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SINCE 1937



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INNOVATIVE SOLUTIONS FOR INSTALLING CERAMIC TILES ON EXTERNAL THERMAL INSULATION SYSTEMS: **MAPEI CASE STUDIES**



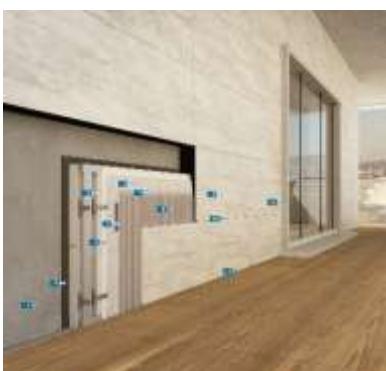




Facades Bonded



Installation on render



Installation on fiber-cement boards

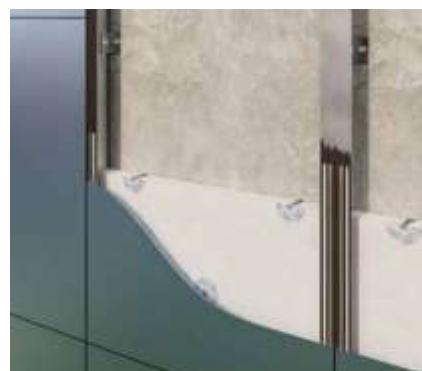


Installation on thermal insulation panel

Ventilated Facades



Mechanical fixing



Deformable structural bonding

Ultrabond PB System H



What are considered large format tiles today?

According to the Italian standard UNI 11493-1,

- **large format tiles/slabs:** tiles with one side longer than 60 cm
 - **thin tiles/slabs:** tiles no thicker than 6 mm

