

# ADESILEX P4

High performance, rapid-setting, full contact, cementitious adhesive for ceramic tile and stone material installations; smoothing compound for interiors and exteriors; mortar for brick and concrete block walls



## CLASSIFICATION IN COMPLIANCE WITH EN 12004

**Adesilex P4** is an improved (C2) fast setting (F) cementitious adhesive classified as C2F.

Conformity of **Adesilex P4** is declared in ITT certificate n° 25070275/Gi (TUM) issued by the Technische Universität München laboratory (Germany) and as declared in ITT certificate n° 1220.6/10/R03 NPU issued by the ITB Katowice Institute (Poland).

## WHERE TO USE

### Tile and stone flooring installations

- Floor bonding of all types of medium and large ceramic tiles, natural stone (if not sensitive to moisture or subject to surface efflorescence), terracotta, and terrazzo in interiors and exteriors.

### Smoothing compounds

- Interior and exterior smoothing of all substrates generally used in building, provided they are clean, such as concrete slabs, cementitious screeds, and existing ceramic tile, terrazzo and natural stone floors.

### Brick and concrete block walls

- Expansive mortar for brick or concrete block walls.

### Some application examples

- Total bonding of large size porcelain tiles on floors subject to heavy traffic, such as offices, shopping malls, hospitals and schools.
- Bonding of stone material and terrazzo, including large sizes.
- Setting quarry tiles, klinker or single-fired tiles on terraces and balconies.
- Setting ceramic tiles of every type over all kinds of underfloor heating installations.
- Overlaying of ceramic tiles and stone material on old floors (ceramic, natural stone, cement, terrazzo), as long as they are solid and perfectly clean.
- Easy levelling and localised smoothing with rapid curing prior to fixing ceramic tiles.
- Rapid replacement of tiles, when filling irregularities in the substrate is required simultaneously.
- Bonding of brick and concrete blocks for building walls rapidly.

## TECHNICAL CHARACTERISTICS

**Adesilex P4** is a grey powder composed of cement and fine-graded mineral fillers, containing high quantities of synthetic resins and special additives according to a formula developed in the MAPEI Research Laboratories.

Mixed with water, **Adesilex P4** becomes a mortar with the following properties:

- semi-fluid and easily trowellable;
- 100% back-buttering is guaranteed. With **Adesilex P4** it is possible to obtain adhesive beds 3 mm to 20 mm thick without undulations, ideal for external installations and heavy traffic areas;
- able to absorb deflections of the substrate and tiles;
- perfect bonding to all materials generally used in building;
- cures rapidly without significant shrinkage until it builds a sufficient bond strength;
- waterproof, weatherproof and resistant to frost.

## RECOMMENDATIONS

Do not use **Adesilex P4**:

- on walls or slanted surfaces;
- wood and wood conglomerates;
- metal surfaces, rubber, PVC or linoleum;
- with natural or artificial stone material slabs subject to movement due to moisture.

## APPLICATION PROCEDURE FLOOR INSTALLATION

### Preparing the substrate

The substrate must be cured, mechanically strong, free of loose materials, grease, oils, paint, wax and sufficiently dry.

Cementitious substrates should not be subject to shrinkage after the installation of ceramic tiles. During spring and summer, the cementitious screeds must be cured for at least 28 days, unless they are made with MAPEI special binders for screeds, such as **Mapecem**, **Topcem** or with **Mapecem Pronto**, **Topcem Pronto**. Dampen with water to cool the surfaces that have been heated by the exposure to sunlight. Gypsum substrates and anhydrite screeds must be perfectly clean, sufficiently hard and free of dust. It is absolutely essential to treat them with **Primer G** or **Mapeprim SP**. Areas subject to high humidity must be treated with **Primer S**.

### Preparing the mix

Mix **Adesilex P4** in a clean receptacle with 5-5.5 litres of clean water for every 25 kg bag until a smooth lump-free paste is obtained. Let the mix sit for 3 minutes, then stir again, and the mix is ready for use. Mixed this way **Adesilex P4** will have a pot life of approx. 60 minutes at +23°C and 50% R.H.

If both adhesive and tiles are very thick, or the tiles are particularly heavy, 20% of suitably graded clean sand may be added to prevent shrinkage or settling.

### Applying the mix

Apply **Adesilex P4** to the substrate with a suitable trowel.

