



Kerabond Plus



Easily trowellable cementitious adhesive with superior bond strength, low slump and high initial grab suitable for most types of ceramic tiles and stone material



CLASSIFICATION IN COMPLIANCE WITH ISO 13007-1

Kerabond Plus is cementitious adhesive (C) improved (2) slip resistant (T) of Class C2T.

DESCRIPTION

Kerabond Plus is ideal for use in interior and exterior floor and wall applications for most types of tiles and natural stones (not moisture-sensitive) onto rigid surfaces.

Kerabond Plus contains a very low VOC content that can contribute valuable points towards Green Star™ credits in compliance with the Green Building Council of Australia.

WHERE TO USE

Bonding ceramic mosaics on paper or mesh, most types of ceramic tiles (quarry tiles, single fired and klinker tiles) on:

- ordinary concrete slabs or suspended concrete slabs completely cured and stable
- conventional renders or cement mortar walls
- gypsum substrates and anhydrite screeds as long as they are dry and treated with a priming coat of **Primer G**, **Eco Prim T** or **Eco Prim Grip**
- spot bonding of insulating materials such as expanded polystyrene, expanded polyurethane, rock and glass wool, wood-cement and sound-deadening panels

TECHNICAL CHARACTERISTICS

Kerabond Plus is available in a grey or white powder composed of cement, fine-graded sand, synthetic resins and special additives according to a formula developed in the MAPEI research laboratories.

Mixed with water, **Kerabond Plus** becomes an easily trowellable adhesive with good bond strength, low slump and a high initial grab allowing it to be applied vertically without any sagging or letting even heavy tiles slip.

Kerabond Plus hardens without noticeable shrinkage to become extremely resistant, adhering perfectly to all the conventional materials used for bonding.

*Mixing **Kerabond Plus** with **Isolastic 50** or **Isolastic** in lieu of water will improve the characteristics of the adhesive to meet the requirements of Class S1 and S2 (deformable and highly deformable adhesive) respectively according to ISO 13007-1.*

RECOMMENDATIONS

- DO NOT apply over presswood, particle board, chipboard, masonite, gypsum floor patching compounds, metal or similar dimensionally unstable substrates
- DO NOT apply over vinyl, rubber or linoleum surfaces
- For external installation onto concrete slabs and cementitious screeds of large sized tile (up to 400 x 400mm) use **Kerabond Plus** mixed with **Isolastic 50**. If using larger sized tiles use **Kerabond Plus** mixed with **Isolastic**
- For installations over marine-grade plywood (interior dry floor only), gypsum walls, pre-cast panels, fibre-cement sheet and floors and walls subject to movement (through shrinkage or temperature changes) use **Kerabond Plus** mixed with **Isolastic**
- DO NOT use **Kerabond Plus** to install agglomerates, moisture-sensitive stone or stone material subject to staining. Instead install using **Granirapid**, **Keralastic T** or **Kerapoxy**
- When installing light coloured and translucent marble and agglomerates use **Granirapid White** or **Keraquick S1 White**. Please refer to the respective Technical Data Sheets for complete product information

APPLICATION PROCEDURE

Examination

Before work commences examine the areas to be covered and report any deficiency or adverse conditions in writing to the general contractor, owner, developer or architect. DO NOT proceed with work until surfaces and conditions comply with the requirements indicated in the current Australian Standards and manufacturer's instructions

Preparing the substrate

All supporting surfaces shall be structurally sound, solid, stable, dry, completely cured, level, plumb and true to a tolerance as per the current Australian Standards. They shall be clean and free of dust, oil, grease, paint, tar, wax, curing agent, primers, sealers, release agents or any deleterious substance and debris which may prevent or reduce adhesion.

Completely remove all loosely bonded topping, paint, loose particles and construction debris by mechanical means such as shot blasting, scarification or sanding. When preparing surfaces containing silica sand use an approved dust mask. Surfaces containing asbestos must be handled in accordance with current legislation and Code of Practice.

Neutralise any trace of strong acid or alkali from the substrate prior to the application of any product.

In all cases, the structural design of the floor shall not allow a deflection greater than 1/360 of the span under live or dead loads. Fibre cement sheeting shall conform to the current Australian Standards quality requirements. It must be installed according to the fibre cement sheeting manufacturer instructions and in strict accordance with current Australian Standards for interior installation.

Cementitious substrates

Cementitious substrates must not be subject to shrinkage after the installation of the tiles. The surface should be true and level and pitched to drains where required. Remove from the concrete slabs any concrete sealers or curing compounds from the surface such as chlorinated rubber, resin, wax sealers. Steel-trowelled finished concrete should be roughened mechanically to remove laitance and provide a good key for tiling. Dampen with water to cool surfaces which have been heated by exposure to sunlight. Gypsum substrates and anhydrite screeds must be perfectly dry, sound and free from dust.

