



Mapecem



**Fast drying and setting
cement for floor
screeds (24 hours)
hydraulic binder
for shrinkage -
compensated screeds**



WHERE TO USE

Preparation of bonded, unbonded and floating screeds on existing and new slabs for the installation of wood, PVC, linoleum, ceramic tiles, carpeting or any other flooring where fast-drying is required for minimum downtime.

Some application examples

- Preparation of screeds set to light foot traffic after 2-3 hours and perfectly dry after 24 hours, for the installation of parquet and resilient flooring.
- Preparation of screeds ready to receive ceramic tiles and natural stone after only 3-4 hours.
- Patching and repairing screeds in areas subject to continuous traffic (supermarkets, hospital, airports, etc.).
- Preparation of screeds incorporating underfloor heating systems.

TECHNICAL CHARACTERISTICS

Mapecem is a special hydraulic binder, which, when mixed with graded aggregates and water, has the extraordinary capacity to harden in just a few hours and to dry perfectly at whatever thickness within 24 hours (residual moisture less than 2% water by weight).

Because of these characteristics and very high mechanical strength, **Mapecem** is the ideal fast track solution allowing ceramic tiles to be installed within

3-4 hours and ready to receive resilient floor coverings such as vinyl, rubber, carpet etc within 24 hours.

RECOMMENDATIONS

- Do not use **Mapecem** on substrates subject to rising damp (lay a waterproofing membrane first).
- Do not use **Mapecem** mixed with other cements, lime, gypsum, etc.
- Do not leave **Mapecem** dry-mixed with aggregates (quickly add the right quantity of water and use immediately).
- Do not mix **Mapecem** only with fine sand (use aggregates graded from 0 to 8 mm or **Gravel 0-8** for thicknesses of max 8-9 cm).
- Do not mix **Mapecem** with an insufficient quantity of water (this will cause partial hydration and compromise its mechanical strength).
- Do not leave **Mapecem** mix in the mixer for more than 3-4 minutes.
- Do not mix **Mapecem** with an excessive quantity of water (drying time will be lengthened).
- Since **Mapecem** screeds are very compact, absorption of the water contained in water dispersion adhesives is slow: it is therefore recommended to use **Lignobond**, **Ultrabond P990 1K** or **Ultrabond P902 2K** (polyurethane adhesives) for installing



Mapecem



Aggregates for Mapecem: gravel from 4 to 8 mm and sand from 0 to 4 mm



Mixing Mapecem in a mini-batcher



Applying and levelling the screed

parquet floors that are particularly sensitive to moisture.

- Do not add water to a prepared mix and do not remix **Mapecem** after it has started to set.
- Do not wet the surface of a screed laid with **Mapecem**.
- Do not mix in batching plants and do not transport the mixture by cement mixer lorry: the setting time of **Mapecem** is too short!

APPLICATION PROCEDURE

Preparing the substrate

All substrates are suitable for receiving a **Mapecem** screed as long as they are not subject to rising damp, in which case install a suitable damp proof membrane.

For bonded screeds (from 10 mm minimum), which have therefore to be anchored, the substrate must be dry, free from cracks, resistant to compressive and tensile strength, free from dust, loose materials, paints, wax, oil, traces of gypsum.

Unbonded screeds from 35 mm and floating screeds from 55 mm

Preparing the mix
Mapecem must be mixed carefully and quickly, with water and graded aggregates 0-8 mm in diameter or with Gravel 0-8, for a maximum of 3-4 minutes, in a mixer or batcher.

The mix must be spread and levelled in the shortest time possible within 30 minutes after mixing. Special care must be taken with the quantity of water that must be enough to form a cohesive mass so that tamping gives a flat surface without a cement film.

Mapecem, aggregates and water can be mixed:

- in a drum mixer;
- in an ordinary concrete mixer;
- in a forced action mixer;
- manually, with a shovel.

The **Mapecem** mix can be placed using an automatic pressure pump. Guidance regarding the instructions for mixing must always be closely followed.

Spreading the mix

The **Mapecem** mix is placed onto a substrate like any ordinary concrete. A polyethylene sheet must be laid (even over a bituminous membrane or other existing waterproofing substrate) in order to create an easily

flowing layer between the **Mapecem** screed and the already existing substrate and at the same time to prevent any rising damp. If the **Mapecem** screed is crossed by pipes, it is necessary to lay a light metal mesh (a hexagonal mesh, for instance) over the screed as a reinforcement.

Mapecem screeds are prepared using the same methods as those for ordinary sand and cement screeds: preparing levelling strips, spreading the mix and accurately compacting it and then tamping to obtain a better surface finish.

Around the perimeter of the area and around the columns etc., it is recommended to insert a 1 cm thick anti-fracture material (such as felt board, cork, polystyrene, etc.).

