

Milan Central Railway Station

Now that the first phase of the renovation has come to an end, work continues with Mapei again leading the way on site

After the Teatro alla Scala, the Pirelli Skyscraper and the Basilica of Saint Ambrogio, yet another grandiose restoration and reclamation operation is being completed in the heart of Milan, and again with the contribution of Mapei. This time, it's the Central Railway Station where work started in 2005. This is one of the most important conservative renovation projects in the field of urban architecture in Italy.

Railway architecture is going through a new season of change and, as declared by Mauro Moretti, the Managing Director of the Italian National Railways Group (Gruppo Ferrovie dello Stato), "stations are once again becoming privileged subjects, reflecting the pattern of transformation which urban areas and economic and social scenarios are undergoing".

And this is also because, continued Moretti, "a station represents movement, it is part of a journey whose boundaries cross over into a city and territorial environments and unites, not only idealistically, the entire European railway network".

It is worth remembering that Milan Central is the second largest railway station in Italy for size and volume of passengers, and is a hub for 500 trains a day, two underground railway lines, is right alongside the City Railway Bypass, is a terminus for a number of bus and tram routes and a drop-off point for the airports shuttle services. The upgrading of the entire infrastructure system of this important railway hub represents, therefore, the answer to the increasing demand for metropolitan and regional mobility. At the same time, renovation of Milan Central Railway Station is a fundamental operation in view of the extraordinary event that Milan will shortly be experiencing, the 2015 Universal Expo.

THE AREAS WHERE MAPEI PLAYED A MAJOR ROLE

A. Structural reinforcement works for static reinforcement of the extrados of the vaulted roofs in the Carriage Gallery.

B. Restoration of part of the decorative cement in the Carriage Gallery and of part of the intrados and protective decoration of the surfaces.

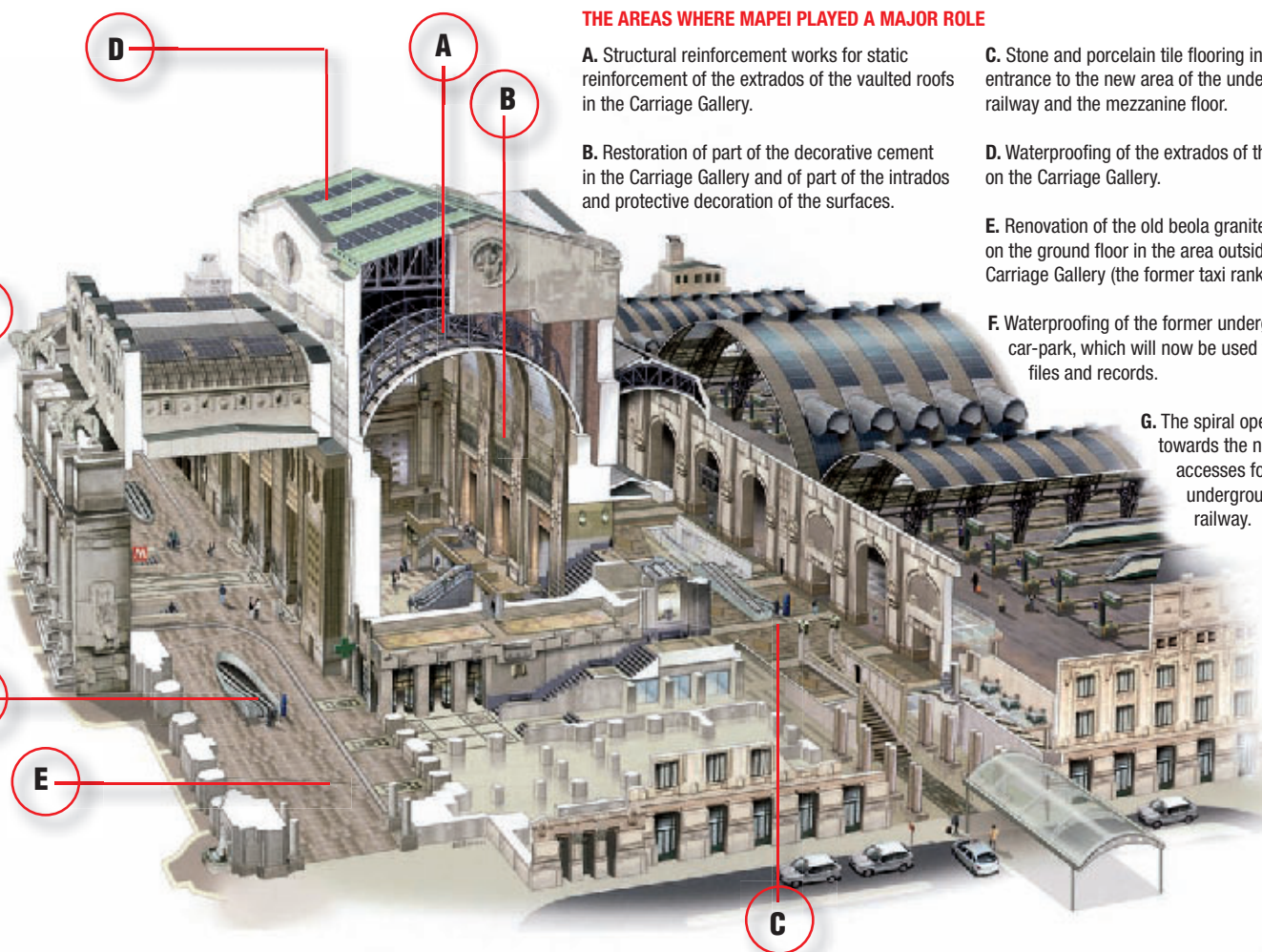
C. Stone and porcelain tile flooring in the entrance to the new area of the underground railway and the mezzanine floor.