It's absolutely essential that they are treated with **Primer G** or **Eco Prim T**. Areas subjected to high humidity should be primed with **Primer S**.

PREPARING THE MIX

Kerabond Plus must be mixed with clean water. Pour 4.8 – 5.2 litres of water into a clean mixing container. Using a low speed mixer (300RPM) blend to obtain a homogenous lump-free paste. Let slake for 3 minutes. Remix and the paste is then ready for use. The mix produced in this way is workable for at least 8 hours.

Please Note: Mixing **Kerabond Plus** with **Isolastic 50/Isolastic** in place of water will improve the characteristics of the adhesive to meet the requirements of Class S1 and S2 (deformable and highly deformable adhesive) respectively according to ISO 13007.

Mix 5.3 kg of **Isolastic 50** OR 6.4 kg of **Isolastic** and gradually add the 20 kg of **Kerabond Plus** powder while slowly mixing. Use a low speed mixer (300 RPM).

APPLYING THE MIX

Use the recommended notched trowel with sufficient depth to achieve an 80% minimum adhesive contact to the back of the tiles for all interior applications. For exterior installations, commercial floor and shower applications achieve coverage in accordance with applicable current Australian Standards. Using the flat or straight edge of the trowel, apply a thin pressure-applied coat to the substrate. Follow immediately with additional material then comb the adhesive using the notched side of the trowel to achieve an even setting bed. Do not spread more material than can be covered with tiles within open time.

In hot or dry conditions, take precautions to ensure that the adhesive does not flash set. Cooling a concrete slab with water prior to the installation may be beneficial. Remove all excess water prior to applying the adhesive. Also, using cold water or cooling the latex additive will aid in the installation. Set tiles before skinning occurs. If skinning occurs, scrape off and replace with fresh adhesive. Place tiles firmly in position with a slight twisting motion to ensure good contact with the adhesive. Follow immediately with proper and thorough beat-in to flatten ridges or notches into a continuous bed. Make all alignments and adjustments immediately following beat-in. Do not exceed 30-45 minutes.

Do not walk over tiles for at least 24 hours after installation.

Wash tools and hands with water while material is still fresh.

SPOT BONDING INSULATING MATERIAL

Spot bonding of sound deadening or insulating panels should be applied using a float or trowel. The required number and thickness of the spot bonds is determined by the flatness of the surface and weight of the panels.

In these cases too, the open time must be observed, bearing in mind that a few spots of adhesive on heavy panels may require some shoring up, which should only be removed after the **Kerabond Plus** has commenced to set.

GROUTING AND SEALING

Wall joints can be grouted after 4-8 hours and floor joints after 24 hours. Joint grouting with both tight and wide joints should be grouted using MAPEI's range of coloured grouts. **Keracolor SF** (super-fine grout for joints up to 4mm), **Keracolor FF** (for joints up to 6mm), **Keracolor GG** (for joints 4-15mm) or **Ultracolor Plus** (high performance, rapid-setting, water-repellent premium grout for joints from 2-20mm).

If the grout joints require chemical resistance use MAPEI's **Kerapoxy** (a two-component acid resistance epoxy grout) or **Kerapoxy Design** (two-component, decorative acid resistant epoxy grout). All MAPEI grouts are available in vast array of exciting colours. The colour chart can be located on the MAPEI website at www.mapei.com.au or alternatively Freecall 1800 652666 and request a Colour Grout Chart.

PROTECTION

Tiling installed with **Kerabond Plus** must not be washed down or exposed to rain for at least 24 hours and must be protected from frost and strong sunlight for at least 5-7 days.

Keep floors free from general traffic for at least 24 hours after installation. Prohibit heavy traffic for 14 days.

READY FOR USE

Tiled surfaces may be put into service after approximately 14 days

TECHNICAL DATA (typical values)

In compliance with	- ISO 13007 as C2T - ISO 13007 as S1 (if mixed with Isolastic 50) - ISO 13007 as S2 (if mixed with Isolastic)
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PRODUCT IDENTITY

Type:	powder
Colour:	grey or white
Bulk density (kg/m ³):	1300
Dry solid content (%):	100

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

Mixing ratio:	100 parts of Kerabond Plus with 24-26 parts by weight of water or 26.5 parts by weight with Isolastic 50 or 32 parts by weight with Isolastic
Consistency of the mix:	very viscous
Density of mix (kg/m ³):	1450
pH of mix:	13
Pot life:	over 8 hours
Application temperature:	from +5°C to +40°C
Open time:	approx 20 minutes
Ready for grouting on walls:	4-8 hours
Ready for grouting on floors:	24 hours
Set to light foot traffic:	24 hours
Ready for use:	14 days

