

PRIVATE VILLA in Santa Lucia di Piave

CUTTING-EDGE SOLUTIONS OFFERING THE
MAXIMUM FREEDOM FOR THE DESIGN OF THIS
VILLA LOCATED ON THE VENETIAN PLAIN

For the Mapei technicians and engineers, it is vitally important they work alongside designers and provide their support during both the initial delicate phase of drawing up the building specifications, and then again when work is being carried out on site.

A concrete example of this collaboration was the relationship they built up with the architect Erich Milanese, owner of the Milanese Architects Office design studio, who worked on the design and construction of a residential villa in Santa Lucia di Piave, not far from Treviso (Northern Italy). One of the aims of the design was to keep the ridges of the roof perfectly in line with the flow of the outside walls – made up of a mix of external insulation and pre-cast blocks with cut-outs – so that the entire roof/wall assembly would form a kind of “uniform box”.

One of the first decisions was to reject the idea of waterproofing the structure with a polyurea membrane because, with this type of solution, that “natural consistency” the designers were striving to achieve would not have been guaranteed.

Following a thorough analysis of the structure and after taking on board the precise indications of the designer, Mapei supplied the most appropriate and best performing product systems for the various work cycles as and when they were required.

THE ROOF OF THE VILLA

The roof of the villa is made up of ribbed metal sheets. Once the concrete cap had been completed, it was waterproofed with a coat of self-adhesive bituminous membrane, then a layer of insulating panels was placed thereupon before casting a final pour of concrete which was 20 cm thick.

For this type of substrate, application of the Mapei product system began with

sanding down the existing concrete substrate and then applying a coat of PRIMER 3296 diluted 1:1 with water. For the actual waterproofing layer, the product chosen was MAPELASTIC SMART two-component, high-flexibility cementitious mortar. To improve its elongation and crack-bridging properties, MAPETEX SEL macro-holed, non-woven polypropylene fabric, specifically designed to reinforce waterproofing membranes, was embedded in the MAPELASTIC SMART layer. Once the surfaces of the roof had been treated as above, they were painted and protected with ELASTOCOLOR WATERPROOF flexible acrylic resin-based paint in water dispersion.

Particular care was taken around the fillet joints between the steel guttering and the roof and between the dormer windows and the vents on the roof.

The best results were obtained by sanding down all the metal elements and fittings and applying a coat of EPORIP two-component, solvent-free epoxy adhesive. Then, after broadcasting the surface with QUARTZ 1.2 sand, the waterproofing cycle for the roof was applied as described above.

EXTERNAL THERMAL INSULATION

The external insulation for the walls was made up of 14 cm thick MAPETHERM EPS expanded polystyrene insulating panels and MAPETHERM AR1 GG one-component, coarse-textured cementitious mortar.

The surfaces were skimmed over with MAPETHERM AR1 GG, reinforced with MAPENET 150 alkali-resistant, glass fibre mesh embedded in the mortar.

A further skim coat was provided by applying MAPETHERM FLEX RP cement-free, fibre-reinforced, elastic, lightweight skimming paste and base coat.

To improve its resistance to the stresses





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PHOTO 1. The roof of the building was waterproofed with MAPELASTIC SMART reinforced with MAPETEX SEL non-woven fabric.

PHOTO 2. The roof was painted and protected with ELASTOCOLOR WATERPROOF paint.

PHOTO 3. Particular care was taken around the fillet joints between the steel guttering and the roof.

PHOTO 4. A thermal insulation system was completed by bonding the MAPETHERM EPS expanded polystyrene panels with MAPETHERM AR1 GG cementitious mortar.

PHOTO 5. The ceramic floor tiles for the loggia and internal areas were installed with KERAFLEX MAXI S1 adhesive.

PHOTO 6. View of the roof after completion of the works.

caused by temperature variations and small movements, ELASTOCOLOR NET alkali-resistant, glass fibre mesh was embedded in the skim coat.

Once this cycle had been completed, the surfaces were finished off by applying a coat of ELASTOCOLOR WATERPROOF.

FOOTPATHS AND INTERNAL FLOORING

The footpaths outside the villa and the external areas of the building were waterproofed with MAPELASTIC TURBO two-component, rapid-drying, elastic cementitious mortar, reinforced with MAPENET 150 glass fibre mesh embedded in the mortar.

MAPEBAND SA alkali-resistant, self-adhesive, butyl tape with non-woven fabric backing was used to protect all the fillet joints.

The 30x60 cm ceramic floor tiles for the loggia and internal areas were installed with white KERAFLEX MAXI S1 high-performance, deformable, cementitious adhesive with extended open time and no vertical slip, excellent workability and Low Dust technology, particularly recommended for installing large-size porcelain tiles and natural stone slabs.

The 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.

And lastly, MAPESIL AC pure, mould-resistant acetic silicone sealant with BioBlock® technology was used to seal the expansion joints.

IN THE SPOTLIGHT

MAPETHERM FLEX RP

Cement-free, fibre-reinforced, lightweight, elastic, skimming paste and base coat resistant to biological agents for internal and external use. It is used for renovating damaged/deteriorated insulating systems; repairing cracked walls on all types of buildings; repairing render to even out surface defects. It is particularly recommended for protecting areas open to the public exposed to impact and stresses. It adheres perfectly to all types of insulating panels, skimming mortars, traditional render and old, well-adhered paintwork. It also provides excellent resistance to impact loads and may be tinted using the ColorMap® automatic colouring system.



TECHNICAL DATA

Private villa, Santa Lucia di Piave (Italy)

Period of construction: 2016-2017

Period of the Mapei Intervention: 2016-2017

Design: Erich Milanese, Milanese Architects Office Srl

Main contractor: Impresa Edile Cardazzo Cav. Ermenegildo Srl

Thermal insulation contractor: Graffito Srl

Ceramic installation and waterproofing contractor: Pietro De Spirit

Mapei distributor: Simonetti Giuseppe & C. Srl

Mapei coordinators: Sonia Murer, Cristiano Bordignon, Rudi Crosato and Mauro Orlando, Mapei SpA (Italy)

MAPEI PRODUCTS

Waterproofing the roof and the walking path: Eporip, Mapeband SA, Mapelastic Smart, Primer 3296, Elastocolor Waterproof, Mapelastic Turbo, Mapeband, Mapenet 150, Quartz 1.2
Thermal insulation system: Mapetherm AR1 GG, Mapetherm EPS, Mapetherm Flex RP, Elastocolor Net
Installing ceramic tiles, grouting joints, and sealing expansion joints: Keraflex Maxi S1, Ultracolor Plus, Mapesil AC

For further information on products see www.mapei.com.



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