Mapetherm AR1 Light

LIGHTWEIGHT ONE-COMPONENT CEMENTITIOUS MORTAR

FOR THERMAL INSULATION

WITH SUPERIOR LIGHTNESS AND ASTONISHING PERFORMANCE

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ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING

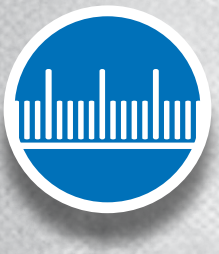

LIGHTWEIGHT
STRONG
HIGH
PERFORMANCE
VERSATILE

Mapetherm AR1 Light

One-component, lightweight cementitious mortar for bonding and reinforcing insulating panels and thermal insulation systems

LIGHTWEIGHT

Mapetherm AR1 has become **Light**. Thanks to research work carried out in the MAPEI laboratories, we are able to present an adhesive/skimming mortar that is more than 20% lighter.



HIGH PERFORMANCE

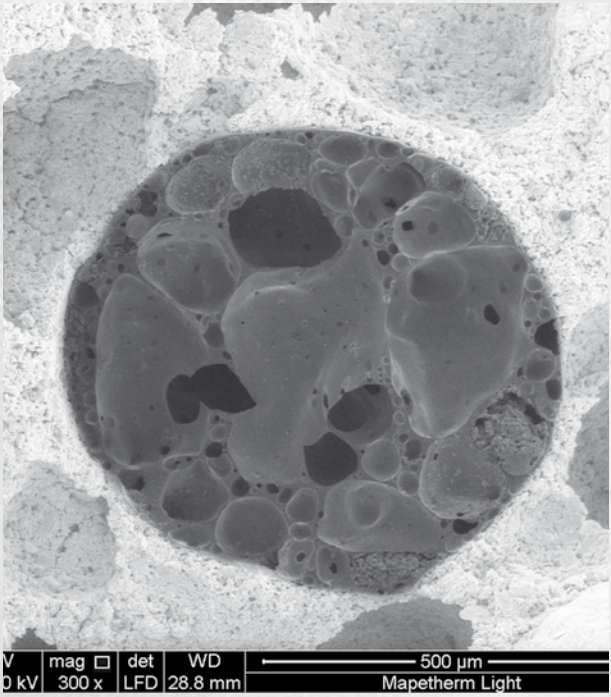
Its lower weight combined with high impact strength make **Mapetherm AR1 Light** the ideal product for thick, reinforced skim coats on thermal insulation systems and for repairing deteriorated façades before applying paint cycles.

STRONG

Its special composition offers 2 to 3 times higher compressive strength compared with similar lightweight products with EPS and provides better workability when applied in both thin and thick layers. **Mapetherm AR1 Light** is classified A1 for its behaviour in the event of fire (Classification report 0530\DC\REA\13_3 issued by the CSI Institute).

VERSATILE

Its special formulation allows thick layers to be applied in one go, so surfaces can be adjusted before installing cladding using the same product for three different phases (levelling the surface, bonding panels and reinforced skimming with embedded **Mapetherm Net** mesh).



An image through an electron microscope showing a section of the honeycomb air pocket structure in the lightweight aggregate, which helps give Mapetherm AR1 Light its lightweight characteristics.

TECHNICAL CHARACTERISTICS:

Mapetherm AR1 Light is a fine, white powder with particles up to 1 mm in size made from cement, lightweight mineral aggregates, graded sand, synthetic resins and special additives according to a formulation developed in the MAPEI research laboratories.

When mixed with water, it forms a mortar with the following characteristics:

- Low viscosity and, therefore, good workability;
- High mechanical strength, up to twice that of lightweight skimming mortars with EPS;
- High thixotropic consistency: **Mapetherm AR1 Light** may be applied on vertical surfaces without running and without the risk of insulating panels slipping;
- Allows for thicker layers to be applied in one go (up to around 8/10 mm);
- Hardens without significant shrinkage.

TECHNICAL DATA

Product Identity	
Consistency:	powder
Colour:	white
Application Data (at +23°C - 50% R.H.)	
Mixing ratio (%):	29 - 31
Consistency of mix:	paste
Density of mix (g/cm^3):	1.30
Application temperature:	from +5°C to +40°C
pH of mix:	13
Workability time:	3 h
Open time:	25’
Adjustment time:	40’
Waiting time before finishing operation:	15 days
Final Performances	
Flexural strength - after 28 days (N/mm^2):	4.0
Compressive strength - after 28 days (N/mm^2):	8.0
In service temperature range:	from -30°C to +90°C
Grain distribution of the product:	% mm 100.00 1.00 96.70 0.80 65.1 0.50 41.3 0.20 27.9 0.04

APPLICATION TECHNIQUE

SUBSTRATE PREPARATION

Substrates must be clean, compact and strong and have no traces of dust, loose material, grease, oil or other substances that could compromise adhesion. We recommend eliminating any particularly uneven areas in the surface by applying a preliminary layer of **Mapetherm AR1 Light**. Gypsum substrates (render applied by hand or with a rendering machine, pre-fabricated panels, etc.) must be perfectly dry and have no traces of dust and must be treated with **Primer G** prior to bonding insulating panels with **Mapetherm AR1 Light**.

USED AS A SKIMMING MORTAR

Because **Mapetherm AR1 Light** can be applied in thick layers, it may be used to cover and fill defects in render on the façade under maintenance, making it the ideal product to restore the flatness of the substrate before applying a thermal insulation system.

USED AS AN ADHESIVE

Spread a layer of **Mapetherm AR1 Light** directly on the back of the panels using a notched trowel if the substrate is flat, or in a series of beads and spots if the masonry is uneven. After installing the panels, press them down well to guarantee good adherence with the substrate and check flatness with a straightedge.

USED AS A SKIMMING COMPOUND

Once the adhesive is completely dry, spread an even layer of **Mapetherm AR1 Light** on the surface of the panels and embed **Mapetherm Net** alkali-resistant glass fibre mesh in the mortar. Press the **Mapetherm Net** mesh down into the mortar with a smooth trowel. Overlap adjacent pieces of mesh by at least 10 cm along the edges. After 12-24 hours, apply a second layer of **Mapetherm AR1 Light** skimming mortar to form a compact, even surface suitable for the final coating or covering, which must only be applied once the skimming layer has hardened and cured.

CONSUMPTION

- Bonding insulating panels: 3.0-5.0 kg/m^2 according to the bonding technique used.
- Skimming: 1.20-1.40 kg/m^2 per mm of thickness (recommended thickness: approx. 4 mm).

PACKAGING

Mapetherm AR1 Light is available in 23 kg paper bags.

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Technical documentation

From the technical area menu you can view the technical documentation divided per product lines and type of document.

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