FINAL PERFORMANCES

Bonding strength in accordance with EN 1348 N/mm ² :	Kerabond Plus mixed with water	Kerabond Plus mixed with Isolastic 32%	Kerabond Plus mixed with Isolastic 50 26.5%
Initial bonding after 28 days:	1.6	2.4	2.0
Initial bonding after heat exposure:	1.1	> 2.5	2.5
Bonding after immersion in water:	1.1	1.6	1.4
Bonding after freeze/thaw cycles:	1.2	1.7	1.5
Resistance to alkali:	excellent		
Resistance to oil:	excellent (poor to vegetable oil)		
Resistance to solvents:	excellent		
Temperature when in use:	from -30°C to +90°C		

Kerabond Plus



CLEANING

Tools and hands can be cleaned with water while surfaces should be wiped down with a damp cloth. Water should only be used in moderation and after a few hours of drying.

COVERAGE

A 20kg bag will cover approximately 6 to 7.5m² using a 6 x 6 x 6mm square-notched trowel and 4 to 5m² using a 6 x 10 x 6mm square-notched trowel.

Please Note: Coverages are approximate and are given for estimating purposes only. Actual jobsite coverages may vary according to tile size and thickness, job conditions and setting practices. For coverage values not shown in this table contact MAPEI Technical Services on Freecall 1800 652666.

PACKAGING

Kerabond Plus is available in Grey and White 20kg bags.

STORAGE

12 months when stored in a dry, elevated area in the original unopened packaging.

PROTECT FROM MOISTURE

SAFETY INSTRUCTIONS FOR THE PREPARATION AND INSTALLATION

Kerabond Plus 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 Safety Data Sheet available for download from our website at www.mapei.com.au.

PRODUCT FOR PROFESSIONAL USE.

WARNING

Although the technical details and recommendations contained in this Technical 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 use 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.au

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 effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com.au

ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.

All relevant references for the product are available upon request and from www.mapei.com.au



Mapei Australia Pty. Ltd

180 Viking Drive Wacol Qld 4076

Tel. +61-7-3276 5000 - Fax. +61-7-3276 5076

Website: www.mapei.com.au - Email: sales@mapei.com.au

Manufactured in Brisbane - Australia



BUILDING THE FUTURE

Isolastic

Latex additive to impart elasticity to cementitious adhesives



Isolastic is a type of latex mixed with **Kerabond**, **Kerabond T**, **Kerabond Plus** and **Adesilex P10**, undiluted or diluted 1 : 1 with water, in order to meet the requirements defined in EN 12004 for the following classifications:

Product	Classification according to EN 12004	Description
Kerabond + Isolastic	C2ES2	High-performance, highly deformable cementitious adhesive with extended open time
Kerabond + Isolastic diluted 1:1 with water	C2ES1	High-performance, deformable cementitious adhesive with extended open time
Kerabond T + Isolastic	C2ES2	High-performance, highly deformable cementitious adhesive with extended open time
Kerabond T + Isolastic diluted 1:1 with water	C2ES1	High-performance, deformable cementitious adhesive with extended open time
Kerabond Plus + Isolastic	C2ES2	High-performance, highly deformable cementitious adhesive with extended open time
Kerabond Plus + Isolastic diluted 1:1 with water	C2ES1	High-performance, deformable cementitious adhesive with extended open time
Adesilex P10 + Isolastic diluted 1:1 with water	C2ES1	High-performance, deformable cementitious adhesive with extended open time

WHERE TO USE

ISOLASTIC + KERABOND, KERABOND T and KERABOND PLUS

For interior and exterior bonding of:

- ceramic tiles of every type (double fired, single fired, grès, klinker, glass mosaic, porcelain tiles, etc.);
- stone material as long as it is dimensionally stable.

ISOLASTIC DILUTED 1 : 1 WITH WATER + ADESILEX P10

Bonding on internal and external floors or vertical surfaces of glass or ceramic mosaic on paper or mesh backings, even heavy ones.

Some application examples

ISOLASTIC + KERABOND, KERABOND T or KERABOND PLUS

- Ceramic tiles over underfloor heating installations.
- Ceramic tiles and stone material for exteriors (swimming pools, balconies, terraces).
- All types of ceramic tiles, including slim tiles, on façades.
- Ceramic tiles on precast concrete walls (load-bearing panels, precast bathrooms, walls in “tunnel” systems, etc.).
- Ceramic tiles on old flooring (ceramic, marble, terrazzo, wood, etc.).
- Ceramic tiles on asphalt screeds or substrates.
- Ceramic tiles on deformable substrates (gypsum-board panels, reinforced concrete, fibre-cement board, etc.).
- Large-sized tiles.
- Ceramic tiles on surfaces waterproofed with products from the **Mapelastic** range.

