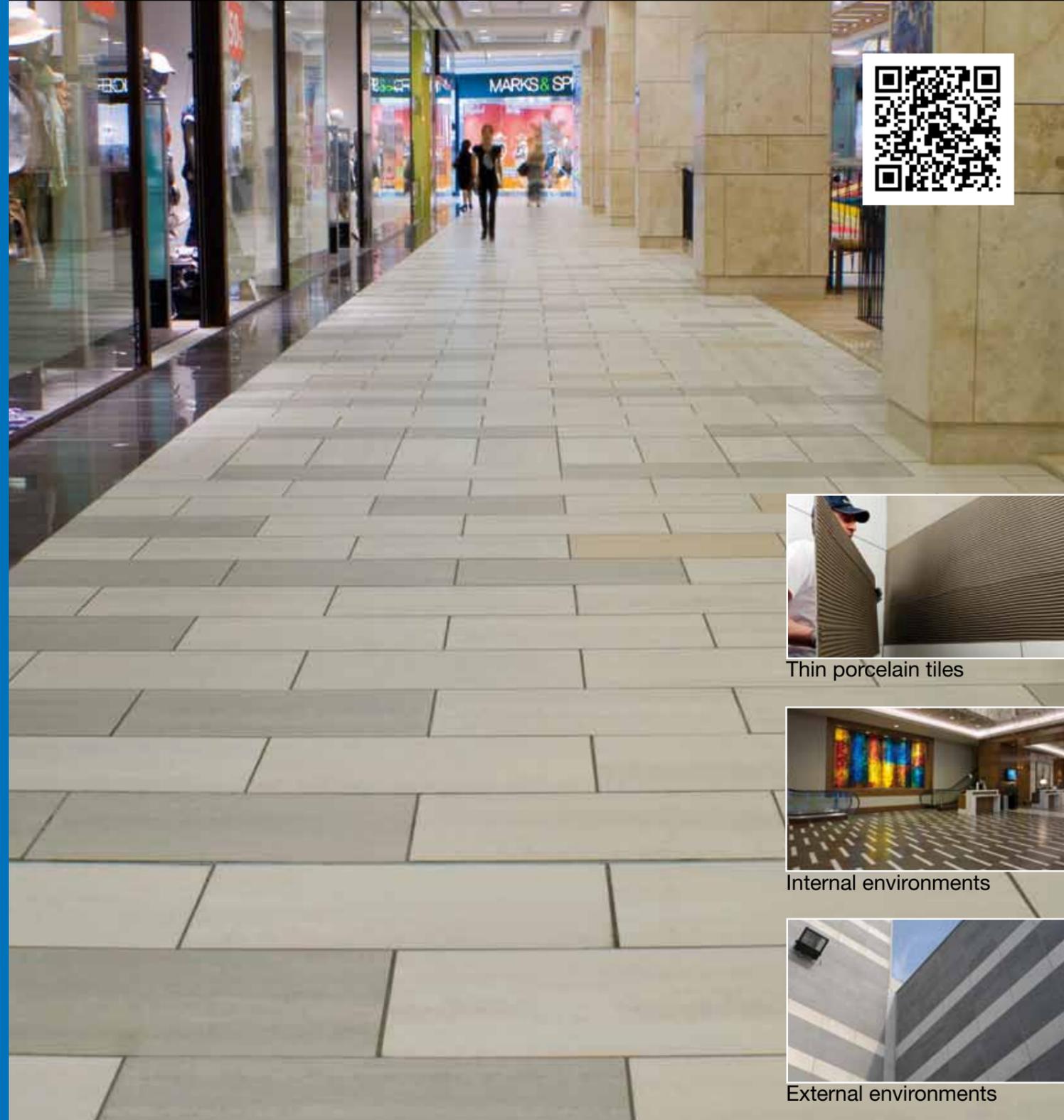


# Selection chart for Adhesives for ceramic tiles and stone material



Thin porcelain tiles



Internal environments



External environments

**HEADQUARTERS**  
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The **one-component** adhesive that **lightens** the laying of **large sizes**.