D. Waterproofing of the extrados of the domes on the Carriage Gallery.

E. Renovation of the old beola granite floors on the ground floor in the area outside the Carriage Gallery (the former taxi rank).

F. Waterproofing of the former underground car-park, which will now be used to store files and records.

G. The spiral openings towards the new accesses for the underground railway.



Designed by Mirko Milanese

The Renovation Project

“The idea that animates the overall renovation project for Milan Central Railway Station”, stated Fabio Battaglia, Managing Director of Grandi Stazioni SpA (the Italian company within the Ferrovie dello Stato Group with the full responsibility for renovating and enhancing the value of the properties comprising Italy’s largest railways stations, as well as a number of major railway stations), “is driven by the high architectural value of the entire complex: the station is an artistic patrimony for the City, whose beauty will be protected and brought back to its antique splendour”.

Designed by Ulisse Stacchini at the beginning of the 20th century, it is a kaleidoscope of polychromatic marble, a continuous array of monumental environments, where the natural light plays games against the travertine, exalting the carvings, decorations and stucco surfaces of rare beauty and expressive intensity. An integral part of the renovation project of the station was an intensive conservative restoration programme of the original works, created together with the City

of Milan Superintendent for Cultural Works. Every surface was cleaned, consolidated and renovated using the original materials. Where this proved to be impossible, materials with a similar constitution were used, and then protected against attack due to harsh weather conditions and the passage of time.

“The challenge with this project” declared the designer, the Italian architect Marco Tamino, “was to develop innovation without cancelling the identity of the place; rather, it now has more character and more energy”. One of the guidelines followed by the designer was to minimise the impact of the project. In fact, as Tamino underlined, “the forms, lines and construction technology of the new architectural elements inserted into this context are strong and innovative, yet they avoid formal intrusions and rivalry with the older architecture”.

The first stage of the work is now finished, and involved the most complex part of the project: consolidation of the vaulted roofs on top of the station, starting from the Carriage Gallery (Galleria

delle Carrozze), up to the Ticket Hall and ending up at the Central Gallery. After consolidating the main architectural structures, the second phase involved reorganisation of the internal walkways. The works programme goes on day and night, and is taking place under unique logistical conditions: restructure a terminal, in this case the Milan Central Railway Station, without effecting the normal daily railway traffic and the services offered by the station to more than 350,000 people who use the station every day. The excellent results in the logistics of the project are made possible by design studies which are carried out daily on the field by the technical site staff of the main building contractor, Rizzani De Eccher. After the final cleaning operations of the vaulted roofs in the Carriage Gallery and in the Gallery at the head of the station, one can now admire the contrast between the renovated walls and those which have still to be touched.

