

PU FIX

POLYURETHANE ADHESIVE

TYPE – 5 GRADE – TS2

Conforms to
EN 12004 – R2T

HIGH PERFORMANCE TWO-
COMPONENT POLYURETHANE
TILE & STONE ADHESIVE



TYPE-5

PU FIX

GRADE -R2T



TWO
COMPONENT



WATERPROOF



FLEXIBLE
POLYURETHAN
E ADHESIVE



HIGH
STRENGTH



SWIMMING
POOL USE



METAL
PLYWOOD
DRY WALL BOARD

PRODUCT TYPE

Two Component • High Strength
Non-Sag • Flexible Polyurethane Adhesive

KEY FEATURES

- High Bond Strength
- Excellent Flexibility
- Non-Sag Formula
- Suitable for Interior & Exterior Applications
- Ideal for Large Format Tiles & Slabs
- Excellent Adhesion on Absorbent
- Non-Absorbent Surfaces
- Water & Weather Resistant
- Suitable for Natural Stone & Engineered Stone
- Long Open Time
- Easy Mixing & Application

DESCRIPTION

PU FIX is a premium two-component polyurethane-based adhesive specially developed for fixing ceramic tiles, vitrified tiles, porcelain slabs, marble, granite, natural stone and engineered stone on both absorbent and non-absorbent substrates.

PACKAGING



Its advanced formulation provides exceptional bond strength, excellent flexibility and outstanding resistance to moisture, temperature variations and mechanical stresses. The non-sag consistency allows safe installation on vertical surfaces while ensuring reliable adhesion even for large-format tiles and heavy stone materials.

PU FIX is suitable for residential, commercial and industrial applications where high-performance bonding and long-term durability are required.

FEATURES & ADVANTAGES

- Two-component adhesive system that is simple to mix and apply.
- Delivers exceptional bond strength for long-lasting tile and stone installations.
- Flexible composition helps absorb vibration and minor substrate movement.
- Suitable for both interior and exterior floor and wall applications.
- Performs reliably in areas exposed to moisture, temperature changes, and weather conditions.
- Resistant to water, thermal shock, and freezing environments.
- Offers excellent resistance against chemicals, alkalis, oils, and common cleaning agents.
- Compatible with multiple substrates including concrete, metal, plywood, gypsum boards, PVC, existing tiles, and other compatible surfaces.
- Recommended for ceramic, porcelain, vitrified, natural stone, engineered stone, glass, and metal tiles.
- Low VOC formulation contributes to a healthier working and living environment.
- Provides extended working time for easier installation of large-format tiles.
- Designed for professional applications requiring high durability and dependable performance.

RECOMMENDED APPLICATIONS / AREAS OF USE

PU FIX is formulated for bonding a wide variety of tiles and stones on different construction surfaces. It is suitable for both new construction and renovation projects where a strong, flexible, and durable adhesive is required.

Suitable Materials

Ceramic Tiles | Vitrified Tiles | Porcelain Tiles | Glass Mosaic Tiles | Natural Stones | Marble & Granite | Engineered & Composite Stones | Metal Tiles | Large Format Tiles | Thin & Slim Tiles

Compatible Substrates

Cement Plaster | Concrete Surfaces | Cement Screeds | Existing Tile-on-Tile Applications | Metal Surfaces | Plywood | MDF & Wood-Based Panels |Gypsum Boards | Fibre Cement Boards | PVC Surfaces | Rubber Substrates | Glass Surfaces

Recommended Areas

Residential Buildings | Commercial Spaces | Industrial Facilities | Kitchens & Utility Areas | Bathrooms & Wet Areas | Balconies & Terraces | Internal Floors & Walls | External Wall Cladding | Staircases | Lift Lobbies | Corridors |High-Traffic Zones | Areas Subject to Vibration or Temperature Variations

