

MAPESET IN

Cement based adhesive for ceramic and vitrified tiles and blocks



CLASSIFICATION IN COMPLIANCE WITH ISO 13007-1

Mapeset IN is a normal (I) cementitious (C) adhesive of class C1.

CLASSIFICATION IN COMPLIANCE WITH IS 15477: 2019

Mapeset IN is a normal cementitious adhesive of Type 2.

WHERE TO USE

Internal and external bonding of ceramic and vitrified tiles, tile on tile application, single-fired and double-fired tiles. Internal walls and floors, and external floors. Preparation of interior and exterior masonry blocks and panels in expanded concrete, Calcium silicate, and cellular blocks.

Some application examples

Bonding of ceramic mosaics on paper or mesh, absorbent single-fired or double-fired ceramic tiles on:

- traditional render or cement mortar;
- ordinary or floating reinforced, cementitious screeds provided they are sufficiently cured and dry.

TECHNICAL CHARACTERISTICS

Mapeset IN is a grey powder composed of cement, sands of selected granulometry, synthetic resins and special additives according to a formula developed in MAPEI's Research and Development Laboratories. **Mapeset IN**, mixed with water, becomes an easily workable mortar, that can be applied even vertically without slumping and without letting the tiles slip.

Mapeset IN hardens without appreciable shrinkage attaining a good resistance, adhering perfectly to all materials normally used in the building industry.

RECOMMENDATIONS

Do not use **Mapeset IN**:

- on wood and wooden mixtures;
- on gypsum board or lightweight concrete walls;
- on metal, rubber, PVC and linoleum surfaces;
- for the installation of glass mosaics;
- for the installation of tiles that require an adhesive thickness greater than 10 mm;
- with large size tiles;
- on pre-cast concrete or concrete subject to strong movements;
- on heated or existing floors;
- in cases where the surface needs to be set to light traffic quickly.

Do not lay an excessive number of blocks over the adhesive before it develops enough mechanical strength to support the load.

APPLICATION PROCEDURE

Preparation of the substrate

The substrate must be cured, mechanically strong, free of loose particles, grease, oils, paint, wax, and sufficiently dry. Cement substrates must not be subject to shrinkage after tile installation. In mild weather, renders must have cured at least 1 week for each centimetre of thickness and cementitious screeds must have cured at least 28 days, unless they have been made with MAPEI special binders for screeds such as, **Mapecem Pronto**, **Topcem** or with **Topcem Pronto**. Masonry elements must be dimensionally stable, sound, and free of loose material, dust, oils, grease and other matter that might interfere with bonding. **Mapeset IN** can be used with blocks that are slightly wet, in which case, however, hardening is delayed. Blocks may require wetting beforehand only if especially absorbent or if used in very hot weather cool down with water surfaces that could become too hot due to exposure to sunlight. Gypsum substrates and anhydrite screeds must be perfectly dry, sufficiently hard and free of dust. It is absolutely essential that they are treated with **Primer G** or **Eco Prim T**. Areas subject to high humidity should be primed with **Primer S**.

Preparing the mix

Mapeset IN must be mixed with clean water to obtain a homogenous paste free of lumps; after some minutes of resting, it must be re-mixed and the paste is then ready for use. The quantity of water to be used is 23-25 parts per 100 parts (by weight) equal to 9.2 - 10.0 liters of water for 40 kg of **Mapeset IN**. The mix, produced in this way, is workable for at least 7 hours (at +25°C).

Applying the mix

Mapeset IN is applied with a notched trowel onto the substrate. Choose a trowel that will give coverage to the back of the tiles of at least 65-70% for walls or for internal light foot traffic. For intense traffic and for external applications, the coverage must be 100%. To obtain good adhesion to the substrate the following system is recommended: to first apply a thin coat of **Mapeset IN** using the smooth side of the trowel and immediately afterward apply the desired thickness of **Mapeset IN** using the toothed side of the trowel. **Mapeset IN** should be applied in the same technique on the vertical wall of each block before placing it into the position next, So as to anchor the various elements in front as well.

In particular:

- for mosaics up to 5x5 cm, the use of MAPEI No. 4 square-toothed trowel is (consumption 2 kg/m²) recommended;
- for normal ceramic or vitrified coverings, the use of MAPEI No. 5 notched trowel (consumption 2.5-3 kg/m²) is recommended;
- for substrates that have an irregular surface or tiles with a very rough back, the use of MAPEI No. 6 or 10 notched trowel (consumption 5 - 6.5 kg/m²) is recommended;
- in the case of external ceramic floors and wall tiles subject to frost or in difficult applications, the **Mapeset IN** must also be applied on the back of the tiles (back buttering method).