Now let’s take a closer look at the various intervention cycles, in which Mapei products and systems have always played a leading role.

A. Structural reinforcement works for static reinforcement of the extrados of the vaulted roofs in the Carriage Gallery



Foto 1.
Original condition.

Photo 2.
Cleaning the extrados.

Photo 3.
Applying Mapegrout T60.

Photo 4.
Applying MapeWrap 31 adhesive.



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The first operation was to carefully clean the entire surface, to eliminate the dirt deposited on the roof over the years and any loose parts. Rebuilding of the concrete areas removed after carrying out preparation work for this phase and smoothing over the surfaces, was carried out using MAPEGROUT T60* single component, fibre-reinforced cementitious mortar for repairing concrete. This product was applied using the fresh on fresh technique on top of EPORIP* epoxy based adhesive, which had been applied using rollers and brushes on the areas to be repaired. Once this operation had been completed, and once the mortar was well cured, the reinforcement operations using products from the MAPEWRAP range could commence. The cycle involved applying a pre-

liminary layer of MAPEWRAP PRIMER 1* epoxy primer, for the preparation of substrates which are the object of static reinforcement. The surface was then smoothed over before applying the carbon fibre sheets, and this operation was carried out using MAPEWRAP 12*, two-component epoxy putty with a thixotropic consistency. The mono-directional carbon fibre fabrics chosen for this operation were MAPEWRAP C UNI AX*. The fabrics were positioned by impregnation using MAPEWRAP 31*, a special two-component epoxy adhesive for this type of bonding operation. To prepare for the final painted layer, quartz was carefully sprinkled on the resin while its surface was still fresh. A very important and delicate operation was the sealing and waterproofing of the joints in the concrete surfaces.

The expansion joints were waterproofed by positioning MAPEBAND TPE* (Thermoplastic Polyolefin Elastomeric) tape across the section of the concrete, bonded in place with ADESILEX PG4*, two-component epoxy adhesive with modified rheology for structural bonds. Before sealing the joints, MAPEFOAM* expanded polyethylene foam cord was inserted in them to achieve correct dimensions of the joints. They were sealed with MAPEFLEX PB25*, two-component, thixotropic sealant composed of a polyurethane polymer devoid of free isocyanates and special hardener which contains tar of petroliferous origin. While the work was being carried out, a number of tie-rods were found to be rusty to such an extent that they needed to be either reinforced or replaced. The ceiling roses were also repaired

and reinforced with cords. In those areas where reinforcement was carried out, a special carbon fibre cord made from MAPEWRAP C FIOCCO* was used (diameter 12 mm).

Once the structural work had been completed, the entire surface had to be painted with a product which, over the years, will also allow for easy clean-

ing operations. After trying out a number of samples, the painting operation was carried out using COLORITE PERFORMANCE*, pure acrylic resin-based paint in water dispersion which leaves a long-lasting, durable finish.



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*Photo 5.
Preparation work
before laying
MapeWrap C UNI AX.*

*Photo 6.
Mapeband TPE
elastic tape applied
on the expansion
joints.*

*Photo 7.
Fixing the ceiling
roses with MapeWrap
C Fiocco.*

*Photo 8.
Extrados of the
Carriage Gallery
painted with Colorite
Performance.*

***Mapei Products Used in Section A:**

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

Colorite Performance: pure acrylic resin-based paint in water dispersion for protecting and decorating external and internal surfaces.

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

Mapeband TPE: TPE tape for flexible sealing and waterproofing of expansion joints and cracks subject to movement up to 5 or 10 mm wide.

Mapeflex PB25: two-component elastic polyurethane-resin and tar-based sealant with thixotropic consistency resistant to hydrocarbons.

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

Mapegrout T60: sulphate-resistant shrinkage-compensated fibre-reinforced thixotropic mortar for the repair of concrete.

MapeWrap 12: two-component slow setting thixotropic epoxy putty for levelling concrete surfaces.

MapeWrap 31: two-component superfluid medium viscosity epoxy adhesive for impregnation with MapeWrap "dry system".

MapeWrap C Fiocco: carbon fibre cord for impregnating with MapeWrap 21 (two component, super-fluid epoxy resin). The products in the MapeWrap C Fiocco range are made from unidirectional carbon fibre with a high modulus of elasticity.