ISOLASTIC DILUTED 1 : 1 WITH WATER + ADESILEX P10

- Laying glass or ceramic mosaic on non-absorbent surfaces (**Mapelastic**, **Mapegum WPS**, tiles, etc.).
- Laying glass or ceramic mosaic in swimming pools, storage tanks, etc., even on absorbent surfaces.



- Laying glass or ceramic mosaic on deformable surfaces (plasterboard panels, reinforced cement, cement fibre, wood or derived materials, provided they are well fastened).

TECHNICAL CHARACTERISTICS

Isolastic is a very fluid, pinkish-white liquid composed of a water dispersion of an extremely elastic polymer, which, when mixed with cementitious adhesives, improves adhesion to all substrates, deformability and impermeability, once hydration has taken place.

RECOMMENDATIONS

Kerabond, Kerabond T, Kerabond Plus or **Adesilex P10** mixed with **Isolastic** must never be used for:

- installing stone slabs subject to moisture movement;
- installing marble or natural stone subject to efflorescence or staining from moisture;
- installing tiles in reservoirs, swimming pools or refrigeration rooms that need to be put into service quickly;
- installation on metal, rubber, PVC, and linoleum surfaces;
- at temperatures lower than +5°C or higher than +40°C.

In dry, hot climates, the open time of the adhesive made by mixing **Isolastic** into **Kerabond, Kerabond T, Kerabond Plus** or **Adesilex P10** is shorter. A skin may form on the surface, which must then be removed and fresh adhesive applied.

APPLICATION PROCEDURE

Preparing the substrates

All substrates receiving **Kerabond, Kerabond T, Kerabond Plus** or **Adesilex P10** + **Isolastic** must be flat, mechanically strong, free from loose parts, grease, oil, paint, wax, etc. Precast concrete elements or in situ concrete must be cured for at least 3 months in favourable weather conditions. Cementitious substrates must not be subject to shrinkage once the tiles have been installed, therefore in warm weather renders should be cured at least one week per centimetre of thickness. Cementitious screeds must have an overall cure of at least 28 days unless they have been made with the special MAPEI binders for screeds such as **Mapcem, Mapcem Pronto, Topcem** or **Topcem Pronto**. Surfaces that are too hot due to exposure to direct sunlight should be cooled by dampening them with water. Gypsum substrates and anhydrite screeds must be perfectly dry (maximum residual humidity 0.5%, 0.3% in case of heated screeds) sufficiently hard and free from dust. They must always be treated with **Primer G** or **Eco Prim T**. Areas subject to extreme damp must be primed with **Primer S**. On existing floors, remove any traces of grease, wax, dirt, etc. by using specific products or by abrading the surface with a power tool.

As a general rule, refer to the relative MAPEI technical documentation about substrate preparation before repairing cracks in substrates, consolidating rapid-drying

screeds and levelling off installation surfaces.

Mixing ratio

The mixing ratio is determined by the degree of deformability required of the adhesive: use **Isolastic** as a complete substitute for water when a highly deformable adhesive (class S2 according to EN 12004) is required, e.g for substrates subject to strong size variations such as concrete structures with less than 6 months curing, for large-sized tiles or slabs or for those subject to considerable sudden temperature changes.

Isolastic diluted 1 : 1 with water may be used when a deformable adhesive is required (class S1 according to EN 12004), for example on moderately unstable substrates, cured concrete substrates, etc.

Mixing ratios:

Product	Mixing ratio	
	Parts in weight	Kg
Kerabond + Isolastic	Kerabond : Isolastic = 100 : 33	8.5 kg of Isolastic per 25 kg bag of Kerabond
Kerabond + Isolastic diluted 1 : 1 with water	Kerabond : Isolastic : water = 100 : 16 : 16	4 kg of Isolastic + 4 kg of water per 25 kg bag of Kerabond
Kerabond T + Isolastic	Kerabond T : Isolastic = 100 : 33	8.5 kg of Isolastic per 25 kg bag of Kerabond T
Kerabond T + Isolastic diluted 1 : 1 with water	Kerabond T : Isolastic : water = 100 : 16 : 16	4 kg of Isolastic + 4 kg of water per 25 kg bag of Kerabond T
Kerabond Plus + Isolastic	Kerabond Plus : Isolastic = 100 : 33	8.5 kg of Isolastic per 25 kg bag of Kerabond Plus
Kerabond Plus + Isolastic diluted 1 : 1 with water	Kerabond Plus : Isolastic : water = 100 : 16 : 16	4 kg of Isolastic + 4 kg of water per 25 kg bag of Kerabond Plus
Adesilex P10 + Isolastic diluted 1 : 1 with water	Adesilex P10 : Isolastic : water = 100 : 18 : 18	4.5 kg of Isolastic + 4.5 kg of water per 25 kg bag of Adesilex P10

Preparing the mix

When **Isolastic** is used in dilution with water, thoroughly blend part of **Isolastic** with a small amount of clean water first. Pour the powder into the liquid and continuously stir the mix with a slow-speed mechanical mixer until it becomes a smooth paste free of lumps. Let the mix stand for a few minutes and, after further stirring, proceed with the application.