**new** **Ultralite S2**

One-component, lightweight cementitious adhesive with extended open time (C2E S2).

Ideal for laying thin porcelain tiles  
**Highly deformable (Class S2)**  
**Very high yield (+80%)**  
**High buttering capacity**  
**Easy application by trowel**



**Mapei. Our experience provides your solutions.**

Let's take a deeper look together at: [www.mapei.it](http://www.mapei.it)



## CERAMIC TILES AND STONE MATERIAL LINE

Ceramic tiles, natural stone and recomposed materials are generally used for floors and coatings in residential, commercial and industrial constructions and in airports, swimming pools, etc.

In recent years, the development of new technology for the production of ceramic tiles has led to new, thinner and larger sized tiles being available on the market, which are used to create almost continuous surfaces with extremely high architectural value.

Also, the increasing demand to improve soundproofing and thermal insulation in buildings, means that tiles must now be laid on substrates with different characteristics than those normally used.

We must also stress how our awareness of the quality of the air and surroundings in our homes and in the workplace has developed in recent years.

MAPEI research has undertaken the challenge to address these demands, and has developed products with increasingly sophisticated formulations which are easy to use and apply, guarantee the durability of ceramic and stone flooring and coatings and respect the environment and the health of floor layers, and all those who use the environments in which they have been applied.

MAPEI can now boast a complete range of products adapted to all installation systems, on any scale. The range includes cementitious adhesives, paste adhesives, hydraulic binders for screeds, primers, levelling compounds, grouts, sealants and ancillary products suitable for applications until recently considered technically impossible but that now open up a number of exciting new possibilities:

- Repair work without costly demolition.
- Increased speed and efficiency in the execution of work. As a result, work is completed more rapidly.
- Progressive elimination of dangerous products from construction sites.
- Grouts and joints that are not only functional, but may also serve as decorative features.
- Systems for the installation of ceramic tiles on façades on layers of thermal insulation (Mapetherm Tile System).



**All MAPEI adhesives for ceramics and stone material conform to Standard EN 12004**



**All MAPEI grouting mortars for ceramic and stone material conform to Standard EN 13888**

Note: the International Standards ISO 13007-1 and ISO 13007-3 were issued recently, and they also take into account the requirements for the European Standards EN 12004 and EN 13888



**All MAPEI adhesives have been awarded the CE mark in compliance with Annex ZA, Standard EN 12004**



**Most MAPEI adhesives and grouts have been certified EMICODE EC1 and EC1 Plus awarded by GEV**





MAPEI has always been committed to research and development into products which safeguard the environment, the health of those who use them and of those who use the areas where they are applied, and since 1980, they have developed a series of products which emit an extremely low level of volatile organic compounds. These products have been used for decades on sites all over the world for laying resilient and textile floors. Since October 2005, they have been certified "EMICODE EC1" - extremely low emission level of volatile organic compounds" and since June 2010 "EMICODE EC1 Plus" - extremely low emission level of volatile organic compounds - Plus - both awarded by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe Klebstoffe und Bauprodukte e.V.), a German association which controls the emission levels of products used for laying floors, adhesives and other materials used in the building industry.

MAPEI's strong commitment to the environment and ECO-SUSTAINABLE buildings has also led the company to provide products with an extremely low level of VOC for installing ceramic tiles and natural stone which are also GEV certified, and which carry the EMICODE EC1 seal of approval, which may be found in the catalogue as follows:

Maximum emission limits for EC1 and EC1PLUS products

	Adhesive EMICODE EC1 <sup>PLUS</sup>	Adhesive EMICODE EC1
Emissions 3 days after laying	TVOC ≤ 750 µg/m <sup>3</sup>	TVOC ≤ 1000 µg/m <sup>3</sup>
Emissions 28 days after laying	TVOC ≤ 60 µg/m <sup>3</sup> TSVOC ≤ 40 µg/m <sup>3</sup>	TVOC ≤ 100 µg/m <sup>3</sup> TSVOC ≤ 50 µg/m <sup>3</sup>

