

Ultrabond ECO PU 2K

Two-component, solvent-free, high-performance polyurethane adhesive with very low emission level of volatile organic compounds (VOCs) for ceramic and stone tiles



FOR PROFESSIONAL USE ONLY

DESCRIPTION

Ultrabond Eco[®] PU 2K is a flexible, two-component, solvent-free, high-performance polyurethane adhesive for the installation of ceramic and stone tiles. It is easy to mix and apply, and it has very low (VOC) volatile organic compounds.

WHERE TO USE

- Bonding all types of mosaics, ceramic tiles, porcelain tile, quarry tile and most types of marble, granite and natural stone.

Note: Marble and granite are products of nature made from a vast combination of minerals and chemicals that may cause the material to behave or react in a manner beyond our control. Therefore, determine the suitability of all the materials before proceeding with the installation and test materials for possible staining and discoloration.

- Walls, floors, interior, exterior and immersed applications.
- Clean well-supported properly prepared wall and floor substrates normally used in the building industry such as screeds, render, concrete, cement-fiber panels, gypsum, plasterboard, pre-fabricated gypsum panels, etc., and on particularly difficult substrates such as metal, PVC, polyester, etc.

Some application examples:

- Bonding all types of ceramic tile, stone tile, and all types of mosaics in showers and on sheet steel used to make prefabricated bathrooms.
- Bonding ceramic and mosaic over approved wood substrates.
- Bonding ceramic tiles, stone tiles and mosaics on balconies, terraces, accessible flat roofs and domed surfaces.
- Bonding agglomerated and other types of natural stone, including material subject to large dimensional variations when in contact with water (Class C according to MAPEI internal standards, such as Green Alpine).
- Bonding ceramic and stone tiles on substrates subjected to high vibrations and deformation.

TECHNICAL CHARACTERISTICS

Ultrabond Eco PU 2K is a two-component, polyurethane-based, solvent- and water-free, elastic, waterproof adhesive with very low VOCs (EMICODE EC1 Plus).

When mixed according to instructions, the resultant product has the following characteristics:

- Good workability.
- Excellent durability and resistance to aging.
- High adhesion strength to all types of substrates normally used in the building industry.
- Hardens by chemical reaction without shrinking to form a tough, strong bond.
- High elasticity.
- A non-slump formula that can be applied on vertical surfaces without allowing tiles to slip, including large, heavy tiles. The slip resistance of the product complies with EN 12004 standards.

LIMITATIONS/RECOMMENDATIONS

- Do not use on surfaces subject to hydrostatic conditions.
- Do not mix partial-unit quantities of the product. The Part A and Part B components are precisely measured. Failure to follow this instruction can result in incomplete hardening and weak strength properties.
- The components must be mixed together at a temperature between 41°F and 95°F (5°C and 30°C).
- Contact MAPEI Technical Services before using the product on surfaces permanently immersed in water.
- Do not use **Ultrabond Eco PU 2K** to bond transparent glass.

SUBSTRATE PREPARATION

- Substrates must be dry, fully cured, well supported, strong, free of loosely bonded areas, grease, oil, paint, wax, etc. In good weather, therefore, cement-based render coats should be cured at least one week per 3/8" (1 cm) of thickness. Conventional Portland cement-based substrates must be cured for at least 28 days.
- When applying over a MAPEI self-leveling underlayment or screed mortar, consult the most recent version of its Technical Data Sheet for cure times before installing over that surface.
- Metal substrates must be mechanically prepared and free of oil, grease, corrosion or any other substance that would prevent good bond.
- For gypsum and anhydrite type underlayments, we recommend consolidating the surface by applying a coat of epoxy-based consolidating primer. Please consult your technical services department for details.

MIXING

Ultrabond Eco PU 2K is supplied in two pre-measured components: The mixing ratio between the resin (Component A) and catalyst (Component B) must be strictly followed. Variation in the mix ratio will negatively affect the curing process and may reduce the bond.

- Component A: Gray or white, (88 parts by weight)
- Component B: Brown, (12 parts by weight)

Begin by adding the Component B (catalyst) into the container of Component A. Mix together using a low-speed (300-450 rpm) mixer, and an appropriate mixing paddle, until a consistent colored, smooth, lump-free paste is achieved (after about 2 minutes). Do not overmix, or mix at a high speed, which will reduce pot life and working time. Apply the adhesive within 30-40 minutes of mixing. Temperatures above 73°F (23°C) will shorten the product's working time.

PRODUCT APPLICATION

Apply an even layer of **Ultrabond Eco PU 2K** on the substrate with an appropriate notched trowel. The correct trowel is one that will achieve a minimum of 85% coverage to the back of the tiles for dry areas and 95% to 100% coverage in wet applications. When bonding tiles to exterior surfaces, make sure that the back of the tiles are completely covered.

Tiles must always be dry when they are bonded. Press the tiles into the adhesive well to ensure that the backs of the tiles are covered with the adhesive. The open time of **Ultrabond Eco PU 2K** is approximately 20 minutes at 73°F (23°C). Final adjustment of the tiles must be carried out within 70 minutes of bonding.