Installing the tiles

It is not necessary to wet the tiles before installation; only in the case of very dusty backs washing is recommended, by quickly immersing them in clean water. The tiles must be installed in the normal way, placing them firmly to ensure good contact with the adhesives. The open time of **Mapeset IN** in normal conditions of temperature and humidity is 20 minutes; unfavorable environmental conditions (strong sunlight, drying wind, high temperature as well as a very absorbent substrate), could drastically reduce this time to a few minutes.

Therefore one must constantly check that the adhesive has not formed a superficial skin and is still "fresh"; where there is a formation of a superficial skin the adhesive must be re-applied with the notched trowel. Wetting the adhesive after it has produced the skin is not recommended because the water forms an anti-adhesive film instead of dissolving it. The "adjustability" of the tiles must be carried out within 45 minutes after installation. Tiles installed with **Mapeset IN** must not be subject to running water or rain for at least 24 hours and must be protected from frost and strong sunlight for at least 5-7 days after installation.

Installing the blocks

Applying **Mapeset IN** is made easier by using special notched trowels the same width as the block. The open time of **Mapeset IN** under normal temperature and humidity conditions is 20 Minutes. Unfavorable conditions (hot sun, dry winds, high temperature) can drastically reduce open time. The adhesive should therefore be checked to make sure it has not formed a skin on the surface and it is still "Fresh". If skin occurs (while the adhesive remains still fresh underneath), rework the adhesive by re-spreading it with a notched trowel.

Blocks installed with **Mapeset IN** should not be soaked with water, exposed to heavy rain, or subject to vertical loads or lateral pressure for at least 24 hours. They should be protected from frost for at least 5 - 7 hours after installation.

GROUTING AND SEALING



Wall joints between the ceramic tiles can be grouted after 4-8 hours and floor joints can be grouted after 24 hours with the specific MAPEI cementitious or epoxy grouts, available in different colours. Expansion joints must be sealed with the specific MAPEI sealants.

SET TO LIGHT FOOT TRAFFIC

Floors are set to light foot traffic approx. 24 hours.

READY FOR USE

Surfaces are ready for use after approx. 14 days.

Cleaning

Tools and hands can be cleaned with water, and surfaces of tiles with a damp cloth; should only be used in moderate quantities and after a few hours.

CONSUMPTION

Bonding of ceramic or vitrified mosaics:

- small size tiles in general (trowel No. 4): approx. 2 kg/m²;
- normal size tiles (trowel No. 5): 2.5-3 kg/m²;
- external floor and wall coverings (trowel No. 6/10): approx. 5-6.5 kg/m² and over.

TECHNICAL DATA (typical values)

In compliance with:

- ISO 13007-1 as class C1
- American ANSI A 118.1
- IS 15477: 2019 Type 2

PRODUCT IDENTITY

Consistency:	powder
Colour:	grey
Bulk density (kg/m ³):	1400 (± 100)
Dry solids content (%):	100
EMICODE:	EC1 Plus - very low emission

APPLICATION DATA (at +23°C and 50% R.H.)

Mixing ratio:	100 parts Mapeset I N with 23-25 parts by weight
Consistency of Mix:	pasty
Density of mix (kg/m ³):	1600 (± 100)
pH of mix:	over 12
Pot life:	6/8 hours
Application temperature:	from +5°C to +35°C
Open time (according to EN 1346):	> 20 minutes
Adjustability time:	approx. 45 minutes
Wall grouting:	after 4-8 hours depending on the absorbency
Floor grouting:	after 24 hours
Set to light foot traffic:	24 hours
Ready to use:	14 days

FINAL PERFORMANCE

Adhesion according to EN 1348 (N/mm ²) – initial adhesion (after 28 days): – adhesion after heat: – adhesion after water immersion: – adhesion after freeze-thaw cycles:	According to ISO 13007-1 (N/mm ²) minimum requirement 0.5 0.5 0.5 0.5	Product performance Tests Exceeded
Resistance to damp:	excellent	
Resistance to ageing:	excellent	
Resistance to solvents and oils:	excellent	
Resistance to acids and alkalis:	poor	
Resistance to temperature:	from -30°C to +90°C	
Test Conducted	Requirement as per IS 15477 : 2019	Average Test Results
	TYPE 2	
Tensile adhesion (N/mm ²): -Dry Condition -Wet Condition	Min 1.0	
Shear Adhesion (N/mm ²): -Dry Condition -Wet Condition -Heat Ageing condition	Min 1.0 1.25 1.0 1.0	Tests Exceeded

PACKAGING

Mapeiset IN is available in 40 Kg HDPE bags.

STORAGE

12 months in the original unopened packaging in a dry and ventilated place.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.com.
PRODUCT FOR PROFESSIONAL USE.

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation. The most up-to-date TDS can be downloaded from our website www.mapei.com.

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2827-06-2021 (GB X IN)

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