With the aim of guaranteeing a high standard of quality in the areas where they are applied, **BioBlock®** technology has been developed, which impedes the formation of mould on products applied in damp environments. Products which feature this technology are easily recognised by the **BioBlock®** logo

**Low Dust** technology has also been developed to safeguard the health of those who handle and apply such products, the amount of dust produced during the mixing phase with water is drastically reduced. Products which feature this technology are easily recognised by the **Low Dust** logo

The **Green Innovation** symbol identifies products with certain characteristics which contribute to achieving eco-sustainable buildings:

- products with an extremely low emission level of volatile organic compounds,
- products with an extremely low emission level of dust during the mixing and storage phases,
- products which avoid the formation of mould when applied in damp environments,
- products which help to improve environmental wellbeing, for example by improving sound-proofing against the noise created by foot-traffic,
- products based on the use of raw materials from recycled materials, to reduce impact on the environment deriving from the extraction of virgin materials,
- lightweight products.



Fisar Showroom  
Milan - Italy



La Llotja de Palma historic building  
Palma di Maiorca - Spain



Cassovar Wellness centre  
Košice - Slovak Republic



Gerngross Shopping Centre  
Wien - Austria



Emil Frey car dealer  
Basel - Switzerland



Grand Mall Shopping Centre  
Varna - Bulgaria



Melbourne International Airport  
Australia



Texas Women's University  
Dallas - USA



Passeig Germanies  
Valencia - Spain

# SYSTEMS FOR LAYING THIN PORCELAIN TILES IN INTERIORS AND EXTERIORS

LAYING ON CEMENTITIOUS SCREEDS OR EXISTING CERAMIC FLOORS IN INTERIORS (TILES WITH OR WITHOUT GLASS FIBRE REINFORCEMENT MESH)				
RECOMMENDED ADHESIVES				
NORMAL SETTING			QUICK SETTING	
Size of tile	Adhesive	Class in compliance with EN 12004	Adhesive	Class in compliance with EN 12004
< 5000 cm <sup>2</sup> (the longest side must be no more than 50 cm)	KERAFLEX MAXI S1	C2TES1	GRANIRAPID	C2FS1
	ULTRALITE S1	C2TES1		
> 5000 cm <sup>2</sup>	KERABOND + ISOLASTIC	C2ES2	ELASTORAPID	C2FTES2
	ULTRALITE S2			

LAYING ON HEATED FLOORS IN INTERIORS (TILES WITH OR WITHOUT GLASS FIBRE REINFORCEMENT MESH)				
RECOMMENDED ADHESIVES				
NORMAL SETTING			QUICK SETTING	
Size of tile	Adhesive	Class in compliance with EN 12004	Adhesive	Class in compliance with EN 12004
< 5000 cm <sup>2</sup> (the longest side must be no more than 50 cm)	KERABOND + ISOLASTIC	C2ES2	ELASTORAPID	C2FTES2
			GRANIRAPID	C2FS1
> 5000 cm <sup>2</sup>	ULTRALITE S2		KERAQUICK + LATEX PLUS	C2FTS1

LAYING ON RENDERS, GYPSUM-BOARD AND FIBRE-CEMENT PANELS ON INTERNAL WALLS (TILES WITH OR WITHOUT GLASS FIBRE REINFORCEMENT MESH)				
RECOMMENDED ADHESIVES				
NORMAL SETTING			QUICK SETTING	
Size of tile	Adhesive	Class in compliance with EN 12004	Adhesive	Class in compliance with EN 12004
< 5000 cm <sup>2</sup> (the longest side must be no more than 50 cm)	KERAFLEX MAXI S1	C2TES1	GRANIRAPID	C2FS1
	ULTRALITE S1	C2TES1		
> 5000 cm <sup>2</sup>	KERABOND + ISOLASTIC	C2ES2	ELASTORAPID	C2FTES2
	ULTRALITE S2			

