ULTRALITE FLEX

One-component, high-performance, moderately deformable, lightweight, cementitious adhesive with no vertical slip, extended open time and extremely high yield. Easy to apply by trowel with excellent back-buttering capacities, for ceramic and stone tiles.

CLASSIFICATION ACCORDING TO AS/ISO 13007-1

Ultralite Flex is a C2TE-class cementitious (C), improved (2), slip-resistant (T), extended open time (E), adhesive. The conformity of Ultralite Flex is declared in TT certificate no. 14/8872 - 1332 e 14/8872 - 1333 issued by the APPLUS, LGAI Technological Center Bellaterra (Spain).

WHERE TO USE

Bonding all types of ceramic tiles (double-fired, single fired, porcelain, also thin porcelain and large-format tiles, clinker, terracotta, etc.) in interior and exterior substrates.
• Bonding all types of mosaics on interior and exterior surfaces.
• Bonding stone tiles on interior and exterior surfaces (as long as the stone material is dimensionally stable and not sensitive to moisture and staining).
• Also suitable for spot bonding of insulating materials such as expanded polystyrene, polyurethane foam, Eraclit® mineral wool, sound absorbing panels, etc.

Some application examples

• Bonding ceramic tiles (double-fired, single-fired, porcelain, clinker, etc.), ceramic and glass mosaic and stone tiles (as long as dimensionally stable and not sensitive to moisture) on the following substrates:
– "damp earth" consistency and self-levelling cementitious screeds and anhydrite screeds (after priming the surface with **Primer G** or **Eco Prim T Plus**);
– heated screeds;
– cementitious render and lime-mortar render;
– gypsum-based render (after the application of **Primer G** or **Eco Prim T Plus**);
– **Mapeguard Board**, multi-purpose construction panels;
– waterproofing and uncoupling, anti-fracture, membranes such as **Mapeguard UM 35** or **Mapeguard WP 200**;
– **Mapelastic**, **Mapelastic Smart**, **Mapelastic Aquadefense**, **Mapelastic Turbo** or **Mapegum WPS** waterproofing membranes.
• Bonding small-format tiles for tanks and swimming pools.
• Installing ceramic and natural stone tiles on existing floors (ceramic, marble, etc.).
• Bonding ceramic and stone on balconies, terraces and flat roofs.

TECHNICAL CHARACTERISTICS

Ultralite Flex is a grey or white powder made of cement, selected graded sand and a high amount of synthetic resins, admixed with lightweight, natural aggregates that make the mix lighter, according to a special formula developed in

MAPEI Research & Development labs. **Ultralite Flex** is a product with very low emission of volatile organic compounds (VOC), which safeguards the health and safety of installers and final users. It is certified as EC1 Plus. Ultralite Flex helps earn important LEED credits. **Ultralite Flex** offers the following advantages:

• The special technology used to manufacture **Ultralite Flex** gives it a low density, a characteristic which offers two main advantages:

1. bags of **Ultralite Flex** have the same volume but weigh less (13.5 kg) than bags of conventional cementitious adhesive (20 kg). This means less effort for workers, as the bags are easier to handle on the construction site and storage warehouses. Furthermore, lightweight leads to clear benefits in terms of reduced transport costs: indeed, one pallet of **Ultralite Flex** weighs 750 kg while one pallet of conventional adhesive weighs 1250 kg;

2. higher yield: each 13.5 kg bag of **Ultralite Flex** has approximately the same yield (in terms of square metres of tiles installed with the same type of trowel, installation technique and substrate) as that of 20 kg bags of conventional MAPEI cementitious adhesives.

• **Ultralite Flex** has a low viscosity, which makes application quicker and easier. In spite of the above characteristics, the thixotropic nature of **Ultralite Flex** means there is no vertical slip when installing tiles on walls.

• Its excellent back-buttering properties and thixotropic consistency make **Ultralite Flex** particularly suitable for laying thin porcelain tiles. The application of Ultralite Flex using the back-buttering technique on flat substrates ensure that there are absolutely no voids in the adhesive on the back of the tiles, thus avoiding the risk of fracture when in service.

• Its excellent non-slip properties also make it particularly easy and safe to install tiles on vertical surfaces. When mixed with water, **Ultralite Flex** forms a mortar with the following characteristics: - excellent capacity of absorbing deformation in the substrate and tiles;

- excellent back-buttering properties;
- perfect bond to all materials normally used in the building industry;
- particularly extended adjustment and open time to make installation easier.

RECOMMENDATIONS

Do not use **Ultralite Flex** in the following cases:
• on concrete substrates subject to relevant shrinkage;
• on metal, rubber, PVC and linoleum substrates;
• for dimensionally unstable slabs made of marble and natural stone subject to efflorescence or staining;
• for natural or agglormerate stone subject to moisture expansion;
• when the floored surface must set to foot traffic quickly; Do not add water to the mix once it starts to set.

APPLICATION PROCEDURE

Preparation of the substrate

The substrates must be sound, stable, sufficiently dry, free of loose parts, grease, oil, paint and wax. Cementitious substrates must not shrink after the installation of 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** or **Topcem**, or pre-blended mortars, such as **Mapecem Pronto** or T**opcem 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, sound and sufficiently hardened and free of dust. They must also be treated with **Primer G** or **Eco Prim T Plus**. Substrates on which thin porcelain tiles are to be installed must be perfectly flat. Therefore, where necessary, even out the substrate before laying the floor with a MAPEI self-levelling compound.

