ELASTORAPID

Two-component, high performance, highly-deformable, quick-setting and drying cementitious adhesive with no vertical slip and extended open time for ceramic tiles and stone material





CLASSIFICATION ACCORDING TO EN 12004

Elastorapid is a highly deformable (S2), improved (2), fast-setting (F) cementitious (C) adhesive, slip-resistant (T) and with extended open time (E), classified as C2FTE S2.
*Conformity of **Elastorapid** is declared in ITT certificate No. 25070277/Gi (TUM) and No. 25080024/Gi (TUM) issued by the Technische Universität München laboratory (Germany).*

WHERE TO USE

Bonding to internal and external walls and floors of all types and sizes of ceramic tiles (single-fired, double-fired, porcelain, clinker, terracotta, etc.), natural stone (marble, granite, etc.) and artificial materials which are slightly sensitive to humidity (class B MAPEI dimensional stability standard) which require the use of a fast-drying adhesive.

Some application examples

· Laying ceramic and stone floor coverings which are subject to intense traffic.
· Quick repair operations where the floor needs to be put into service immediately (public buildings, motorway service areas, supermarkets, airports, pedestrian areas), even during hot weather. Compared with other fast-setting adhesives, the longer pot-life of **Elastorapid** makes it more easy to apply even during hot weather.
· Laying tiles on deformable substrates: marine plywood, wooden agglomerates (if sufficiently stable to water), old wooden floors, etc.
· Quick laying or repair of tiled finishes in places such as swimming pools, refrigeration units, industrial plants (breweries, wine cellars, dairies etc.).
· Laying even large-sized ceramic and stone tiles on façades, balconies, terraces, and sun-roofs and patios which are subject to direct sunlight and thermal gradients.
· Laying tiles in areas subject to high mechanical stresses and vibration (railway underpasses, underground railway platforms, etc.).
· Laying tiles on concrete substrates and pre-cast walls.
· Laying large-format tiles on heated screeds or on top of existing floor coverings in ceramic, terrazzo, marble, etc.
· Laying tiles on surfaces waterproofed with **Mapelastic** or **Mapegum WPS**.
· Laying stone material which is sensitive to stains (white Carrara, etc.).

TECHNICAL CHARACTERISTICS

Elastorapid is a two-component adhesive available in grey or white consisting of a special binder and selected silica sand (comp. A) and a synthetic latex rubber (comp. B).
When the two components are mixed together, a mortar with the following characteristics is obtained:
· low viscosity, therefore easy to apply;
· highly thixotropic: **Elastorapid** may be applied on vertical surfaces without sagging, and even large-sized, heavy tiles do not slip. Tiles may be laid starting from the top of the surface without using spacers;
· the pot-life of the mix is particularly long compared with other fast-setting adhesives, making the laying operation easier even during the summer at high temperatures;
· good capacity for accomodating deformation of the substrate and tiles (chipboard, marine plywood, concrete, etc.);

· perfect bonding to all materials normally used in building;
· thicknesses of up to 10 mm set without shrinkage and without a reduction in thickness, until a considerably high mechanical strength is reached.

Elastorapid has high bonding strength after only 2-3 hours and, therefore, floor and wall coverings may be put into service very quickly.

RECOMMENDATIONS

Do not use **Elastorapid**:
· on metallic, rubber, PVC or linoleum surfaces;
· with marble or artificial materials which are subject to high levels of moisture movement (green marble, some types of slate and sandstone in the class C MAPEI dimensional stability standard). In this case, use **Keralastic**, **Keralastic T** or **Kerapoxy**.

Do not add water or component B to the mixture that has begun to set.

APPLICATION PROCEDURE

Preparing the substrate

The substrates must be flat, stable, mechanically strong, sufficiently dry and free from loose or crumbly parts, grease, oil, paint, and wax, etc. Damp substrates may slow down the setting of **Elastorapid**.
Cementitious substrates must not be subject to shrinkage after laying the tiles and therefore, during good weather, the substrates must be cured for at least 1 week per centimetre of thickness. Cementitious screeds must be cured for at least 28 days, unless they are made using a MAPEI special binder for screeds such as **Mapecem**, **Mapecem Pronto**, **Topcem** or **Topcem Pronto**.
Dampen with water to cool down surfaces which are too hot due to exposure to direct sunlight.
Gypsum substrates and anhydrite screeds must be perfectly dry (max. residual moisture 0.5%), sufficiently hard and free of dust. They must be treated with **Primer G** or **Eco Prim T**, while areas subject to high humidity must be treated with **Primer S**.
In general, refer to the relative MAPEI technical documentation regarding substrate preparation before repairing cracks in substrates, consolidating rapid-drying screeds and levelling installation surfaces.

Preparing of the mix

Mix 25 kg of grey or white component A (cementitious powder) with 6.25 kg of component B (synthetic latex rubber). It is best to use a low-speed mechanical mixer to obtain a smooth, homogenous paste by pouring the powder (component A) into the latex (component B).
The pot life is approximately 60-75 minutes at +20°C, but higher temperatures may reduce this time considerably. Compared to other fast-setting adhesives, however, the longer open time of **Elastorapid** means that it is easier to lay tiles even during hot weather.