LAYING ON INTERNAL WATERPROOFING SYSTEMS (SUCH AS MAPELASTIC OR MAPEGUM WPS) (TILES WITH OR WITHOUT GLASS FIBRE REINFORCEMENT MESH)				
RECOMMENDED ADHESIVES				
NORMAL SETTING			QUICK SETTING	
Size of tile	Adhesive	Class in compliance with EN 12004	Adhesive	Class in compliance with EN 12004
< 5000 cm <sup>2</sup> (the longest side must be no more than 50 cm)	KERAFLEX MAXI S1	C2TES1	KERAQUICK + LATEX PLUS	C2FTS2
> 5000 cm <sup>2</sup>	KERABOND + ISOLASTIC	C2ES2		
	ULTRALITE S2			

LAYING ON INTERNAL WORKTOPS, WOODEN FURNITURE, MARINE PLYWOOD AND METAL (TILES WITH OR WITHOUT GLASS FIBRE REINFORCEMENT MESH)				
RECOMMENDED ADHESIVES				
NORMAL SETTING			QUICK SETTING	
Size of tile	Adhesive	Class in compliance with EN 12004	Adhesive	Class in compliance with EN 12004
< 5000 cm <sup>2</sup> (the longest side must be no more than 50 cm)	KERALASTIC	R2	KERAQUICK + LATEX PLUS	C2FTS2
> 5000 cm <sup>2</sup>		R2T		

LAYING ON CEMENTITIOUS RENDERS OR REINFORCED CONCRETE FAÇADES (TILES WITHOUT GLASS FIBRE REINFORCEMENT MESH)				
RECOMMENDED ADHESIVES				
NORMAL SETTING			QUICK SETTING	
Size of tile	Adhesive	Class in compliance with EN 12004	Adhesive	Class in compliance with EN 12004
< 5000 cm <sup>2</sup> (the longest side must be no more than 50 cm)	KERAFLEX MAXI S1	C2TES1	ELASTORAPID	C2FTES2
	ULTRALITE S1	C2TES1		
> 5000 cm <sup>2</sup>	KERABOND + ISOLASTIC	C2ES2	KERAQUICK + LATEX PLUS	C2FTS2
	ULTRALITE S2			

LAYING ON CEMENTITIOUS RENDERS OR REINFORCED CONCRETE FAÇADES (TILES WITH GLASS FIBRE REINFORCEMENT MESH)				
RECOMMENDED ADHESIVES				
NORMAL SETTING			QUICK SETTING	
Size of tile	Adhesive	Class in compliance with EN 12004	Adhesive	Class in compliance with EN 12004
< 5000 cm <sup>2</sup> (the longest side must be no more than 50 cm)	KERABOND + ISOLASTIC	C2ES2	KERAQUICK + LATEX PLUS	C2FTS2
> 5000 cm <sup>2</sup>	ULTRALITE S2			
	KERALASTIC T	R2T		



Thin porcelain tiles

The laying indications in this table are to be considered merely for indication purposes and for normal applications and conditions. For further information, please refer to the relative Technical Data Sheets. Definition of the most suitable laying system is highly dependent on specific site conditions and the format of the tiles. For special cases, please consult the Mapei Technical Assistance Department or relative technical notebooks.