175 cm



15x60



30x60



60x60



100x100



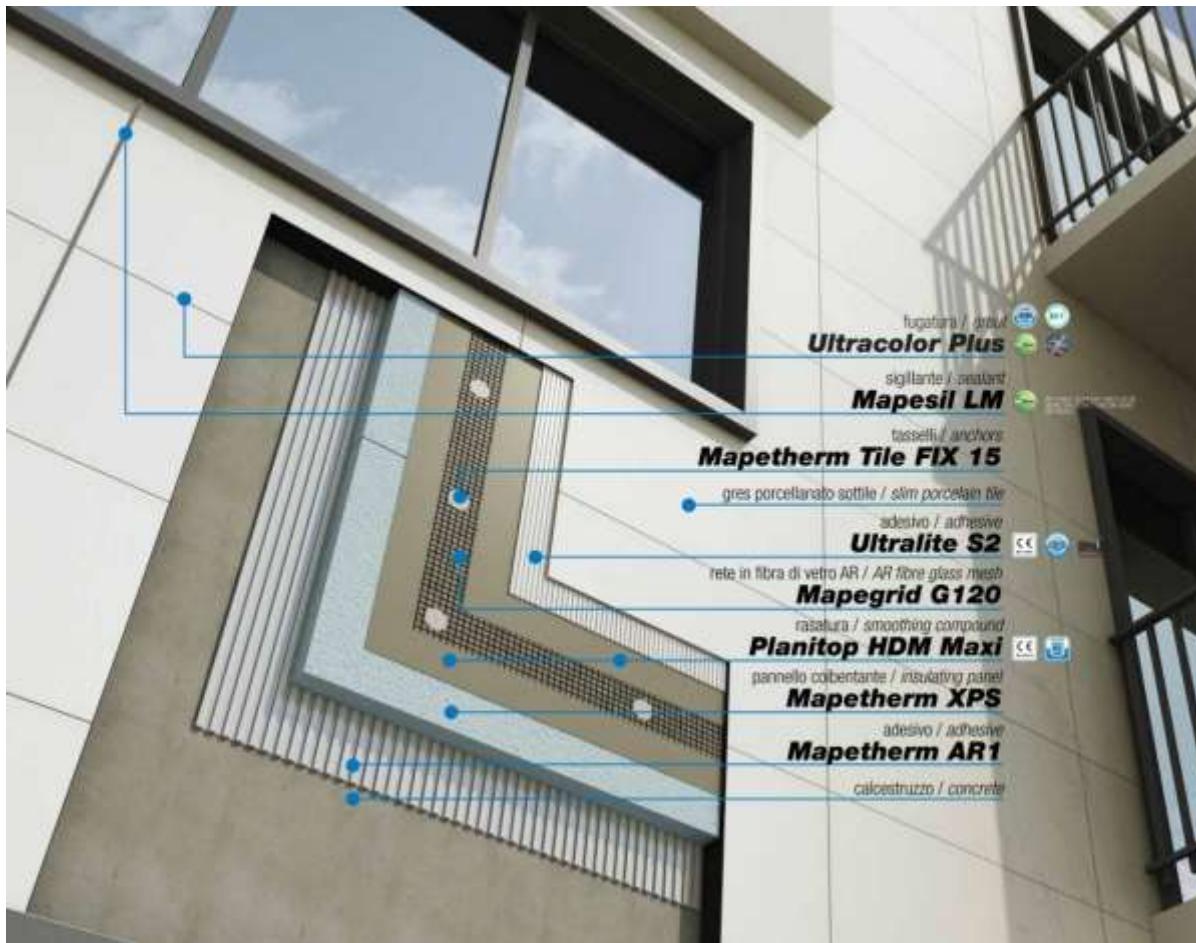
60x120



90x180

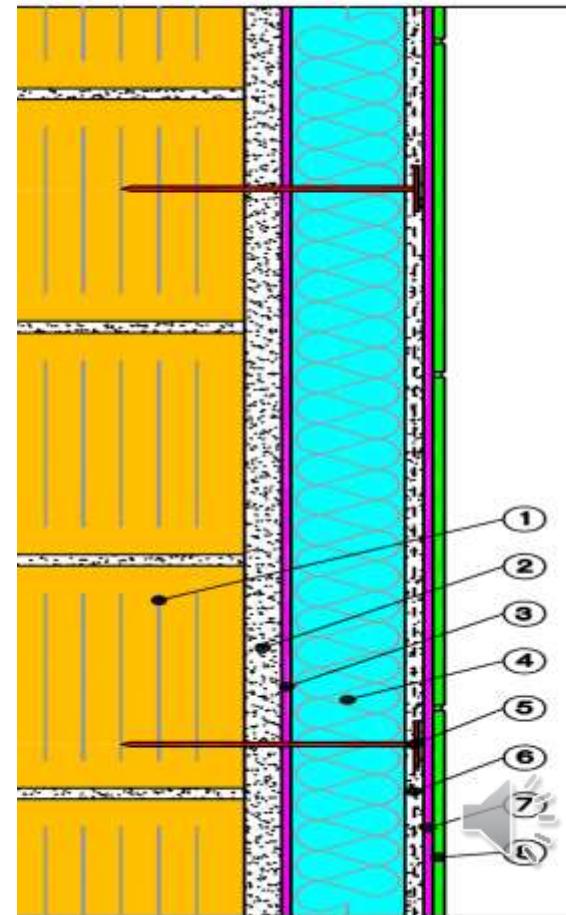


MAPETHERM TILE SYSTEM XL



Cross section MAPETHERM TILE SYSTEM XL

1. Wall
2. Render
3. MAPERTHERM AR1
4. Thermal Insulation Panel EPS or MW
5. PLANITOP HDM MAXI+MAPEGRID G120
6. MAPETHERM TILE- EJOT mechanical Fixing
7. PLANITOP HDM MAXI
8. Adhesive class C2S2 according to EN 12004
9. Tiles



For facades:

- In the case of substrates that do not comply with the requirements listed above, the plaster is reinforced by inserting a mesh fixed to the substrate;
- In the case of tiles with one side longer than 30 cm, **double buttering technique** is required in order to ensure full bedding. This measure is, however, also recommended for smaller sizes;
- In the case of tiles with one side longer than 30 cm, the designer must evaluate the need to prescribe the use of an appropriate **mechanical safety fixing system** (for example, made of steel hooks fixed to the substrate), taking into account the specific exposure conditions, the quality of the substrate, and the installation layout (joint width, joint grid, elastic joints, etc.).

For cladding systems on external facades carried out using various innovative techniques, the instructions and recommendations of the manufacturer must be followed.