The selection of the correct trowel depends on the evenness of the substrate, the size of the tile and the profile of the back.

For flat surfaces and medium size tiles use MAPEI trowel No. 6 or No. 10 (consumption approx. 3-5 kg/m<sup>2</sup>).

For uneven surfaces, large size tiles, tiles with highly profiled ribs or lugs, MAPEI trowel No. 10 or a round-notched trowel is recommended (consumption approx. 5-10 kg/m<sup>2</sup>).

Consumption is generally 1.4 kg/m<sup>2</sup> for each mm of thickness.

### Installing the tiles

It is not necessary to wet the tiles before setting. Only when the backs are very dusty is it advisable to dip the tiles in clean water.

Set the tiles on the bed of **Adesilex P4** without pressure but with a light hand movement to ensure 100% coverage.

The open time of **Adesilex P4** in normal temperatures and humidity is approx. 15 minutes. Unfavourable weather conditions (strong sun, wind, high temperature) may shorten the open time, sometimes quite drastically, to just a few minutes.



For this reason, constant checks must be made to see if the adhesive has formed a surface skin or is still “fresh” to the touch.

Wetting the substrate before applying the adhesive helps to lengthen the open time. However if a surface skin has formed, retrowel the adhesive with a notched trowel.

It is not advisable to wet the adhesive once it has formed a skin because, instead of dissolving the skin, a non-adhesive film will be formed.

Any necessary adjustment of the tiles should be carried out within 30 minutes after setting, after which time adjustment becomes problematic.

Tiles set with **Adesilex P4** must not be subject to washout or rain for 3 hours at a temperature of +23°C and must be protected from frost and hot sun for at least 24 hours after installing.



Mixing Adesilex P4



Spreading with semicircular notched trowel



Laying large size tiles



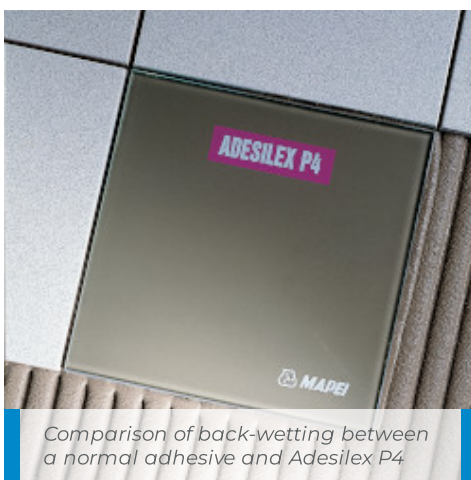
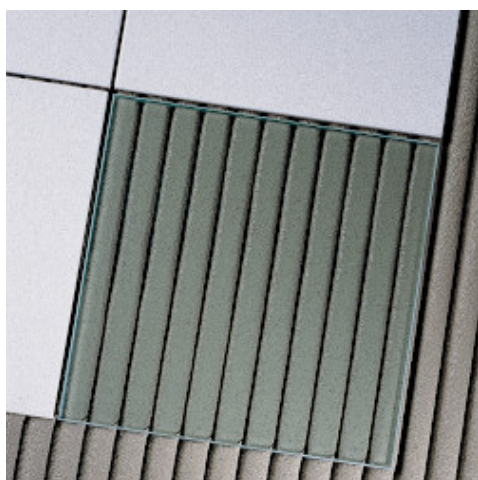
Laying porcelain tiles



Smoothing existing flooring with Adesilex P4



Dipping a concrete block in Adesilex P4



Comparison of back-wetting between a normal adhesive and Adesilex P4

## GROUTING AND SEALING

Joints between the tiles can be grouted after 4 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

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Floors are set to light foot traffic after approximately 4 hours.

## READY FOR USE

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The surfaces are ready for use after approx. 24 hours.

## SMOOTHING

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### Preparing the substrate

Substrates must be level, solid, consistent and free of loose materials, grease, oils, paint, wax, etc. and sufficiently dry. Anhydrite substrates must be thoroughly dry, sufficiently hard and free of dust (check for residual moisture) and must be previously treated with **Primer G**.

Substrates in very damp areas must first be treated with **Primer S** or **Mapeprim SP**.