# LAYING CERAMIC TILES, MOSAICS AND STONE MATERIAL IN INTERIORS

	TYPE OF COATING MATERIAL					
	CERAMIC TILES AND MOSAICS			STONE MATERIAL		
SUBSTRATES	Glass and ceramic mosaics	Single-fired, cotto and double-fired	Porcelain tiles and clinker	Not sensitive to staining Class A stone material	Sensitive to staining Class B** or Class A stone material	Class C*** stone material
<b>FLOORS</b>						
Cementitious screeds or special binder screeds	ADESILEX P10 KERAQUICK ≈	KERABOND ADESILEX P9 KERAQUICK ≈	ADESILEX P9 KERAFLEX EASY GRANIRAPID ≈	KERAFLEX EASY KERAQUICK ≈	KERAQUICK ≈ GRANIRAPID ≈	KERALASTIC KERAPOXY ADHESIVE
Concrete floor slabs and floors	ADESILEX P10+ISOLASTIC 50% GRANIRAPID ≈	KERAFLEX EASY KERAQUICK ≈	KERAFLEX EASY ULTRALITE S1/KERAFLEX MAXI S1 GRANIRAPID ≈	KERAFLEX EASY KERAFLEX MAXI S1 GRANIRAPID ≈	KERAQUICK ≈ GRANIRAPID ≈	KERALASTIC KERAPOXY ADHESIVE
Anhydrite screeds	ADESILEX P10 (with PRIMER G) KERAQUICK ≈ (with PRIMER G)	KERAFLEX EASY (with PRIMER G) KERAQUICK ≈ (with PRIMER G)	KERAFLEX EASY (with PRIMER G) GRANIRAPID ≈ (with PRIMER G)	KERAFLEX EASY (with PRIMER G) KERAQUICK ≈ (with PRIMER G)	KERAQUICK ≈ (with PRIMER G) GRANIRAPID ≈ (with PRIMER G)	KERALASTIC KERAPOXY ADHESIVE
Heated screeds	ADESILEX P10+ISOLASTIC 50% GRANIRAPID ≈	ADESILEX P9 KERAFLEX EASY KERAQUICK ≈	KERAFLEX EASY ULTRALITE S1/KERAFLEX MAXI S1 GRANIRAPID ≈	KERAFLEX MAXI S1 GRANIRAPID ≈	KERAQUICK ≈ GRANIRAPID	KERALASTIC KERAPOXY ADHESIVE
Old ceramic, terrazzo and natural stone floors	ADESILEX P10+ISOLASTIC 50% GRANIRAPID ≈	ADESILEX P9 KERAFLEX EASY KERAQUICK ≈	KERAFLEX EASY ULTRALITE S1/KERAFLEX MAXI S1 GRANIRAPID ≈	KERAFLEX EASY KERAFLEX MAXI S1 GRANIRAPID ≈	KERAQUICK ≈ GRANIRAPID ≈	KERALASTIC KERAPOXY ADHESIVE
Marine plywood	ELASTORAPID ≈	ELASTORAPID ≈	ELASTORAPID ≈	ELASTORAPID ≈	KERAQUICK+LATEX PLUS ≈	KERALASTIC
Chipboard	KERAQUICK+LATEX PLUS ≈	KERAQUICK+LATEX PLUS ≈	KERAQUICK+LATEX PLUS	KERAQUICK+LATEX PLUS ≈	KERAQUICK+LATEX PLUS ≈	KERALASTIC
Old PVC, rubber and linoleum floors	KERAQUICK+LATEX PLUS ≈	KERAQUICK+LATEX PLUS ≈	KERAQUICK+LATEX PLUS KERALASTIC KERAPOXY ADHESIVE	KERAQUICK+LATEX PLUS ≈	KERAQUICK+LATEX PLUS ≈	KERALASTIC
Metal surfaces	KERALASTIC	KERALASTIC	KERALASTIC	KERALASTIC KERAPOXY ADHESIVE	KERALASTIC KERAPOXY ADHESIVE	KERALASTIC KERAPOXY ADHESIVE
Surfaces waterproofed with MAPEGUM WPS or MAPELASTIC	ADESILEX P10+ISOLASTIC 50% GRANIRAPID ≈	KERAFLEX EASY KERAFLEX MAXI S1 GRANIRAPID ≈	KERAFLEX MAXI S1 ELASTORAPID ≈	KERAFLEX MAXI S1 GRANIRAPID ≈	GRANIRAPID ≈ ELASTORAPID ≈	KERALASTIC