MapeWrap C UNI AX: high strength unidirectional carbon fibre fabric with high modulus of elasticity (230,000 N/mm²). The fabric is available in two weights and each type with different heights.

MapeWrap Primer 1: two-component epoxy primer specific for the MapeWrap system.

B. Restoration of part of the decorative cement in the Carriage Gallery and part of the intrados; protective decoration of the surfaces

This operation was carried out by initially removing the loose and damaged portions.

All the rust was completely removed from the reinforcement rods, which were then treated with MAPEFER* corrosion-inhibiting cementitious mortar.

The concrete was then rebuilt using MAPEGROUT T60* fibre-reinforced, controlled-shrinkage mortar.

To form an even finish on the repaired areas, and also to protect them, they were treated with SILANCOLOR PRIMER* followed by a coat of SILANCOLOR PAINT*. The silicone resin-based SILANCOLOR PRIMER* and SILANCOLOR PAINT* were also used to paint and protect the render in the large arrivals area for the trains. ANTIPLUVIOL W* water-repellent impregnator, on the other hand, was used to protect the areas in decorative cement.

Photo 1.
The situation before the works.

Photo 2.
Rebuilding using Mapegrout T60.

Photo 3.
Applying the Antipluviol W treatment.

Photo 4.
The Gallery after restoration work.



***Mapei Products Used in Section B:**

Antipluviol W: water-based emulsion of a colourless, water-repellent silane and siloxane-based impregnator.

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

Mapegrout T60: sulphate-resistant shrinkage-compensated fibre-reinforced thixotropic mortar for the repair of concrete.

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

Silancolor Primer: silicone-resin based insulating primer in water dispersion to uniform the absorption of the substrate before the application of Silancolor Paint, Silancolor Tonachino and Silancolor Graffiato.

C. Stone and porcelain tile flooring in the entrance to the new area of the underground railway and the mezzanine floor

The areas involved in this operation were the entrance to the new area in the underground railway and the mezzanine floor.

In these areas, it was also necessary to prepare the substrates. The first step was to mechanically scarify the surface to make the base suitable for laying the screed.

The screed was installed by bonding it to the substrate using bonding slurry made from PLANICRETE*, synthetic rubber latex, water and TOPCEM*, a special high-performance hydraulic binder.

The screed was made by pouring TOPCEM PRONTO* (pre-packed, ready-to-use, normal-setting, controlled-shrinkage mortar for fast-drying screeds) while the bonding slurry was still fresh (the "fresh on fresh" technique). In some areas, where the

Photo 1.
A view of the site.

Photo 2.
Preparation of the substrate with Topcem Pronto.

Photo 3.
Laying the slabs of Sicilian Perlato marble with Adesilex P4.

Photo 4.
Laying the slabs of Sicilian Perlato marble with white version of Keraflex.

Photo 5.
Grouting the joints with Keracolor FF.



height had to be regulated, or where an extremely smooth, flat surface was required, ULTRAPLAN MAXI* ultra-fast hardening, self-levelling cementitious smoothing compound was applied.

Once these layers had been prepared, the floor covering was then laid.

30x60 cm Sicilian Perlato marble slabs with a thickness of 3 cm were used, and were bonded in place using either ADESILEX P4* (rapid-setting, improved cementitious adhesive) and the white-coloured version of KERAFLEX* (normal-setting, improved thixotropic cementitious adhesive), according to the thickness to compensate for and according to the time required before putting the floors back into service.

The joints were grouted using KERACOLOR FF* cementitious grouting mortar.

The final operation was to use ADESILEX P4* for bonding a perfectly flat layer of porcelain tile featuring a bubbled sur-

face especially devised for the visually impaired people.

*Mapei Products used in Section C:

Adesilex P4 (C2F): high performance rapid setting full contact adhesive for ceramic tiles and stone material (3 to 20 mm adhesive thickness).

Keracolor FF (CG2): high performance, polymer-modified, water-repellent, cementitious grout with DropEffect® technology for joints up to 6 mm.

Keraflex (C2TE): high performance cementitious adhesive, with no vertical slip and with extended open time for ceramic tiles and stone material (thickness of adhesive up to 5 mm).