International classification of adhesives according to EN 12004

Chemical composition of the adhesive		C cementitious	D dispersion	R reactive
Fundamental classes	Normal adhesive	1	1	1
	Improved adhesive	2	2	2
	Fast setting adhesive	F		
<u>Optional classes</u>	Slip resistant adhesive	T		
	Extended open time	E		
<u>Optional classes</u>	Deformable adhesive	S1		
	Highly deformable adhesive	S2		



Cementitious Improved adhesion adhesives – C2



Deformability – S1 or S2



Deformable adhesive



Highly deformable adhesive

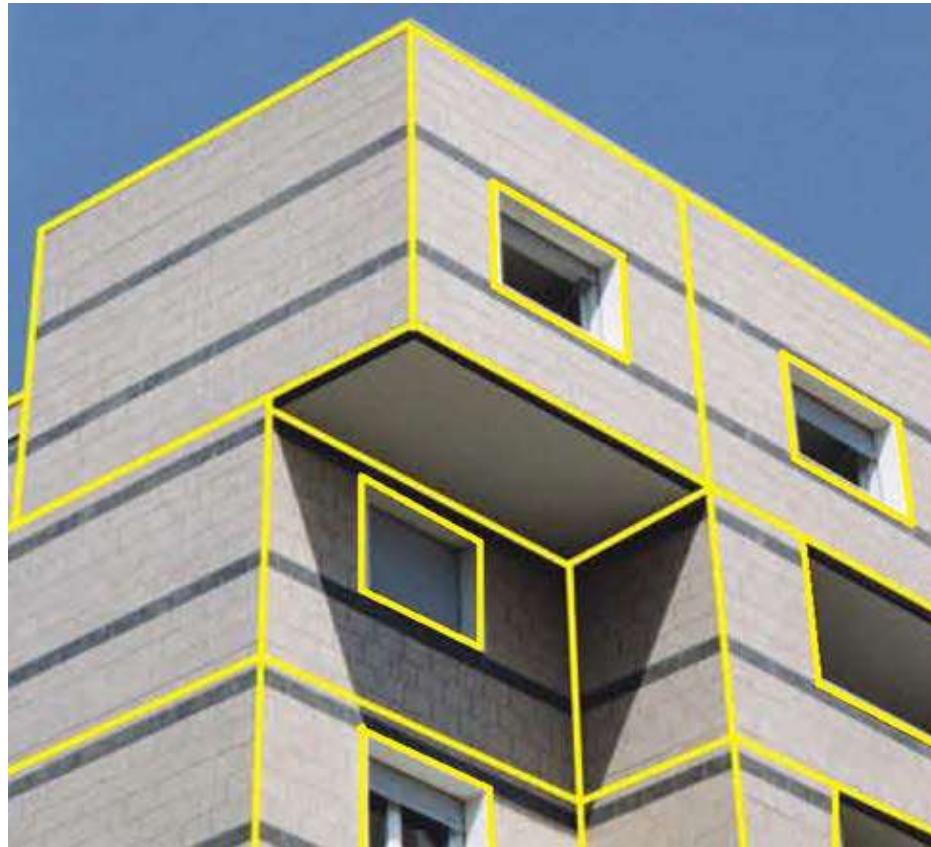


JOINTS BETWEEN TILES - GROUTING



Indicatively, in the design specifications the width of the tile joints can be 2 mm - 3 mm in case of tiles obtained by pressing, with a good dimensional regularity (rectified tiles) in internal environments, on rigid and dimensionally stable substrates – up to 6 mm - 8 mm in on the contrary

Expansion joints



Mapesil LM

*Location and path must be specified considering jointly the technical aspects of the system and the architectural and decorative function of the tiling. In principle, the division joints must divide the surface into square or rectangular fields, but with a ratio between the sides not greater than 1.5. As a general guide, **the fields** must have the following dimensions:*