Spreading the mix

Apply the adhesive on the substrate using a notched trowel. Use a trowel with a notch size which guarantees adequate buttering. To get good adhesion, spread an initial thin layer of the adhesive mix on the substrate using the smooth side of the trowel, then immediately apply another layer of adhesive to the thickness required using the notched part of the trowel. Use a trowel suitable for the type and format of the tiles to guarantee that the backs of the tiles are adequately buttered. Use the double-buttering technique and spread the adhesive also on the back of the tiles to ensure complete wetting and the absence of gaps, in the following cases: external installations, when installing large-sized tiles, thin tiles, tiles with reliefs on their back, flooring to be polished after installation or subject to high static or dynamic loads, heated floors or storage tanks and swimming pools.

TECHNICAL DATA (typical values)

Complies with the following standards:

- European EN 12004 C2ES2 (Kerabond/Kerabond T/ Kerabond Plus + Isolastic) and C2ES1 (Kerabond/ Kerabond T/Kerabond Plus/Adesilex P10 + Isolastic diluted 1 : 1 with water)
- ISO 13007-1 C2ES2 (Kerabond/Kerabond T/ Kerabond Plus + Isolastic) and C2ES1 (Kerabond/ Kerabond T/Kerabond Plus/Adesilex P10 + Isolastic diluted 1 : 1 with water)

PRODUCT IDENTITY

Consistency:	fluid liquid
Colour:	pinkish white
Density (g/cm ³)	1.03
pH:	5-6
Dry solids content (%):	35
Brookfield viscosity (mPa-s):	40
EMICODE:	EC1 Plus - very low emission

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

	Kerabond or Kerabond Plus or Kerabond T + Isolastic	Adesilex P10 + Isolastic diluted 1 : 1
Mixing ratio:	100 : 33	100 : 36 (18 parts of water and 18 parts of Isolastic)
Consistency of mix:	very pasty	very creamy
Colour:	grey/white	white
Density of the mix (kg/m ³)	1,500	1,450
pH of mix:		over 12
Pot life:		8 hours
Application temperature range:		from +5°C to +40°C
Open time:	20-30 minutes	30 minutes
Adjustability time:	approx. 45 minutes	45 minutes
Grouting wall joints:	after 4-8 hours	after 4-8 hours
Grouting floor joints:	after 24 hours	after 24 hours
Set to light foot traffic:	24 hours	24 hours
Ready for use:	14 days	14 days

FINAL PERFORMANCE

	Kerabond or Kerabond Plus or Kerabond T + Isolastic	Adesilex P10 + Isolastic diluted 1 : 1
Tensile adhesion strength (N/mm ²):		
– initial (after 28 days):	2.4	2.1
– after heating:	2.5	3.0
– after water immersion:	1.6	1.3
– after freeze-thaw cycles:	1.8	1.4
Resistance to alkalis:		excellent
Resistance to oils:		excellent (poor to vegetable oils)
Resistance to solvents:		excellent
Temperature when in use:		from -30°C to +90°C
Deformability according to EN 12004:	> 5 mm S2 highly deformable	> 2.5 S1 deformable

Isolastic



Installing the tiles

Follow the recommendations shown in the technical data sheet of the adhesive with which **Isolastic** is mixed. However, greater attention should be paid to the open time which, in the equivalent relative temperature and humidity conditions, will be slightly shorter than the open time of the basic product.

GROUTING AND SEALING

Wall joints can be grouted after 4-8 hours and floor joints after 24-36 hours with the special MAPEI cementitious or epoxy grouts, available in different colours. Expansion joints must be sealed with the special MAPEI sealants.

SET TO LIGHT FOOT TRAFFIC

Floors are set to light foot traffic after 24-36 hours.

READY FOR USE

Surfaces are ready for use after approximately 14 days. Basins and swimming pools can be filled after 4 weeks.

Cleaning

Tools can be cleaned using plenty of water before the adhesive begins to set. After setting, cleaning becomes very difficult, but can be helped with a solvent such as white spirit.