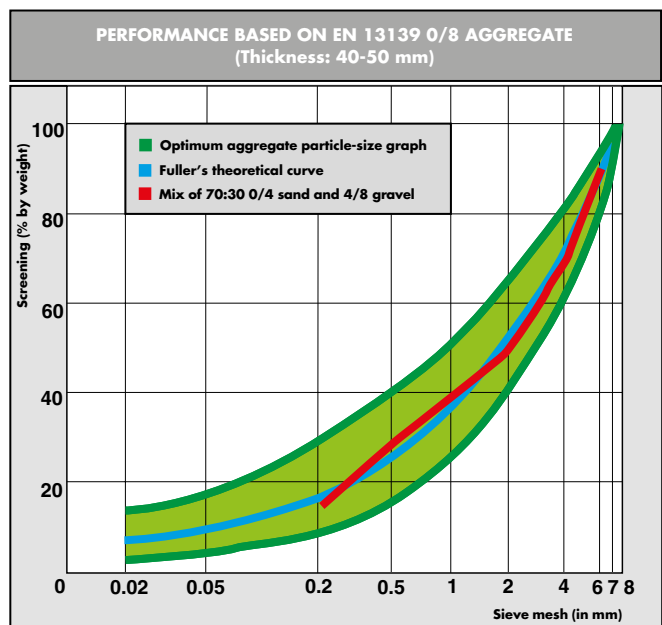
If work is interrupted for more than 1 hour,

Recommended proportions

Mapecem:	350-450 kg
Graded aggregates from 0 to 8 mm Gravel 0-8:	1 m ³
Water:	from 80 to 160 kg depending on the moisture in the aggregates

equal to:

Mapecem:	one 20 kg bag
Graded aggregates from 0 to 8 mm Gravel 0-8:	80-100 kg or 13-15 shovelfuls
Water:	from 4 to 8 kg depending on the moisture in the aggregates



If using EN 13139 0/4 aggregate Seek advice from our technical dept

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Consistency: powder

Colour: grey

Bulk density (kg/m³): 1,300

Dry solids content (%): 100

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

Recommended mixing ratio: 350-450 kg of **Mapecem** with 1 m³ aggregates (from 0 to 8 mm diameter) and 80-160 kg of water, depending on the moisture in the aggregates

Density of the mix (kg/m³): 2,200-2,250

Duration of mixing: 3-4 minutes

Open time of mix: 20-30 minutes

Application temperature range: from +5°C to +35°C

Set to light foot traffic: 2-3 hours

Ready for use: 24 hours

Ready for levelling: after 4 hours

Waiting time before installation: 3 hours for ceramic tiles and stone material
24 hours for resilient coverings and wood

Residual moisture after 24 hours (%): < 2

FINAL PERFORMANCES

Resistance to acids: fair

Resistance to alkali: excellent

Resistance to oils: excellent

Resistance to solvents: excellent

Temperature when in use: from -30°C to +90°C

Mechanical strength: see tables and graphs



Finishing a Mapecem screed with Ultraplan Eco self-levelling compound



Compacting the screed



Carbide hygrometer for measuring the moisture level of a Mapecem screed

Mechanical strength of Mapecem with 0-8 mm sand

Proportion of Mapecem	Flexural strength (N/mm ²)			Compressive strength (N/mm ²)			Residual moisture (%)		
	24 h	3 days	28 days	24 h	3 days	28 days	24 h	3 days	28 days
350 kg/(m ³ sand)	5.4	6.7	7.0	33.0	42	47	2	1.6	1.5
400 kg/(m ³ sand)	5.6	7.0	7.5	40.5	47	53	1.8	1.3	1.2
450 kg/(m ³ sand)	6.6	7.5	8.0	47.0	51	57	1.6	1.2	1.1

it is necessary to cut the screed perpendicularly and insert pieces of rod (20-30 cm long and 3-6 mm in diameter) into the edge of the screed. They should be inserted 20-30 cm apart to guarantee perfect bonding and to avoid cracks and differing levels.

Bonded screeds from 10 mm minimum

Preparing the mix, proportions and spreading the mix are exactly the same as for floating screeds, but first it is necessary to apply a **Planicrete** bonding slurry onto the perfectly clean substrate.

Dosage of the anchoring slurry

Planicrete: 1 part by weight

Water: 1 part by weight

Mapecem: 2 parts by weight

In order to ensure bonding, the slurry must be applied onto the surface that needs to be covered just before the **Mapecem** screed is installed (fresh on fresh).

MEASURING THE MOISTURE

Electronic hygrometers supply only indicative values for measuring moisture. The residual moisture level of **Mapecem** screeds must absolutely be measured with a carbide hygrometer, which provides absolute values of moisture by weight.

Cleaning

Tools are cleaned with plenty of water.

CONSUMPTION

Consumption varies depending on the thickness of the screed and the amount of **Mapecem**.

For 350-450 kg of **Mapecem** per m³ of aggregates, consumption is 3.5-4.5 kg/m² per cm of thickness.

PACKAGING

20 kg paper bags.

STORAGE

12 months in a dry place in the original packaging. However, in time, setting time could be slower without altering the final performances.

The product complies with the conditions of Annex XVII to Regulation (EC) N° 1907/2006 (REACH), item 47.

SAFETY INSTRUCTIONS FOR THE PREPARATION AND APPLICATION

Mapecem contains cement that when in contact with sweat or other body fluids causes irritant alkaline reactions and allergic reactions to those predisposed. It can cause damage to eyes.