*external environments: **from 3 m x 3 m to 4 m x 2.5 m***





REFERENCES – MAPEI CASE STUDIES

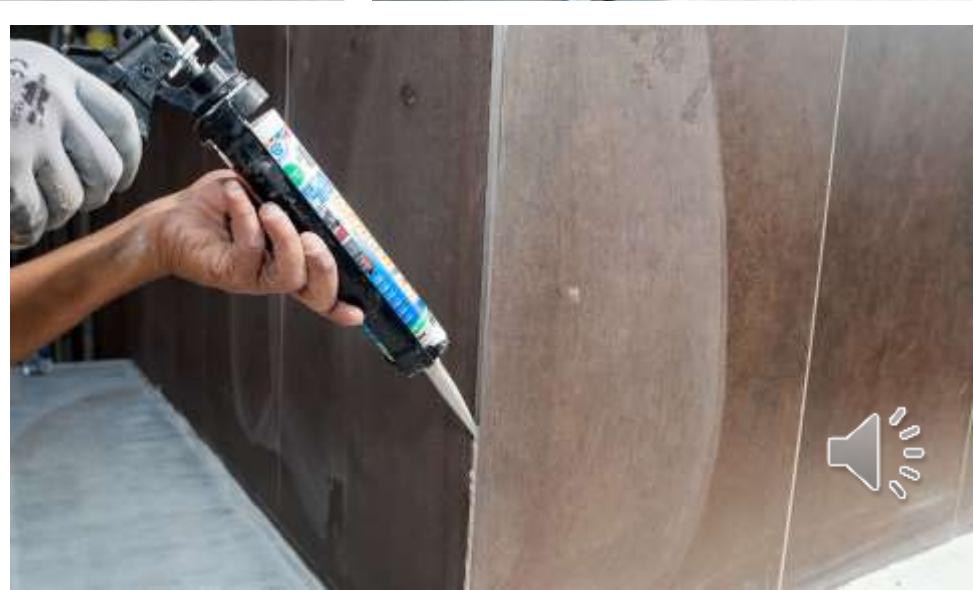








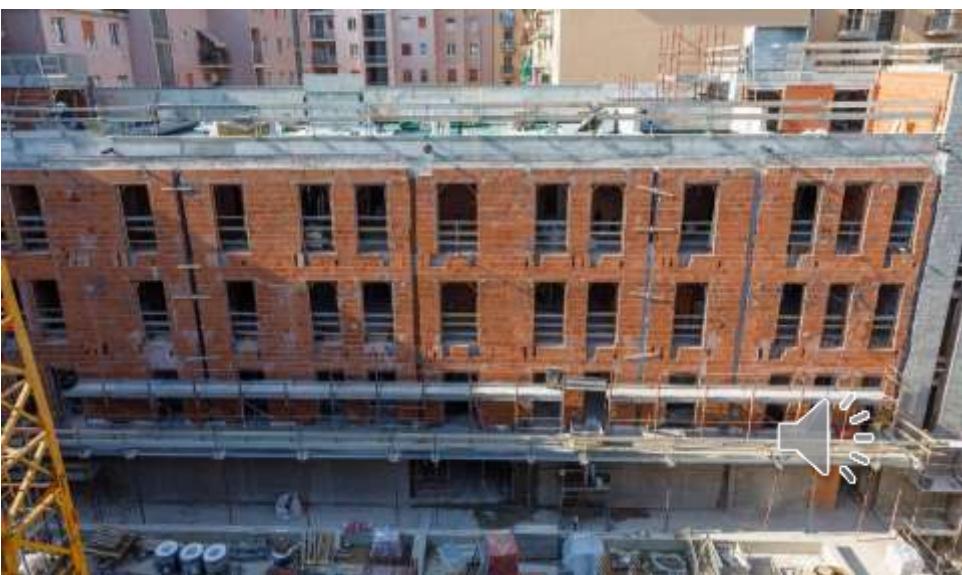


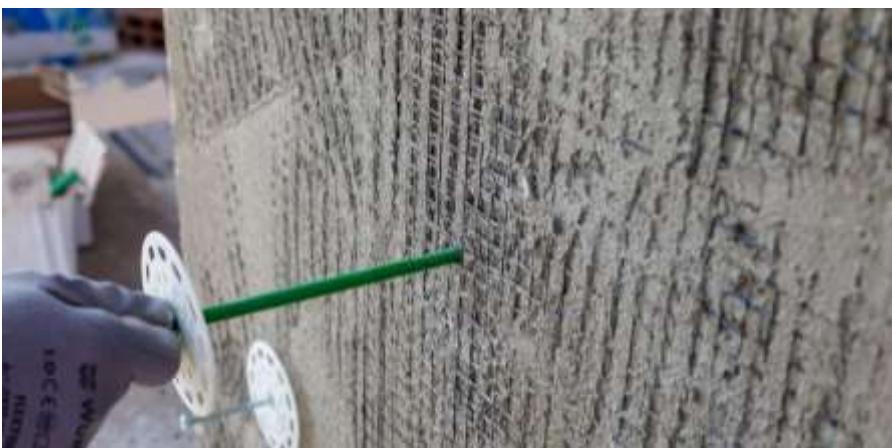


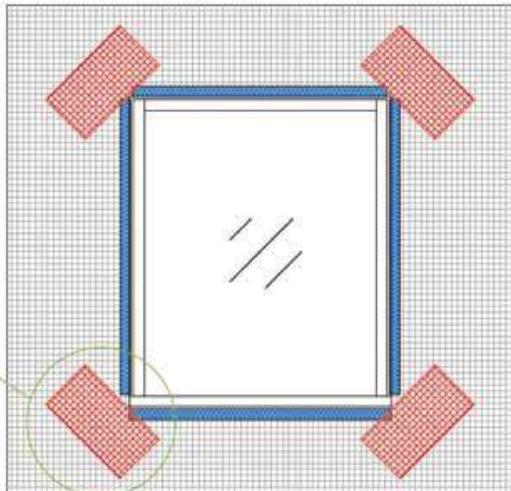