CONSUMPTION (kg/m²)

	Product	Consumption (kg/m ²)		
		powder	Isolastic	water
Mosaic and small tiles	Kerabond/Kerabond T/ Kerabond Plus + Isolastic	2-3	0.7-1	-
	Kerabond/Kerabond T/ Kerabond Plus/Adesilex P10 + Isolastic diluted 1 : 1 with water	2-3	0.3-0.5	0.3-0.5
Medium-sized tiles	Kerabond/Kerabond T/ Kerabond Plus + Isolastic	4-5	1.3-1.7	-
	Kerabond/Kerabond T/ Kerabond Plus/Adesilex P10 + Isolastic diluted 1 : 1 with water	4-5	0.6-0.9	0.6-0.9
Large-sized tiles	Kerabond/Kerabond T/ Kerabond Plus + Isolastic	> 6	> 2	-
	Kerabond/Kerabond T/ Kerabond Plus/Adesilex P10 + Isolastic diluted 1 : 1 with water	> 6	> 1	> 1

PACKAGING

25 and 5 kg drums and 1 kg packs.

STORAGE

Isolastic can be stored for 24 months in the original packing. Protect from frost.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products



Porcelain tiles laid with Kerabond + Isolastic - Civic Center - North York Ontario (Canada)

can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.com.

PRODUCT FOR PROFESSIONAL USE.

WARNING

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LEGAL NOTICE

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The most up-to-date TDS can be downloaded from our website www.mapei.com.

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

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



An example of an installation of klinker on concrete with Kerabond + Isolastic - New Telecommunication Tower - Kuwait City (Kuwait)



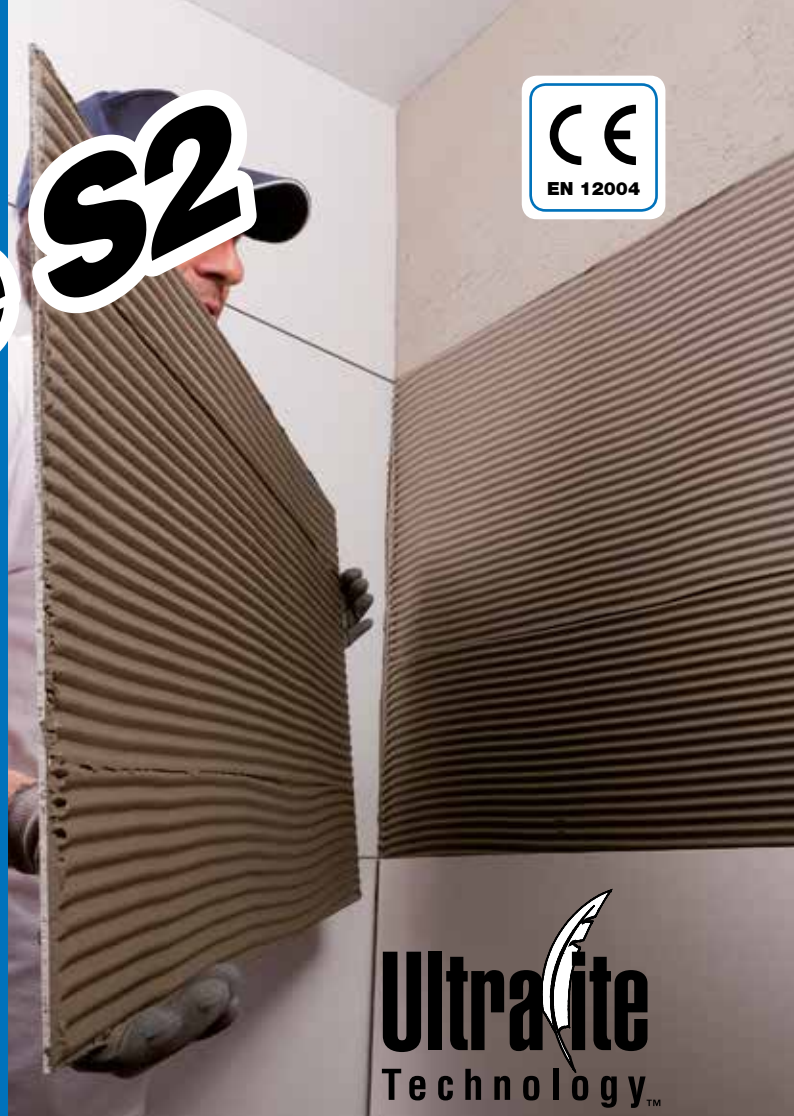
BUILDING THE FUTURE



Ultralite

S2

One-component, high-performance, highly-deformable, lightweight cementitious adhesive with extended open time and very high yield, easy to trowel and good buttering capacity with very low emission of volatile organic compounds, for ceramic tiles and stone material, ideal for thin porcelain tiles



Ultralite
Technology™

CLASSIFICATION ACCORDING TO EN 12004

Ultralite S2 is a C2E S2-class cementitious (C), improved (2), with extended open time (E), highly deformable (S2) adhesive.

Conformity of **Ultralite S2** is declared in **ITT certificate n° 25110055/AG (TUM) and n° 25110056/AG (TUM)** issued by the Technische Universität München laboratory (Germany).

