was used for the first time in Australia for excavation of a coal drift.

Similar to the tunnel borers that have been used to construct the road tunnels in Brisbane, the TBM tunnelling method delivered advances in safety, higher quality drifts and faster project development.

The TBM technology was used to build the two drifts on the project, one for the coal conveyor which will transport coal from the underground longwall to the stockpile area on the surface and another for people and equipment to access the underground once the mine is operational.

Mapei supplied several admixtures for concrete for this project: MAPEQUICK CBS SYSTEM 1 liquid retarding admixture for cementitious injection systems; MAPEQUICK CBS3 liquid activator admixture for extremely fluid cementitious grout systems; MAPEBENT CBS5 bentonite; POLYFOAMER FP liquid foaming agent for preparing stable TBM (EPB) foams; MAPEBLOX T tail seal grease, MAPEBLOX H main bearing sealant, MAPEBLOX PKG packing grease , and MAPEDRILL BIO natural, biodegradable, powder polymer polymer and clay inhibitor for mechanized tunnelling with TBM.

The Sungai Buloh-Kajang line along the KVMRT
Kuala Lumpur (Malaysia)

The KVMRT is a rail-based network which, together with other existing services, will form the backbone of the Greater Kuala Lumpur/Klang Valley public transport system centred in Kuala Lumpur, the capital of Malaysia.
The first KVMRT line to be built is the 51 km Sungai Buloh-Kajang Line and construction officially began in July, 2011. The line starts from Sungai Buloh, located in the north-west of Kuala Lumpur, runs through the city centre of Kuala Lumpur, and ends in Kajang, a town in the south-east.
9.5 km of the line and 7 of the 31 stations will be underground. The line is expected to become fully operative by July 2017.
The underground stretches are constructed with tunnel boring machines (TBM). The geological conditions of the Klang Valley make tunneling beneath Kuala Lumpur extremely challenging. The tunnel crosses different geological formations with sedimentary rocks such as mudstone, shale, phylite and sandstone, as well as erratic Karstic features comprising eroded limestone rock beneath a layer of top soil.
Mapei innovative products for underground constructions contributed to the project. MAPEBENT CBS 2 natural sodium bentonite and MAPEDRILL CCS polymer (N.B this product is distributed on the Malaysian market by Mapei Malaysia) were used to prepare a slurry with variable density used when boring limestone formations; MAPEDRILL CCS was also used for backfill grouting; POLYFOAMER FP liquid foaming agent was used for ground conditioning when boring sedimentary formations; MAPEBLOX T tail seal grease was used where necessary to prevent material inflow into the boring machine and when a grease with flameproof properties was required.

Technical data

Period of Construction: 2012-on-going
Period of the Intervention: May 2013 – December 2014
Client: Mass Rapid Transit Corporation Sdn Bhd
Contractor: MMC Gamuda KVMRT (T) Sdn Bhd
Design: Mott MacDonald (M) Sdn Bhd (Engineers)
Building Companies: MMC Gamuda KVMRT (T) Sdn Bhd , Gang Hang Engineering & Construction S/B, SCG Engineering (M) Sdn Bhd & CEC International Malaysia Sdn Bhd
Mapei Co-ordinator: Sam Sum, Mapei Malaysia Sdn Bhd

Mapei Products

Mapebent CBS 2, Mapedrill CCS*, Polyfoamer FP, Polyfoamer FLS, Mapeblox T, Mapedrill F1
*This product is distributed on the Malaysian market by Mapei Malaysia Sdn Bhd

Tunnels along the Adler-Krasnaya Polyana highway
Sochi (Russian Federation)

A new motor and rail way links the Sochi city district of Adler to the Alpika Service mountain climate resort in the Krasnaya Polyana area. The road was the main gateway to the places hosting the 2014 Winter Olympics in Sochi.
The road secured transportation of spectators and participants to Olympic sport facilities located in the Krasnaya Polyana mountains as well as to the Olympic Park ice stadiums located in the Imeretinsky valley.
Construction works began in 2009. The total length of the motorway is 48.2 km. The rail and motor way include 77 bridges: 37 railroad bridges totaling 19.5 km, and 40 km motorway bridges with a total length of 14.6 km. The total length of 12 tunnels is about 28 km, including 6 railway tunnels with a total length of 10,408 m, 3 traffic tunnels with a total length of 7697 m, and 3 service tunnels with a total length of 9328 m.
DYNAMON SG 40 super-plasticizer based on modified acrylic polymer was used for pre-cast concrete segments of the final concrete lining in the tiunnels excavated with TBM. MAPEQUICK AF1000 alkali-free accelerator for shotcrete was also used in the tunnels along the Adler–Krasnaya Polyana route. MAPEGROUT THIXOTROPIC shrinkage-compensated fibre-reinforced thixotropic mortar was used for repairing and smoothing concrete surfaces in the tunnels; NIVOPLAN levelling mortar for levelling concrete surfaces into tunnels and technological ducts for cables and other service elements.
Other products used include MAPEDRILL F.R.A.01, the sprayable waterproofing membrane MAPELASTIC TU SYSTEM, MAPEPLAST air-entraining agent for concrete and cementitious mortars, and MAPEBLOX T used to seal grease for mechanized tunneling with TBM.

Technical Data

Period of Construction: 2009-2013
Period of the Intervention: 2009-2013
Design: Sochitranstonnelproekt
Client: Chernomorie Federal State Institution for Construction and Reconstruction of Highways in the Black Sea Region (DSD)
Main Contractor: Tonnelny Otryad 44
Building Companies: Transinzhtonnel, Sk Kvant
Mapei Distributor: Kayros
Mapei Co-ordinator: Alisov Vladimir, ZAO Mapei (Russian Federation)

Mapei Products

Dynamon SG 40, Mapeblox T, Mapedrill F.R.A.01, Mapegrout Thixotropic, Mapelastic TU System, Mapeplast PT 1, Mapequick AF 1000, Nivoplan

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