Internal environments

# LAYING CERAMIC TILES, MOSAICS AND STONE MATERIAL IN INTERIORS

	TYPE OF COATING MATERIAL					
	CERAMIC TILES AND MOSAICS			STONE MATERIAL		
SUBSTRATES	Glass and ceramic mosaics	Single-fired, cotto and double-fired	Porcelain tiles and clinker	Not sensitive to staining Class A stone material	Sensitive to staining Class B** or Class A stone material	Class C*** stone material
<b>WALLS</b>						
Cementitious render or mortar	ADESILEX P10 KERAQUICK ≈	TIXOBOND WHITE/KERABOND ADESILEX P9 KERAQUICK ≈	ADESILEX P9 KERAFLEX KERAQUICK ≈	KERAFLEX KERAQUICK ≈	KERAQUICK ≈ GRANIRAPID ≈	KERALASTIC T KERAPOXY ADHESIVE
Concrete	ADESILEX P10+ISOLASTIC 50% ELASTORAPID ≈	KERAFLEX GRANIRAPID ≈	ULTRALITE S1/KERAFLEX MAXI S1 GRANIRAPID ≈	KERAFLEX KERAFLEX MAXI S1 ELASTORAPID ≈	KERAQUICK ≈ ELASTORAPID ≈	KERALASTIC T KERAPOXY ADHESIVE
Cellular concrete blocks and breeze blocks (with PRIMER G)	ADESILEX P10 KERAQUICK ≈	KERABOND ADESILEX P9 KERAQUICK ≈ ULTRAMASTIC 5	ADESILEX P9 KERAFLEX KERAQUICK ≈ ULTRAMASTIC 5	KERAFLEX KERAQUICK ≈	KERAQUICK ≈ GRANIRAPID ≈	KERALASTIC T KERAPOXY ADHESIVE
Gypsum smoothing compounds and renders	ADESILEX P10 (with PRIMER G) ULTRAMASTIC III KERAQUICK ≈ (with PRIMER G)	TIXOBOND WHITE/KERABOND (with PRIMER G) ADESILEX P9 (with PRIMER G) ADESILEX P22 KERAQUICK ≈ (with PRIMER G)	KERAFLEX (with PRIMER G) ULTRAMASTIC III KERAQUICK ≈ (with PRIMER G)	KERAFLEX (with PRIMER G) KERAQUICK ≈ (with PRIMER G)	KERAQUICK ≈ (with PRIMER G) GRANIRAPID ≈ (with PRIMER G)	KERALASTIC T KERAPOXY ADHESIVE
Plasterboard	ADESILEX P10 ULTRAMASTIC III KERAQUICK ≈	ADESILEX P9 KERAQUICK ≈ ADESILEX P22	ADESILEX P9 KERAQUICK ≈ ULTRAMASTIC III	KERAFLEX KERAQUICK ≈	KERAQUICK ≈ GRANIRAPID ≈	KERALASTIC T KERAPOXY ADHESIVE
Chipboard	KERAQUICK+LATEX PLUS ≈	KERAQUICK+LATEX PLUS ≈	KERAQUICK+LATEX PLUS ≈	KERAQUICK+LATEX PLUS ≈	KERAQUICK+LATEX PLUS ≈	KERALASTIC T
Cement-fibre panels	ADESILEX P10 KERAQUICK ≈	TIXOBOND WHITE/KERABOND ADESILEX P9 KERAQUICK ≈	ADESILEX P9 KERAFLEX KERAQUICK ≈	KERAFLEX KERAQUICK ≈	KERAQUICK ≈ GRANIRAPID ≈	KERALASTIC T
Metal surfaces	KERALASTIC T	KERALASTIC T	KERALASTIC T	KERALASTIC T	KERALASTIC T	KERALASTIC T
Surfaces waterproofed with MAPEGUM WPS or MAPELASTIC	ADESILEX P10+ISOLASTIC 50% ELASTORAPID ≈	KERAFLEX KERAFLEX MAXI S1 GRANIRAPID ≈	KERAFLEX KERAFLEX MAXI S1 ELASTORAPID ≈	KERAFLEX KERAFLEX MAXI S1 ELASTORAPID ≈	KERAQUICK ≈ GRANIRAPID ≈	KERALASTIC T KERAPOXY ADHESIVE



≈ Rapid solution

The laying indications in this table are to be considered merely for indication purposes and for normal applications and conditions. For further information, please refer to the relative Technical Data Sheets. Definition of the most suitable laying system is highly dependent on specific site conditions and the format of the tiles. For special cases, please consult the Mapei Technical Assistance Department or relative technical notebooks.