WHERE TO USE

- Bonding all types and sizes of ceramic tiles (double-fired, single-fired, porcelain, klinker, terracotta, etc.) on internal and external substrates.
- Bonding stone on internal and external surfaces (only stone which is stable and not sensitive to humidity).
- Bonding all types and sizes of thin porcelain tiles on floors and walls, including external façades.
- Bonding all types of mosaic on internal and external substrates even in swimming-pools.

Specifically developed for large-sized tiles to be laid on large surface areas without double buttering.

Because of its high buttering capacity on the backs of tiles, it is particularly suitable for laying any type of thin porcelain tile (using the double buttering technique), including on thermal insulation systems such as **Mapetherm Tile System**.

Some application examples

- Bonding ceramic tiles (double-fired, single-fired, porcelain tile, ceramic and glass mosaic, klinker, etc.), stone (if stable in damp environments) and thin

porcelain tiles on conventional substrates, such as:

- on “damp earth” consistency and self-levelling cementitious screeds and anhydrite (after applying a suitable primer);
- heating screeds;
- cementitious render or lime-mortar render;
- gypsum render (after applying a suitable primer);
- plasterboard, precast panels, cement-fibre panels;
- waterproofing membranes in **Mapelastic**, **Mapelastic Smart**, **Mapelastic AquaDefense**, **Monolastic** and **Mapegum WPS**.

- Laying ceramic and stone on old floors (in ceramic, marble, etc.).
- Laying on marine-plywood, wooden agglomerates and old, stable wooden floors.
- Laying ceramic and stone on balconies, terraces and paving slabs exposed to direct sunlight and thermal gradients.
- Laying on precast concrete walls and concrete substrates.
- Laying thin porcelain tiles on **Mapetherm Tile System** thermal insulation systems (refer to the specific Technical Notebook).

TECHNICAL CHARACTERISTICS

Ultralite S2 is a grey powder made from cement, selected graded sand, a high amount of synthetic resin and micro-spheres of recycled silica material which helps to make the mix lighter, according to a special formula developed in MAPEI's Research Laboratories, to offer a valid contribution towards the development of sustainable buildings.

The special technology used to manufacture

Ultralite S2



Laying on an external façade: application of adhesive on the substrate



Spreading the adhesive on the back face of the tile

Ultralite S2 gives it a lower density, which offers two main advantages:

- 1) bags of **Ultralite S2** have the same volume but weigh less (15 kg) than bags of conventional cementitious adhesive (25 kg). This ensures easier handling and savings in transport costs;
- 2) higher yield: yield is approximately 80% higher than MAPEI S2-class, two-component cementitious adhesives.

Ultralite S2 mix has a low viscosity, which makes it easier and quicker to apply. The product's excellent buttering capacity on the backs of tiles means that the double-buttering technique may be avoided when laying large tiles in internal environments. Its excellent back-face buttering capacity also makes this adhesive particularly suitable for laying thin porcelain tiles. The application of **Ultralite S2** using the double-buttering technique on flat substrates ensures that there are absolutely no gaps in the adhesive on the backs of the tiles, thus avoiding the risk of fracture when in service.

When mixed with water, **Ultralite S2** forms a mortar with the following characteristics:

- excellent capacity of absorbing deformations in the substrate and in the tiles;
- excellent buttering capacity on the backs of tiles;
- bonds perfectly to all materials normally used in the building industry;
- particularly long open time and adjustment time to make laying operations easier.

RECOMMENDATIONS

Do not use **Ultralite S2** in the following cases:

- on metal, rubber, PVC and linoleum;
- for slabs of marble and natural stone which are subject to efflorescence or staining;
- for natural stone or composite slabs subject to movements caused by damp;
- when the surface must be put quickly back into service.

Do not add water to the mix once it starts to set.

APPLICATION PROCEDURE

Preparation of the substrate

Substrates must be mechanically strong, free of loose parts, grease, oil, paintwork, wax, etc., and must be sufficiently dry.

Cementitious substrates must not shrink after laying the tiles. Therefore, in good weather, render must be cured for at least one week per cm of thickness, and cementitious screeds must be cured for at least 28 days, unless they are made using special MAPEI binders for screeds, such as **Mapecem** and **Topcem**, or pre-blended mortars, such as **Mapecem Pronto** and **Topcem Pronto**. If the surface is too hot due to direct sunlight, cool it down with water.

Gypsum substrates and anhydrite screeds must be perfectly dry, hard enough for the final intended use and free of dust. They must also be treated with **Primer G** or **Eco Prim T**,

while areas subject to high humidity must be primed with **Primer S**.

Substrates on which thin porcelain tiles are to be laid must be perfectly flat. Therefore, where necessary, even out the substrate before laying the floor with a self-levelling skimming compound from the MAPEI range.