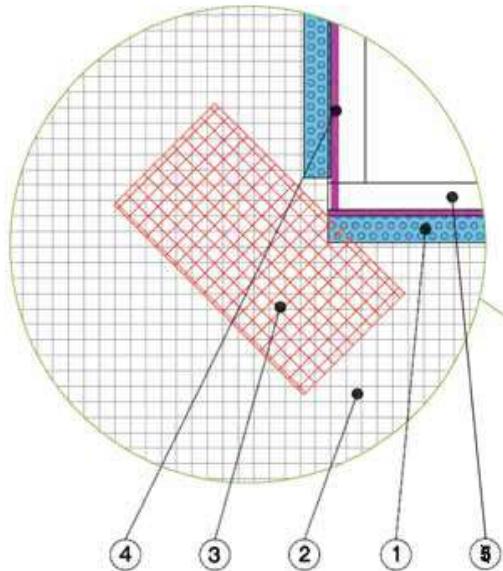
Residential Building Faravelli - Milan



















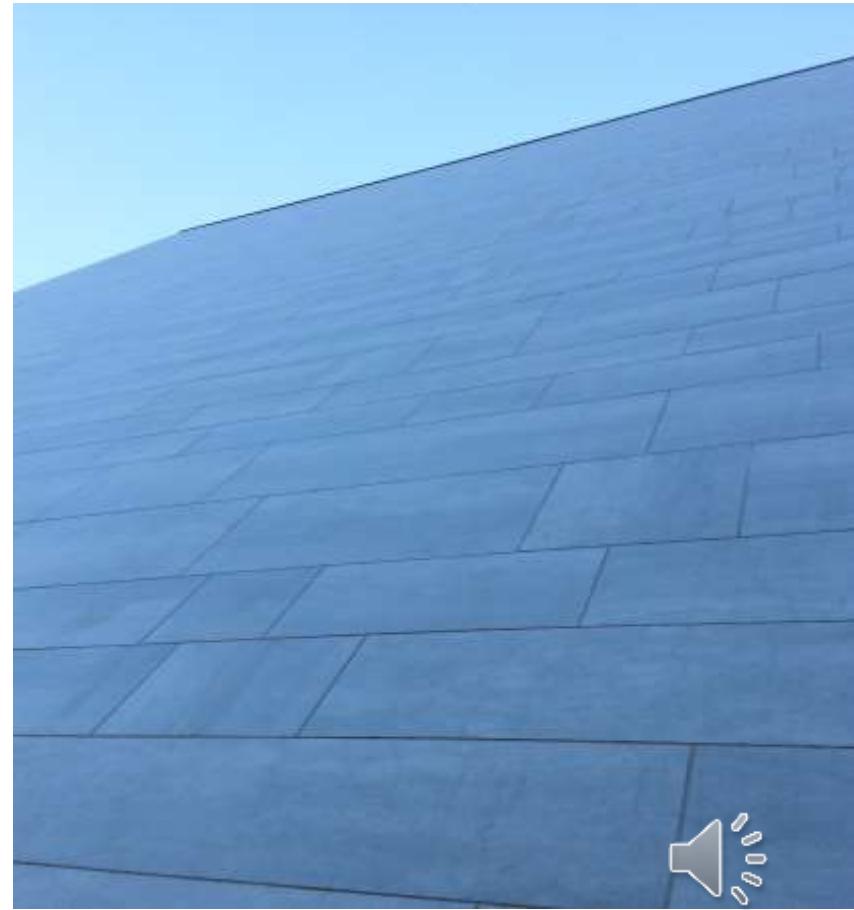


Residential Building «Cussino» - Turin











Sport Complex of the University of Debrecen









Thanks

Köszönöm