### Preparing the mix

Mix **Adesilex P4** in a clean receptacle with 5-5.5 litres of clean water for every 25 kg bag until a smooth lump-free paste is obtained. Let the mix sit for 3 minutes, then stir again and the mix is ready for use. Mixed this way **Adesilex P4** will have a pot life of approx. 60 minutes at +23°C and 50% R.H.

### Applying the mix

Apply the mix with a long metal trowel. When needed, additional coats may be applied in rapid succession as soon as the previous coat has hardened.

### Installing the tiles

The surface can be tiled over as soon as it has hardened (3 to 4 hours, depending on the temperature and the absorbency of the substrate).

## BRICK AND CEMENT BLOCK WALLS

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### Preparing the mix

**Adesilex P4** should be mixed in a clean receptacle with 5-5.5 litres of clean water for every 25 kg bag until a smooth lump-free mix is obtained. Let the mix sit for 3 minutes then stir again and the mix is ready for use.

**Adesilex P4** has a pot life of approx. 60 minutes at +23°C and 50% R.H.

### Laying brick or concrete blocks

Pour the **Adesilex P4** mix into a receptacle large enough for the size and shape of the brick or cement blocks. Place the brick or concrete block on the surface of the mix so the adhesive is transferred.

Place the brick or block on the wall. This method cuts completion time by half.

## CLEANING

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Tools and hands may be cleaned with abundant water. Tiles may be cleaned with a damp sponge; only after a few hours may a little water be used.

## CONSUMPTION

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### Flooring installations

- Medium size tiles on smooth surfaces (with No. 6 or No. 10 trowel): approx. 3-5 kg/m<sup>2</sup>.
- Large tiles or uneven surfaces (No. 10 trowel or **Adesilex P4** trowel): approx. 5-10 kg/m<sup>2</sup>.

### Smoothing

Approx. 1.4 kg/m<sup>2</sup> for each mm of thickness.

### Brick and concrete block walls

As needed, depending on the size.

## PACKAGING

**Adesilex P4** is available in 25 kg paper bags.

## STORAGE

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

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

## SAFETY INSTRUCTIONS FOR THE PREPARATION AND APPLICATION

**Adesilex P4** contains cement that when in contact with sweat or other body fluids causes irritant alkaline reaction and allergic reactions to those predisposed. It can cause damage to eyes. In case of contact with eyes or skin wash immediately with plenty of water and seek medical attention. It is recommended to use protective gloves and goggles.

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.

<b>TECHNICAL DATA (typical values)</b> <b>Adesilex P4</b> complies with: – EN 12004 as C2F	
<b>PRODUCT IDENTITY</b>	
<b>Consistency:</b>	powder
<b>Colour:</b>	grey
<b>Bulk mass density (kg/m<sup>3</sup>):</b>	1300
<b>Dry solids content (%):</b>	100
<b>EMICODE:</b>	EC1 R Plus - very low emission
<b>APPLICATION DATA (at +23°C - 50% R.H.)</b>	
<b>Mix ratio:</b>	20-22 parts water to 100 parts of <b>Adesilex P4</b>
<b>Consistency of the mix:</b>	semi-fluid
<b>Density of the mix (kg/m<sup>3</sup>):</b>	1800
<b>pH of the mix:</b>	12
<b>Pot life of the mix:</b>	60 minutes
<b>Application temperature range:</b>	from +5°C to +30°C
<b>Open time:</b>	approx. 15 minutes

Setting time: a) initial: b) final:	100 minutes 150 minutes
Adjustability time:	approx. 30 minutes
Set to light foot traffic:	4 hours
Grouting:	4 hours
Ready for use:	24 hours
<b>FINAL PERFORMANCES</b>	
Adhesion (according to EN 1348) (N/mm <sup>2</sup> ): – initial (after 28 days at +23°C - 50% R.H.): – after heat ageing: – after water immersion: – after freeze-thaw cycles:	2.0 1.9 1.3 1.2
Compressive strength (after 28 days) (N/mm <sup>2</sup> ):	14.0
Flexural strength (after 28 days) (N/mm <sup>2</sup> ):	5.0
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

## 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](http://www.mapei.com)**

**Mapei S.p.A.**

Via Cafiero, 22, 20158, Milano



+39-02-376731



[www.mapei.com](http://www.mapei.com)



[mapei@mapei.it](mailto:mapei@mapei.it)

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