Planicrete: synthetic-rubber latex for cementitious mortars.

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

Topcem Pronto: ready-to-use, pre-packed, normal-setting mortar with controlled shrinkage for fast-drying screeds (4 days).

Ultraplan Maxi: ultra-fast hardening self-levelling smoothing compound for thicknesses from 3 to 30 mm.

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

D. Waterproofing of the extrados of the domes on the Carriage Gallery



Photo 1.
Monolithic sealing of the blocks with Mapesil BM.

Photo 2.
Applying Elastocolor Primer.

Photo 3.
Painting the surface with Elastocolor Paint.

Photo 4.
The final result.



In this case too, preparation of the substrates was important, and all loose parts were removed mechanically and all the dirt was removed from the surface.

The joints of the decorative stone surfaces were waterproofed with MAPEBAND TPE*, bonded to the bottom using ADESILEX PG4* epoxy adhesive. In order to allow for maximum deformation of the silicone sealant when in service, the correct size of the joints was created using MAPEFOAM* expanded polyethylene foam. They were then sealed using MAPESIL BM* odourless silicone sealant with neutral cross-linking and a low modulus of elasticity, for movement joints with maximum 25% expansion of initial size. To hide the repair work, a coat of ELASTOCOLOR PRIMER*, to even out the absorption, followed by a coat of ELASTOCOLOR PAINT* were applied. In some of the more critical areas, MAPELASTIC SMART* was applied.

* Mapei Products Used in Section D:

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

Elastocolor Paint: protective and decorative elastic paint for concrete and renders based on acrylic resins in water dispersion.

Elastocolor Primer: synthetic resin-based primer in solvent, designed to provide maximum insulation and to improve the adhesion of Elastocolor Paint, Elastocolor Rasante and Elastocolor Rasante SF to the substrate.

Mapeband TPE: TPE tape for flexible sealing and waterproofing of expansion joints and cracks subject to movement up to 5 or 10 mm wide using both Mapeband TPE 170 and

Mapeband TPE 325.

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

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

Mapesil BM: odourless, neutral cross-linking, low modulus silicone sealant for movement joints with maximum 25% expansion of initial size, suitable for water draining systems and for general use.

E. Renovation of the old beola granite floors on the ground floor in the area outside the Carriage Gallery (the former taxi rank)



Photo 1.
Demolition of the old floor.

Photo 2.
Preparation of the new floor slab with metallic equipment.

Photo 3.
Pouring the concrete with Dynamon SX 14 admixture.



Photo 4.
Grouting the floor with sand supplied by VA.GA.

Photo 5.
Hydro-jet cleaning of the new beola granite floor.



The work took longer than scheduled in this area for a number of reasons. The old floor covering was completely removed, the floor slabs were demolished and excavation work was carried out over a vast area. In fact, a new exit for the underground railway will be built in this area, with moving walkways to carry passengers to the station ticket office. There will also be a number of shops and commercial activities in this area.

The first results were first noticed when the new floor slab was reinforced and the concrete was poured on.

It is worth pointing out that the wooden panels of the formwork were treated with DMA 1000 FORM RELEASE AGENT* and the Monvilbeton concrete poured on was mixed with DYNAMON SX 14* and MAPEPLAST PMX* admixtures to increase cohesion of the mix and to make it more homogenous and

compact.

The structure was then waterproofed using traditional techniques, while the beola granite was laid on a bed of sand and cement. The sand for grouting (621-type sand for building with 0,1-4 mm grain size) was supplied by the Mapei subsidiary VA.GA.

* Mapei Products Used in Section E:

DMA 1000 Form Release Agent: emulsion form release agent for easy removal of wooden forms.

Dynamon SX 14: fine aggregate supplementing superplasticiser for concrete with low loss of workability and high reduction of mixing water.

Mapeplast PMX: admixture for enhancing the pumpability of concrete.