Preparation of the mix

Blend Ultralite Flex with clean water to obtain a smooth, lump-free mix. Let the mix stand for approximately 5 minutes, then blend again. Approximately 6.7 - 7.0 litres of water are required per Ultralite Flex Grey and 7.6 - 7.9 litres of water per Ultralite Flex White. The mix has a pot life of approximately 8 hours.

Spreading the mix

Apply **Ultralite Flex** on the substrate using a notched trowel. Use a suitable trowel for a total tile back-buttering.

To guarantee a good bond, apply a thin layer of **Ultralite Flex** on the substrate using the flat side of the trowel, and then immediately apply a further layer of **Ultralite Flex** to form the thickness required using a notched trowel suitable for the type and size of tiles to be bonded. If the substrate is very absorbent and in case of high temperatures, before applying **Ultralite Flex**, it is recommended to wet the substrate in order to extend the open time of the adhesive.

In case of exterior installation, installation of large format ceramic tiles, heating floors, floors to be polished after laying or subject to heavy loads, application in water tanks or swimming pools, apply the back-buttering technique by spreading the adhesive on the back of the tiles to ensure complete buttering. When laying thin porcelain floor tiles, it is recommended to install the adhesive also on the backs of the tiles (with a suitable notched trowel) to ensure that there are absolutely no voids, thus avoiding the risk of fracture when the floor is in service.

Installation of the tiles

The tiles do not need to be wet before they are installed. However, if the backs are particularly dusty, dip them into clean water.

When installing tiles, apply a firm pressure to guarantee good buttering. The open time for **Ultralite Flex** is at least 30 minutes under normal temperature and humidity conditions. When environmental conditions are not ideal (direct

sunlight, dry wind, high temperatures), or if the substrate is particularly absorbent, open time may be reduced to only a few minutes.

Therefore, check the adhesive constantly to make sure a layer of dry skin does not form on its surface, and that it is still fresh. If a layer of dry skin forms, run the notched trowel over the adhesive again to re-activate open time, or, if the adhesive has already started to set, remove it and spread a new layer of fresh adhesive. Do not wet the surface of the adhesive if a layer of skin forms: water does not dissolve the skin and instead creates a film that impedes a good bond. Final adjustment of the tiles must be carried out within 45 minutes of application. Tiles installed using **Ultralite Flex** 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 after application.

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. Expansion joints must be sealed using a special MAPEI sealant.

SET TO LIGHT FOOT TRAFFIC

The floors are set to light foot traffic after approximately 24 hours.

READY-TO-USE

Surfaces are ready-to-use after approximately 14 days. Tanks and swimming pools can be filled after 21 days.

Cleaning

Clean tools and containers with plenty of water while **Ultralite Flex** is still fresh. Clean the surfaces of the tiles using a damp cloth before the adhesive sets.

PACKAGING

Ultralite Flex is available in 13.5 kg bags.

CONSUMPTION

0.8 kg/m² per mm of thickness, equal to
• 1.5 kg/m² for the installation of uncoupling or waterproofing membranes (using a 5 mm notched trowel);
• 2-3.5 kg/m² for the installation of tiles (depending on the type of trowel selected according to the size of the tiles).

STORAGE

Ultralite Flex may be stored for 12 months in its original packaging in a dry area. All relevant references for the product are available upon request and from www.mapei.com.au.

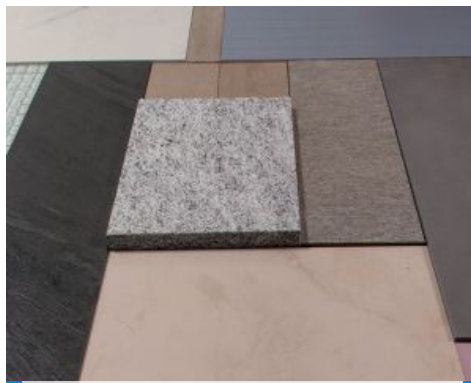*Bonding "imitation wood" effect porcelain floor tiles*

Application with the back-buttering technique

Excellent back-buttering capacity

Installation of porcelain tiles on the wall

Suitable for installing all types of ceramic tiles, mosaic and dimensionally stable natural stone

TECHNICAL DATA (typical values)	
Conforms to the following standards: – European EN 12004 as C2TE – AS ISO 13007.1 C2TE	
PRODUCT IDENTITY	
Consistency:	powder
Colour:	white or grey
Bulk density (kg/m³):	740
Dry solids content (%):	100
EMICODE:	EC1 Plus - very low emission
APPLICATION DATA (at +23°C - 50% R.H.)	
Mixing ratio:	100 parts of **Ultralite Flex Grey** with 50-52 parts of water in weight 100 parts of **Ultralite Flex White** with 56-58 parts of water in weight
Consistency of mix:	creamy
Density of the mix (kg/m³):	1,200
pH of mix:	more than 12
Pot life of mix:	more than 8 hours
Application temperature range:	from +5°C to +40°C
Open time:	> 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:	24 hours
Ready-to-use:	14 days
FINAL PERFORMANCE	
Bond strength according to AS ISO 13007.2 (N/ mm²): – initial bond (after 28 days): – bond after application of heat source: – bond strength after immersion in water: – bond strength after freeze-thaw cycles:	1.5 1.4 1.1 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

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website at ww.mapei.com.au.
PRODUCT FOR PROFESSIONAL USE.

WARNING

LEGAL NOTICE