Preparation of the mix

Blend **Ultralite S2** with clean water to obtain a smooth, lump-free mix. Let the mix stand for around 5 minutes, then blend again. The amount of water required is approximately 5.7-6.2 litres per 15 kg bag. When blended as described above, the mix lasts for approximately 8 hours.

Spreading the mix

Apply **Ultralite S2** on the substrate using a notched trowel. Use a trowel with a notch size which guarantees complete buttering of the back of the tile.

To guarantee a good bond, apply a thin layer of **Ultralite S2** on the substrate using the smooth side of the trowel and then immediately apply another layer of **Ultralite S2** to the thickness required using a suitable notched trowel, according to the type and size of the tiles, to guarantee that the backs of the tiles are well buttered.

When laying external ceramic flooring and coatings, for tile sizes larger than 900 cm² and floors subject to heavy loads, spread the adhesive also on the back of the tile to ensure complete buttering.

When laying thin porcelain tiles, we recommend that the adhesive is also spread on the backs of the tiles (with the suitable notched trowel) to guarantee there are no gaps to avoid the risk of fracture when in service.

Laying tiles

The tiles do not need to be wet before they are laid. However, if the backs of the tiles are particularly dusty, wash them by dipping them in clean water.

When laying the tiles, apply a firm pressure to guarantee good buttering.

The open time for **Ultralite S2** is at least 30 minutes in normal weather and humidity conditions. When laying conditions are not ideal (direct sunlight, dry wind, high temperatures), or if the substrate is particularly absorbent, this time may be reduced to only a few minutes.

Keep checking the adhesive to make sure skin does not form on the surface and that it is still fresh. If skin forms, spread the adhesive again with the notched trowel. Do not wet the surface of the adhesive if a skin forms, water does not dissolve the skin but creates a film which impedes bonding. Final adjustment of the tiles must be carried out within 45 minutes of laying.

Coatings laid using **Ultralite S2** must be protected from water and rain for at least 24 hours and from freezing weather and direct sunlight for at least 5 to 7 days.

Grouting and sealing

Tile joints may be grouted after 4 to 8 hours on walls and after 24 hours on floors. Use a MAPEI cementitious or epoxy grout, available in a wide variety of colours.

TECHNICAL DATA (typical values)

Conforms to the following standards:

- European EN 12004 (C2E S2)
- ISO 13007-1 (C2E S2)

PRODUCT IDENTITY

Consistency:	powder
Colour:	white and grey
Bulk density (kg/m ³):	850
Dry solids content (%):	100
EMICODE:	EC1 R Plus - very low emission

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

Mixing ratio:	100 parts of Ultralite S2 with 38-41% parts in weight of water
Consistency of mix:	creamy
Density of mix (kg/m ³):	1,100
pH of mix:	more than 12
Pot life of mix:	more than 8 hours
Application temperature range:	from +5°C to +35°C
Open time (according to EN 1346):	> 30 minutes
Adjustment time:	45 minutes
Grouting tile joints on walls:	after 4-8 hours
Grouting tile joints on floors:	after 24 hours
Set to light foot traffic:	approx. 24 hours
Ready-to-use:	14 days

FINAL PERFORMANCE

Bond strength according to EN 1348 (N/mm ²):	
- initial bond (after 28 days):	2.5
- bond after application of heat source:	3.0
- bond strength after immersion in water:	1.5
- bond strength after freeze-thaw cycles:	1.5
Resistance to alkalis:	excellent
Resistance to oils:	excellent (poor with vegetable oils)
Resistance to solvents:	excellent
In-service temperature range:	from -30°C to +90°C
Deformability according to EN 12004:	S2 - highly deformable (> 5 mm)



Applying a thin porcelain tile on an external façade



Checking the back face of the tile if it is completely buttered when laying on an external façade

Ultralite S2



Expansion joints must be sealed using a special MAPEI sealant.

SET TO LIGHT FOOT TRAFFIC

Floors set to light foot traffic after approximately 24 hours.

READY-TO-USE

Surfaces are ready-to-use after approximately 14 days.

Cleaning

Tools and containers may be cleaned using plenty of water while **Ultralite S2** is still fresh. Clean the surfaces of the coatings using a damp cloth before the adhesive hardens.

PACKAGING

Ultralite S2 is available in 15 kg paper bags with handle.

CONSUMPTION

0.8 kg/m² per mm of thickness, equal to 1.5-2.5 kg/m².

STORAGE

Ultralite S2 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.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Ultralite S2 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. We recommend the use of protective gloves and goggles and to take the usual precautions for handling chemicals. If the product comes into contact with the eyes or skin, wash immediately with plenty of clean 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.

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



This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gemeinschaft 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.

Contains more than 20% of recycled material

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

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