During use, wear protective gloves and goggles and take the usual precautions for handling chemicals. If the product comes in contact with the eyes or skin, wash immediately with plenty of water and seek medical attention.

For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

N.B.

Whilst we try to ensure that any advice, recommendations or information given in our literature is accurate and correct, we have no control over the circumstances in which our product is used. It is therefore important that the end users satisfy themselves that the product and conditions are suitable for the envisaged application. No warranty can be given or responsibility accepted other than, that the product supplied by us will meet our written specification.

End users should ensure that our latest product data and safety information sheets have been consulted prior to use.

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

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.co.uk.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.



This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gesellschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.



Our Commitment To The Environment
MAPEI products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.



Electronic hygrometer for measuring the moisture level of a Mapecem screed

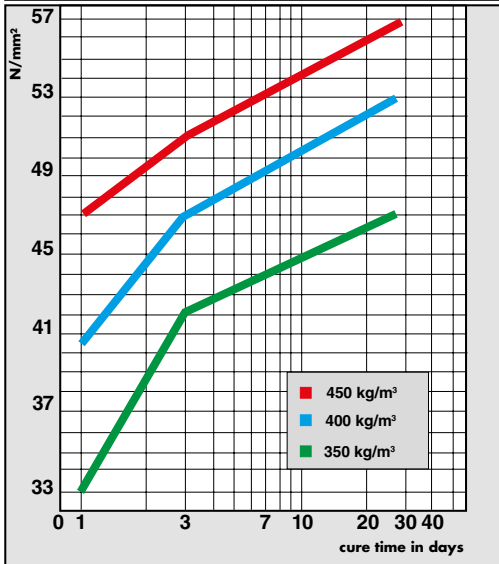


Mapecem: the ideal screed for all types of flooring

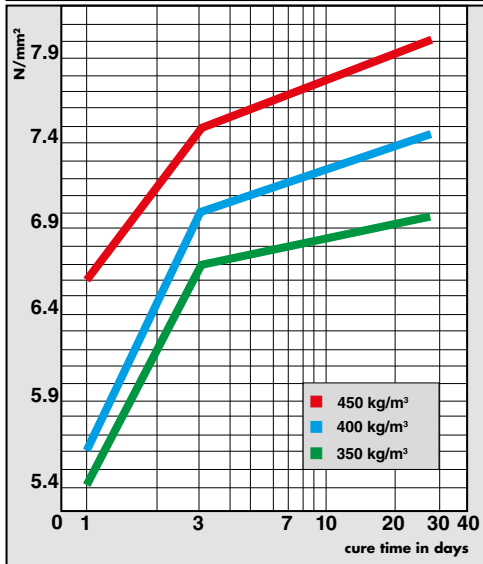
All relevant references for the product are available upon request and from www.mapei.co.uk

MAPECEM: TECHNICAL DATA

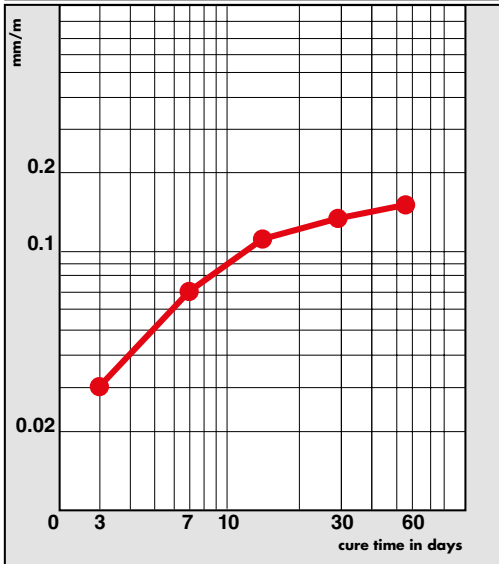
COMPRESSIVE STRENGTH OF MAPECEM WITH DIFFERENT MIXES



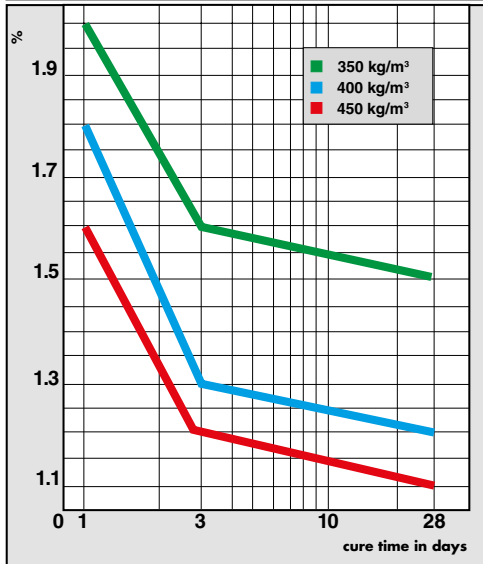
FLEXURAL STRENGTH OF MAPECEM WITH DIFFERENT MIXES



MAPECEM SCREED SHRINKAGE (450 kg/m³ of aggregates)



RESIDUAL MOISTURE IN MAPECEM SCREED



Mapecem



BUILDING THE FUTURE