# LAYING CERAMIC TILES, MOSAICS AND STONE MATERIAL IN EXTERIORS

	TYPE OF COATING MATERIAL					
	CERAMIC TILES AND MOSAICS			STONE MATERIAL		
SUBSTRATES	Glass and ceramic mosaics	Single-fired, cotto and double-fired	Porcelain tiles and clinker	Not sensitive to staining Class A stone material	Sensitive to staining Class B** or Class A stone material	Class C*** stone material
<b>FLOORS</b>						
Cementitious screeds or special binder screeds	ADESILEX P10+ISOLASTIC 50% GRANIRAPID ≈	KERAFLEX EASY ULTRALITE S1/KERAFLEX MAXI S1 GRANIRAPID ≈	KERAFLEX EASY ULTRALITE S1/KERAFLEX MAXI S1 GRANIRAPID ≈	ULTRALITE S1/KERAFLEX MAXI S1 ELASTORAPID ≈	GRANIRAPID ≈ ELASTORAPID ≈	KERALASTIC T KERAPOXY ADHESIVE
Surfaces waterproofed with MAPELASTIC	ADESILEX P10+ISOLASTIC 50% ELASTORAPID ≈	ULTRALITE S1/KERAFLEX MAXI S1 ELASTORAPID ≈	ULTRALITE S1/KERAFLEX MAXI S1 ELASTORAPID ≈	ULTRALITE S1/KERAFLEX MAXI S1 ELASTORAPID ≈	GRANIRAPID ≈ ELASTORAPID ≈	KERALASTIC T KERAPOXY ADHESIVE
Concrete	ADESILEX P10+ISOLASTIC 50% ELASTORAPID ≈	ULTRALITE S1/KERAFLEX MAXI S1 ELASTORAPID ≈	KERABOND+ISOLASTIC ULTRALITE S2 ELASTORAPID ≈ KERAQUICK+LATEX PLUS ≈	ULTRALITE S1/KERAFLEX MAXI S1 ELASTORAPID ≈	ELASTORAPID ≈ KERAQUICK+LATEX PLUS ≈	KERALASTIC T KERAPOXY ADHESIVE
<b>WALLS and FAÇADES</b>						
Cementitious render or concrete	ADESILEX P10+ISOLASTIC 50% GRANIRAPID ≈ ELASTORAPID ≈	ULTRALITE S1/KERAFLEX MAXI S1 ELASTORAPID ≈	ULTRALITE S1/KERAFLEX MAXI S1 KERABOND+ISOLASTIC ULTRALITE S2 KERAQUICK+LATEX PLUS ≈	KERABOND+ISOLASTIC ULTRALITE S2 ELASTORAPID ≈	GRANIRAPID ≈ ELASTORAPID ≈	KERALASTIC T KERAPOXY ADHESIVE
<b>SWIMMING-POOLS, BASINS, etc.</b>						
Cementitious screeds, special binder screeds and cementitious renders	KERACRETE+KERACRETE POWDER ADESILEX P10+ISOLASTIC 50% ELASTORAPID ≈	-	KERAFLEX MAXI S1 KERACRETE+KERACRETE POWDER ELASTORAPID	ULTRALITE S1/KERAFLEX MAXI S1 ELASTORAPID ≈	-	-
Concrete	KERACRETE+KERACRETE POWDER ADESILEX P10+ISOLASTIC 50% ELASTORAPID ≈	-	KERAFLEX MAXI S1 ADESILEX P10+ISOLASTIC 50% ELASTORAPID ≈	ULTRALITE S1/KERAFLEX MAXI S1 ELASTORAPID ≈	-	-
Surfaces waterproofed with MAPELASTIC	KERACRETE+KERACRETE POWDER ADESILEX P10+ISOLASTIC 50% ELASTORAPID ≈	-	KERAFLEX MAXI S1 KERACRETE+KERACRETE POWDER ELASTORAPID ≈	KERABOND+ISOLASTIC ELASTORAPID ≈	-	-



External environments

≈ Rapid solution

The laying indications in this table are to be considered merely for indication purposes and for normal applications and conditions. For further information, please refer to the relative Technical Data Sheets. Definition of the most suitable laying system is highly dependent on specific site conditions and the format of the tiles. For special cases, please consult the Mapei Technical Assistance Department or relative technical notebooks.