Set time of the **Ultrabond Eco PU 2K** will be affected by the ambient, substrate and product temperature. Please see the following table to illustrate the effect of temperature on set time of the product.

Temperature	86°F (30°C)	77°F (25°C)	68°F (20°C)	59°F (15°C)	50°F (10°C)
Setting time	2 hours	4 hours	5 hours	7 hours	10 hours

MAPEI recommends, for best results, to use edge-leveling systems while laying tiles to assist in maintaining consistent joint width and to reduce height unevenness between tiles. Consult www.mapei.com for information on *MapeLevel™ EasyWDG* and *MapeLevel Easy* tile lippage-control, edge-leveling systems.

The tile surface can be grouted after 12 hours (at 73°F (23°C)) using a suitable cementitious or epoxy-based grout.

Fill any movement joints or expansion joints using a suitable MAPEI sealant.

CLEANUP

Ultrabond Eco PU 2K can be cleaned from tools, buckets and clothing while fresh before it hardens with acetone or denatured alcohol. Once hardened, **Ultrabond Eco PU 2K** must be removed mechanically.

STORAGE

Store **Ultrabond Eco PU 2K** in a dry location at 73°F (23°C) and 50% relative humidity (RH). Shelf life is 1 year in the original sealed container. Note that the unit must be stored above 50°F (10°C) to prevent crystallization of Component B.

Coverage/Consumption*

Coverage/Consumption	Coverage per Unit Size		Coverage per Weight/Area
	11-lb. (5-kg) kit	22-lb. (10-kg) kit	
Mosaic and other small tiles	21.5 sq. ft. (2 m ²)	43 sq. ft. (4 m ²)	0.51 lbs./sq. ft. (2.5 kg/m ²)
Tiles 6" to 16" (15 to 40 cm)	15.4 sq. ft. (1.43 m ²)	30.8 sq. ft. (2.86 m ²)	0.72 lbs./sq. ft. (3.5 kg/m ²)
Tile larger than 16" (40 cm) on one edge	10.7 sq. ft. (1 m ²)	21.4 sq. ft. (1.98 m ²)	1.03 lbs./sq. ft. (5 kg/m ²)

* Coverages/consumption figures are estimates. Actual coverage will vary according to substrate profile and tile type.

Packaging

Size
Kit: 11 lbs. (5 kg); Component A (9.7 lbs. or 4.4 kg) + Component B (1.3 lbs. or 0.6 kg)
Kit: 22 lbs. (10 kg); Component A (19.4 lbs. or 8.8 kg) + Component B (2.6 lbs. or 1.2 kg)

Product Performance Properties

Laboratory Tests for Components	Results	
	Component A	Component B
Physical state	Thixotropic paste	Liquid
Color	Gray or white	Dark amber
Density	1.6 g/cm ³	1.2 g/cm ³
Dry-solids content	100%	100%
Viscosity	6,000,000 mPa·s (rotor F - 1 rpm)	150 mPa·s (rotor 1 - 100 rpm)

Laboratory Tests for Mixture		Results
Density of mix		1.5 kg/L
Bond strength (ISO - EN 12003)		
Initial adhesion		> 290 psi (2 MPa)
Adhesion after water immersion		> 290 psi (2 MPa)
Adhesion after thermal shock		> 290 psi (2 MPa)
Resistance to aging		High
Solvent and oil resistance		Good
Acid and alkali resistance		Good
Service temperature		-40°F to 212°F (-40°C to 100°C)
Deformability		Good

Application Properties at 73°F (23°C) and 50% RH	
Mixing ratio by weight – Component A : Component B	88 : 12
Mixing time	2 to 3 minutes
Consistency of mix	Thixotropic paste
Density of mix	1.5 g/cm ³
Temperature range for application	41°F to 86°F (5°C to 30°C)
Viscosity	2,500,000 (rotor F - 1 rpm)
Pot life	20 to 30 minutes
Open time	20 minutes
Time for adjustment	Up to 70 minutes
Initial set time at 73°F (23°C)	4.5 hours
Final set time at 73°F (23°C)	7 hours
Time before allowing foot traffic at 73°F (23°C)	12 hours
Fully cured at 73°F (23°C)	7 days

Certifications and Classifications

IMO-MED	Low flame spread characteristics - IMO 61 (67) FTCP - Ann. 1, part 2 and 5
EMICODE	EC1 Plus (very low emissions)
ISO 13007-1 (Euronorm EN 12004)	R2T

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (SDS) for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

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 nor 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. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

CONTACT INFORMATION

MAPEI Headquarters of North America

1144 East Newport Center Drive
Deerfield Beach, Florida 33442
1-888-US-MAPEI (1-888-876-2734) / (954) 246-8888

Technical Services

U.S. and Puerto Rico:
Flooring: 1-800-992-6273
Concrete and heavy construction: 1-888-365-0614
Canada:
1-800-361-9309

Customer Service

1-800-42-MAPEI (1-800-426-2734)

Edition Date: November 21, 2025 MK 02719 (25-2967)

For the most current product data and BEST-BACKEDSM warranty information,
visit www.mapei.com.
All Rights Reserved. © 2025 MAPEI Corporation.