TECHNICAL CHARACTERISTICS

Property	Specification
Product Type	Two-Component Polyurethane Adhesive
Appearance	Part A – White Paste
Hardener	Part B – Liquid
Mixing Ratio	Part A : Part B = 100 : 10 (By Weight)
Mixed Colour	Off-White
Mixed Density	Approx. 1.65 ± 0.10 kg/L
Working Time	Up to 60 Minutes*
Pot Life	Approximately 60 Minutes
Tile Adjustment Time	Up to 60 Minutes
Slip Resistance	≤ 0.5 mm
Application Temperature	+10°C to +40°C
Service Temperature	–40°C to +100°C
Initial Setting Time	Around 24 Hours
Ready for Light Traffic	After 24 Hours
Full Service / Heavy Duty Use	After 7 Days

PERFORMANCE PROPERTIES

The following performance values represent the expected characteristics of PU FIX under standard laboratory testing conditions.

Performance Property	Result
Initial Shear Bond Strength	$\geq 5.0 \text{ N/mm}^2$
Shear Bond Strength After Water Immersion	$\geq 5.0 \text{ N/mm}^2$
Shear Bond Strength After Thermal Shock	$\geq 5.0 \text{ N/mm}^2$
Tensile Adhesion (60 Minutes Open Time)	$\geq 1.5 \text{ N/mm}^2$
Slip Resistance	$\leq 0.3 \text{ mm}$
Dry Condition Tensile Adhesion	$\geq 2.5 \text{ N/mm}^2$
Wet Condition Tensile Adhesion	$\geq 1.5 \text{ N/mm}^2$
Dry Condition Shear Adhesion	$\geq 7.0 \text{ N/mm}^2$
Wet Condition Shear Adhesion	$\geq 6.0 \text{ N/mm}^2$
Heat Ageing Shear Adhesion	$\geq 6.0 \text{ N/mm}^2$
Deformability	$\geq 30 \text{ mm}$

Standards Compliance

Conforms to IS 15477:2019 – Type 5 (T S2) requirements.

Classified as R2T in accordance with EN 12004 / ISO 13007.

Suitable for high-performance tile and stone fixing applications requiring excellent flexibility and superior adhesion.

Note: The values shown above are based on controlled laboratory evaluations. Actual site performance may differ depending on substrate condition, environmental factors, application method, and curing conditions.

SURFACE PREPARATION

Proper surface preparation is essential to achieve maximum bonding strength and long-term performance of PU FIX.

- Ensure that the substrate is structurally sound, fully cured, and capable of supporting the tile installation.
- The application surface should be clean, dry, level, and free from dust, grease, oil, paint, curing compounds, loose particles, or any material that may reduce adhesion.
- Repair cracks, damaged areas, and surface irregularities before applying the adhesive.
- Newly cast concrete or cement-based surfaces should be adequately cured before installation.
- Highly absorbent surfaces may be lightly dampened before application, ensuring no standing water remains.
- Metal substrates should be free from rust, oxidation, and contaminants before fixing.
- Existing tiled surfaces must be firmly bonded, thoroughly cleaned, and free from wax or polish residues.
- Expansion and movement joints should be planned according to project requirements and must never be filled with tile adhesive.
- The substrate should have sufficient flatness to ensure uniform adhesive coverage and proper tile alignment.

Important: Surface quality directly influences the final bond strength and durability of the tile installation. Proper preparation is recommended before starting the fixing process.

MIXING INSTRUCTIONS

For optimum performance, PU FIX should be mixed correctly before application.

- PU FIX is supplied as a pre-measured two-component system consisting of Part A (Base) and Part B (Hardener).
- Empty the complete quantity of Part B into the container of Part A.
- Blend both components thoroughly using a slow-speed mechanical mixer (approximately 50–100 rpm) until a smooth, uniform, lump-free paste is achieved.
- Scrape the sides and bottom of the container during mixing to ensure complete blending of both components.
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- Allow the mixed material to stand for approximately 5 minutes before use.
- Mix only the quantity that can be applied within the product's pot life.
- Do not add water, cement, sand, thinner, or any other additives to the mixture.
- Always maintain the recommended mixing ratio. Altering the proportion of either component may adversely affect curing, bond strength, and overall product performance.