F. Waterproofing of the former underground car-park, which will now be used to store files and records



*Photo 1.
Demolition of
the floor slabs.*

*Photo 2.
Preparation of the
Mapeproof sheets.*

*Photo 3.
Laying the
Mapeproof sheets.*

*Photo 4.
Preparation of the
Idrostop B25
bentonite jointing tape.*

*Photo 5.
Positioning
the jointing tape.*

This vast underground area was waterproofed with the MAPEPROOF* bentonite system. The existing concrete surfaces was first levelled off using MAPEGROUT T60*. The bentonite sheets were laid by overlapping them by 15 cm, and nailing them in place to the base. IDROSTOP B25* hydro-expansive bentonite jointing tape was laid around the perimeter of the area. After this operation, a 20 cm-thick layer of reinforced concrete with DYNAMON SX 14* admixture was poured on.

*** Mapei Products Used in Section F:**

Dynamon SX 14: fine aggregate supplementing superplasticiser for concrete with low loss of workability and high reduction of mixing water.

Idrostop B25: hydro-expansive, bentonite jointing tape for sealing construction joints.

Mapegrout T60: sulphate-resistant

shrinkage-compensated fibre-reinforced thixotropic mortar for the repair of concrete.

Mapeproof: waterproofing bentonite sheet for vertical and horizontal surfaces on underground structures, composed of two geofabrics in needle-punched polypropylene, which form a sandwich around a uniform layer of micronised natural sodium bentonite.

G. The spiral openings towards the new accesses for the underground railway



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Photo 1.
Floors installed with
Adesilex P4.

Photo 2.
Positioning one of the slabs.

Photo 3.
Sealing the expansion
joints of the slabs with
Mapesil AC.

Photo 4.
One of the two new
openings upon completion
of the work.



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In the Carriage Gallery, the design for the new openings for the moving walkways which lead to the underground railway follow the soft lines of the architectonic flow which surrounds them, and the geometry of the vaulted roofs. The Montorfano granite which decorates the spiral surfaces of the openings also has a soft feel: this quite surprising pattern is the result of the complicated, high-technology NC machining operation which was used to shape the marble, following a continuously variable truncated cone form. The Mapei products used in this case were, as usual, up to the task. In fact, the marble was laid using ADESILEX P4* and sealed with MAPESIL AC*.

*** Mapei Products Used in Section G:**
Adesilex P4 (C2F): high performance rapid setting full contact adhesive for ceramic tiles and stone material (3 to 20 mm adhesive thickness).
Mapesil AC: one-component mildew resistant acetic cross-linking silicone sealant.



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Various Operations

The main contracting company, Rizzani De Eccher, carried out directly a number of operations using other important Mapei products, as follows:

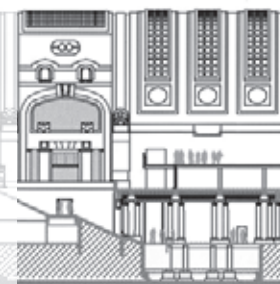
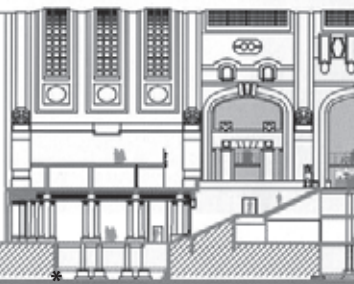
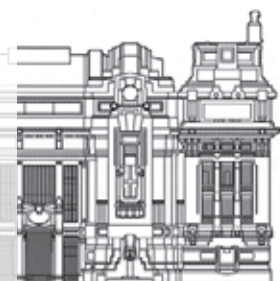
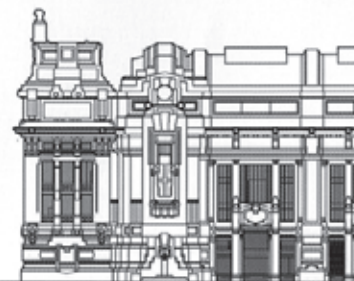
- MAPEGROUT FAST-SET* was used for quick repair work on the concrete parts;
- MAPEGROUT HI-FLOW* and STABILCEM* were used successfully for anchoring work;
- PLANITOP 100* was used to seal off honeycombs in the poured concrete used for the columns in the mezzanine floor area.
- MAPEPROOF* was used for waterproofing the retaining walls.

Mapei is There!

Once again.....Milan Central Railway Station is open for work and Mapei, with their technicians and products, is there!

In fact, a renovation site characterised by the complexity of the design and engineering aspects such as this one can not be without the Company's experience and high technology products.