Applying the mix

Apply **Elastorapid** on the substrate with a notched trowel. Use a trowel which guarantees that the adhesive is spread well on the back of the tile.
To achieve a good bond, first spread a thin layer of **Elastorapid** on the substrate using the smooth side of the trowel, and then immediately apply another layer to the thickness required with a notched trowel according to the type and size of the tile.
For pieces of mosaic up to 5x5 cm, use a MAPEI No. 4 or 5 trowel (consumption 2.5-3 kg/m²).
For normal ceramic coverings, a MAPEI No. 5 trowel with a rhomboid notch is recommended (consumption 3.5-4 kg/m²).
For uneven floors or surfaces or tiles with a ribbed back, a MAPEI No. 6 trowel with a rhomboid notch is recommended (consumption 5-6 kg/m²).
For very uneven surfaces or with large tiles and tiles with large ribs on the back, a MAPEI No. 10 trowel with a square notch is recommended (consumption 8 kg/m²) or a trowel used for **Kerafloor** (up to 1 cm thickness).
For laying ceramic or natural stone on floors externally, tiles with a dovetail or knobbled back, tiles larger than 900 cm², floor coverings to be polished on site or subject to heavy loads or for swimming pools and water basins, spread the adhesive also on the back of the tile to guarantee full contact.

Laying the tiles

It is not necessary to wet the tiles before laying them. Only when the backs are very dusty it is advisable to dip the tiles in clean water.
The tiles must be laid by pressing them down firmly to ensure a good contact with the adhesive.
Under normal climatic conditions, the open time of **Elastorapid** is approximately 30 minutes. Under unfavourable weather conditions (strong, direct sunlight, wind, high temperature and low R.H.), or if the substrate is very absorbent, the open time may be reduced to only a few minutes.
Wetting the substrate before applying the adhesive helps to increase the open time.
Check constantly to make sure that the adhesive does not form a surface skin and that it is still fresh. If a surface skin forms, re-spread the adhesive with a notched trowel. Do not wet the adhesive if a surface skin forms. Instead of dissolving the skin, a non-adhesive skin will form.
Surfaces tiled with **Elastorapid** must not be washed down or exposed to rain for at least 3-4 hours and must be protected from strong, direct sunlight for at least 12 hours.

GROUTING AND SEALING

The joints between the tiles may be grouted after 3 hours with a suitable MAPEI cementitious or epoxy grout, which is available in a variety of colours.
Expansion joints must be sealed with a suitable MAPEI sealant.

POLISHING

The surfaces may be polished after 24 hours.

SET TO LIGHT FOOT TRAFFIC

Floors are set to light foot traffic after 3-4 hours.

READY FOR USE

The surfaces are ready for use after approximately 24 hours.
Basins and swimming pools can be filled after 3 days.

CLEANING

Tools may be cleaned with clean water before the adhesive sets. Once set, cleaning becomes very difficult, but the use of a solvent such as white spirits or a similar product usually helps.

CONSUMPTION

· Mosaics and small-sized tiles (trowel No. 4): 2.5-3 kg/m^2;
· normal-sized tiles (trowel No. 5): 3.5-4 kg/m^2;
· large tiles and external floors (trowel No. 6): 5-6 kg/m^2;
· uneven back faces and substrates, natural stone (trowel No. 10): 8 kg/m^2 or more.

PACKAGING

Elastorapid is available in either a white or grey colour.
Elastorapid white: 31.25 kg kit, comprising:
component A: 25 kg bag;
component B: 6.25 kg drum.
Elastorapid grey: 31.25 kg kit, comprising:
component A: 25 kg bag;
component B: 6.25 kg drum.

STORAGE

Elastorapid component A may be stored for up to 12 months in its original packaging in a dry place.
The product complies with the conditions of Annex XVII to Regulation (EC) N° 1907/2006 (REACH), item 47.
Elastorapid component B may be stored for up to 24 months. Protect from frost.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Elastorapid component A is irritant, contains cement that when in contact with sweat or other body fluids, produces an irritant alkaline reaction and allergic reactions in those predisposed.
Elastorapid component B is not considered a dangerous substance according to current standards and regulations regarding to the classification of mixtures. However, the use of protective gloves and goggles is recommended.
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.

TECHNICAL DATA (typical values) In compliance with the norms: – EN 12004, such as C2FTES2 – ISO 13007-1 such as C2FTES2	
PRODUCT IDENTITY	
COMPONENT A:	
Consistency:	grey or white powder
Bulk density (kg/m³):	1,250
Dry solids content (%):	100
COMPONENT B:	
Consistency:	liquid
Colour:	white
Density (g/cm³):	1,035
pH:	7.5
Dry solids content (%):	31
APPLICATION DATA (at +23°C and 50% R.H.)	
Mixing ratio:	white: component A: 25 kg + part B: 6.25 kg grey: component B: 25 kg + part B: 6.25 kg
Consistency of mix:	thick paste
Density of mix (kg/m³):	1,650
pH of mix:	approx. 11
Application temperature range:	from +5°C to +30°C
Pot life:	60-75 minutes
Open time (according to EN 1346):	≥ 30 minutes
Setting time:	120-150 minutes
Time to grouting:	after 3 hours
Set to light foot traffic:	after 3 hours
Ready for use:	after 24 hours (3 days for swimming pools and basins)
FINAL PERFORMANCES	
Bonding strength according to EN 1348 (N/mm²): – initial (after 28 days): – after heat ageing: – after immersion in water: – after freeze/thaw cycles:	 2.5 2.5 1.5 1.8
Flexural strength (N/mm²) – after 28 days:	6.0-7.0
Compressive strength (N/mm²) – after 28 days:	17.0-18.0

Resistance to acids:	poor
Resistance to alkalis:	excellent
Resistance to oil:	excellent
Resistance to solvents:	excellent
Service temperature range:	from –30°C to +90°C
Deformability according to EN 12002:	S2 - highly deformable

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



Spreading Elastorapid on a cementitious screed with a notched trowel



Laying porcelain tiles on a screed waterproofed with Mapelastic



Laying porcelain tiles on a marine plywood substrate with Elastorapid



Laying large-sized porcelain tiles on a concrete façade with Elastorapid

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