Important

For consistent results, use clean mixing equipment and prepare a fresh batch whenever the working time of the mixed adhesive has expired. Never retemper or reuse hardened material.

APPLICATION PROCEDURE

Follow the steps below to achieve the best bonding performance with PU FIX.

- Apply a thin layer of mixed adhesive onto the prepared substrate using the flat edge of a notched trowel.
- Immediately comb the adhesive with the notched side of the trowel to create uniform ridges.
- Select the appropriate notch size according to the tile dimensions and the condition of the substrate.
- Place the tile onto the adhesive bed while it is still workable and press firmly with a slight sliding or twisting motion to ensure full contact.
- Periodically lift a tile to verify that adequate adhesive transfer has been achieved on the back of the tile.
- For large-format tiles, natural stone, or uneven surfaces, apply adhesive on both the substrate and the back of the tile (double-buttering method) to obtain maximum coverage.
- Use tile spacers to maintain uniform joint widths as specified by the project requirements.
- Clean excess adhesive from the tile surface and joints before it hardens.
- Allow the adhesive to cure completely before grouting or subjecting the tiled surface to service loads.

COVERAGE, PACKAGING & STORAGE

Coverage

The coverage of PU FIX depends on the substrate condition, tile size, adhesive bed thickness, and the notch size of the trowel used.

Trowel Size	Approx. Bed Thickness	Approx. Coverage (4 kg Pack)
3 × 3 mm Notched Trowel	1.5 mm	16–20 sq.ft.
6 × 6 mm Notched Trowel	3.0 mm	8–10 sq.ft.

Coverage values are approximate and may vary depending on surface flatness, application technique, tile dimensions, and site conditions.

PACKAGING

PU FIX is available in:

4 kg Kit (Part A + Part B : 3.200 + 0.800)

Other pack sizes may be available depending on market requirements.

SHELF LIFE & STORAGE

- Shelf Life: 24 Months from the date of manufacture in the original unopened packaging.
- Store in a cool, dry, and well-ventilated area.
- Protect from direct sunlight, excessive heat, frost, and moisture.
- Keep the containers tightly closed when not in use.
- Do not use the product after its expiry date or if the packaging is damaged.

GROUTING, PRECAUTIONS & SAFETY

GROUTING

Grouting should be carried out only after the adhesive has cured adequately, normally after 24 hours under standard conditions.

Select a suitable cementitious or epoxy grout based on the tile type, joint width, and service conditions.

Ensure that all joints are clean and free from dust or loose adhesive before grouting.

Remove any grout residue from the tile surface before it hardens to obtain a clean finish.

PRECAUTIONS

Do not apply PU FIX on wet surfaces or substrates affected by rising moisture.

Mix both components strictly in the recommended ratio to achieve proper curing and bonding performance.

Protect the freshly installed tiles from rain, water exposure, and foot traffic during the initial curing period.

Do not install tiles directly over expansion or movement joints.

Maintain suitable expansion gaps around the perimeter and fill them with an appropriate flexible sealant.

For heavy tiles or installations at significant heights, provide suitable mechanical support wherever required in accordance with project specifications.

SAFETY INFORMATION

Keep the product out of the reach of children.

Wear suitable gloves, safety glasses, and protective clothing while handling the material.

Avoid prolonged contact with skin and eyes. In case of skin contact, wash thoroughly with clean water and soap.

If the product comes into contact with the eyes, rinse immediately with plenty of clean water and seek medical attention if irritation persists.

Use the product in a well-ventilated working area.

Dispose of empty containers and unused material in accordance with local environmental regulations.

This product is intended for professional use only.

DISCLAIMER

The information provided in this Technical Data Sheet is based on laboratory testing and practical application experience. Since site conditions, workmanship, substrate quality, and environmental factors are beyond the control of Velwiin Chemicals, the user is responsible for determining the suitability of the product for the intended application. Velwiin Chemicals reserves the right to modify product specifications without prior notice as part of its continuous product improvement program.

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