In a city which is forever changing, and which looks ahead to the Universal Expo 2015, a grand entrance to the city of Milan is getting ready to welcome the future. And in the future of Milan, which witnessed the Company's birth and growth, Mapei is forever present with concrete evidence of their work which testifies the efficiency of the Company's products and the value of their technicians at work on site.





*** Mapei Products Used in Various Operations:**

Mapegrout Fast-Set: controlled-shrinkage, fibre-reinforced mortar, with rapid setting and hardening for the repair of concrete.

Mapegrout Hi-Flow: shrinkage-compensated fibre-reinforced grout for concrete repair.

Mapeproof: waterproofing bentonite sheet for vertical and horizontal surfaces on underground structures.

Planitop 100: light grey, rapid setting, fine mortar for repairing and smoothing concrete and renders.

Stabilcem: superfluid expanding cementitious binder for injection slurries, mortars and concrete.

Mapei Products:

The products mentioned in this article belong to the "Products for Ceramic Tiles and Stone Materials", "Building Speciality Line" and "Admixtures for Concrete" ranges. The technical data sheets are available on the "Mapei Global Infonet" DVD or at the web site: www.mapei.com.



TECHNICAL DATA

Milan Central Railway Station, Milan (Italy)

Years of Construction: 1925-1931 on a project designed by Ulisse Stacchini in 1913

Years of Works: 2005-2008

Customer: Grandi Stazioni Spa

Work Management: eng. Antonio Acerbo

Operational Directors: Luigi Berti, Maria Cannatelli, Paola Cappellini, Antonella Flores, Leopoldo Freyrie, Gabriele Salvatoni and Nadir Bisa

Supervisor: Stefano D'Ambrosio

Safety Coordinator during the Designing and Working Phases: CO.DI.ME.

Architectural Project:

arch. Marco Tamino

Structural Project: Massimo Antonelli

Equipment Project: Lorenzo Pagnoncelli

Building Site Communication:

Sabina Passacantilli

Graphic Project: Alessandro Cardinali

Contractor: A.T.I.

Main Customer: Rizzani De Eccher Spa

Customers: Busi Impianti Spa and Elyo Italia Srl

Installation Companies: Donelli Srl (Legnano, Italy), Platter Edilizia & Restauri Srl (Ora, Italy), Europav Srl (Limite di Pioltello, Italy), So.Tema (San Gemini, Italy)

Responsible of the Construction Job Order: Mauro Turrini

Construction Site Director: Corrado Caldera

Mapei Coordinators: Paolo Baldon, Giulio Morandini, Massimiliano Nicastro, Igor Pellegrini, Massimo Seregini, Francesco Stronati, Dino Vasquez (Mapei SpA)

The Most Beautiful Railway Station in the World

Milan Central Railway Station (Milano Centrale) is one of the most important railway stations in Europe. This railway hub was inaugurated in 1931 to replace the old Central Station (1864) which could no longer handle the volume of traffic after the opening of the Sempione Tunnel (1906). Vittorio Emanuele III King of Italy laid the foundation stone for the new station on the 28th of April, 1906. Construction work started in 1925. Because of the economic crisis in Italy during the First World War, work went ahead very slowly and the project, which was quite a basic one at the start, gradually become more complex and more imposing. This occurred especially when Benito Mussolini became Prime Minister, who wanted the station to represent the power of the Fascist regime. The main modifications carried out were to redesign the platforms and to introduce enormous steel arches, the work of Alberto Fava, which were 341 metres long and covered an area of 66,500 m². Construction got back to full pace in 1925, and on the 1st of July 1931, the station was officially inaugurated in the presence of the Minister for the Postal Service and Communications, Costanzo Ciano. Nowadays, more than 350,000 passengers pass through the station on an average of 500 trains every day, for a total of 120 million people every year. Milan Central Railway Stations, defined

by Frank Lloyd Wright, one of the all time architectural geniuses, as "the most beautiful railway station in the world", will be the only crossroads for the TAV (High-Speed railway) network which is currently under construction between the Turin-Milan-Venice, Milan-Rome-Naples and Milan-Genoa routes.

In the middle, Italian Minister Costanzo Ciano and the architect Stacchini (on the left behind the Minister) inaugurated the Milan Central Railway Station in 1931.

