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# Multi Flex PU

## TECHNICAL DATA SHEET

**In Compliance With European Norms (EN)**

# Multi Flex PU

## PU Adhesive

Walkley Multi Flex Eco-friendly, very highly flexible & deformable > 10 mm., two-part POLYURETHANE ADHESIVE based on high-quality minerals and ready-to-use adhesive for doing work on flexible surfaces, external facade, areas under heavy vibration, heavy-duty Industrial floor, metal & wood surfaces including all kind of dry-wall boards to fix all kind of large format & slim tiles slabs, natural stone and re-composed stone material. Suitable for internal & external areas.

### MAIN APPLICATION

Fixing of all type and size of large format tiles & stone on high rise facade, are under vibration & shock, metal, wood, rubber & dry wall surfaces.

### TECHNICAL ADVANTAGES

- Superior adhesion to all substrates including metals, easy to use and creamy mix, consistency to work excellent adhesion properties and workability, excellent waterproofing characteristics.
- High elasticity, extremely flexible and resistant to ageing.
- Highly thixotropic and non-sag formula
- Superior bonding with UV Resistance and stability to Thermal shock.
- Economical single-pack easy to use the two-component system.
- Deformability of >10 mm., hence can be used on most flexible surfaces.
- The supreme bond between plywood systems including heavy-duty marine grade plywood.
- Guaranteed performance to fix large format tiles & stone, slim slab, stone slab which are sensitive to moisture, and re- engineered stone based on resin system.
- Extreme white colour for very lite colour natural stone including Australian white and other transparent material.
- Best performance even at low thickness of 1.5 mm. Can be used up to 6 mm, or more.

In Compliance  
With EN norms

EN - R 2T



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### SUITABLE AREAS

- Internal & External floor & wall including high rise facade.
- Residential & commercial buildings areas such as kitchen & bathroom, countertops, window seal, metal staircase etc.
- Industrial buildings and chemical resistance areas such as laboratory, Industrial kitchen, staircase etc.
- Public infrastructures such as railways, airports, stadiums, bridges etc.
- Large size swimming pools, Jacuzzi & saunas for public uses.

### SUITABLE SURFACES

- Stable structure of the metal, marine grade plywood, Vinyl PVC & rubber surfaces.
- Existing surfaces of Epoxies & PU coating.
- All kind of dry wall boards made with cement based, wood particle, gypsum, calcium silicate etc.
- Fully dry and sound new or old traditional plaster.
- Existing tiles or stone surfaces.
- Fully cured Stable concrete of all type including precast concrete
- Surfaces are made with AAC (Autoclaved Aerated concrete) panel,

### SUITABLE COVERING MATERIAL

- Ceramic & vitrified tiles of all size including tiles made in metal and wood.
- Natural stone which are sensitive to moisture, stone veneer, slate stone, laminated stone, Corian solid surface, Onyx stone & agglomerated re-engineered resin-based quartz stone.
- Large size slab of tiles & stone bonded with fiber glass mesh on back surface.
- All type & size of ceramic & glass mosaic. Slim Tiles slab in 3 mm. thicknesses or cut stone with minimal thickness.

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### PRODUCT NOT TO BE USED

- Over expansion joint.
- Surfaces made with polystyrene in nature.
- Surfaces with standing water or continuous moisture.

### TOOLS FOR APPLICATION

- Electric low-speed mixing stirrer.
- Walkley notch trowel.
- Auto spirit level.
- Other mixing & finishing tools such as mixing trowel, bucket, brush, tape etc.

### CLEANING OF TOOLS

This material can be cleaned with solvents only. Paint thinner or varnish can be used to clean the equipment while the material is fresh. After curing the material will be difficult to remove since the strong bonding with metal.

### SURFACE PREPARATION

- The surface should be clean and free from wet, dirt, oil or grease before applying the adhesive. Ensure that the substrate is always dry, flat, stable, well adhered and has a normal absorption.
- It is essential to waterproof wet areas prior to application.
- Cement substrates should not be subject to shrinkage after the installation of the product therefore they must be properly cured.
- Depending on the substrate condition; contaminants to be removed from the surface, perform adequate preparation techniques such as grinding or blast cleaning in order to remove all traces of any material that could reduce the product's adhesion to the substrate.
- Rust on iron-based or metal-based substrates must be removed before application.

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### SURFACE PREPARATION

- On the non-absorbent substrate, check to confirm that surfaces are firmly and securely bonded and stable. Substrate must fulfil the requirements of the local standards, be properly cured, structurally sound, dimensionally stable, and free of any loose particles.
- Ensure that the surface is sound, clean and free from any debonding agents such as oil, grease, dust etc.
- If surface is uneven of more than 15 mm. then first do the levelling by using correct levelling material in order to avoid using excess thickness of adhesive.
- If surface area is larger, provide movement joint every 3 meter or as per local standard.
- In case working on external façade, avoid direct sun exposure to surface and to finishing material. Let cool the surface before starting application. Hot surface may compromise final performance.
- Follow concrete expansion joint and connection joint as per standard.

### MIXING : (PART A - HARDENER : PART B - RESIN PASTE)

- Walkley Multi-Flex. Mix the full quantity of Part A hardener into Part B thick paste. Use a slow-speed electric stirrer until it becomes a homogeneous paste. Manual mixing can compromise the performance of the adhesive.
- In case part quantity of adhesive is to be mixed, it is advisable to use strictly the correct ratio of Part A: Part B. For taking the correct ratio, a measurement jar can be used. (In case Part A & B mixing ratios are not correct, the final result may vary and adhesive performance can be compromised.)
- Use the mixed material within the pot life period.

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### HOW TO APPLY

- Spread the adhesive in desire thickness onto the surface using Walkley notch trowel.
- Once adhesive is applied, fix the tiles or stone onto adhesive before skin formation and press firmly. In case tiles or stone are of big size, also apply the adhesive layer at the back side.
- In case using as a spot bonding, ensure that minimum 25 percent of tiles or stone surface is covered with adhesive.
- Leave the space between tiles or stone to have proper grouting and to accommodate surface movement.

### PRODUCT & WORKING DATA

Product Appearance : Part A thick white paste. | B-Part- Liquid Hardner in bottle

Packing : 3 kg Bucket

Mixing Ratio : A-Part – 2.820 Kg | B-Part 0.180 Kg

Colour : Extreme white

Shelf Life : 24 months from the date of manufacturing

Vertical Slip Resistance : < 0.5 mm. (As per European norms)

Pot Life : 1 hr.+

Thickness : Minimum 1.5 mm.

Open Time : ≥ 40 minute

Adjustability : ≥ 30 minute

Initial Setting : 8 hrs.

Final Setting : 24 hours.

Foot Traffic Allowed : After 24 hrs.

Grouting : After 24 hrs.

Normal Use of Surface : After 3 days

Full Strength of Adhesive : At 7 days

Coverage : Approx. 1.5 Kg. / M2 / mm. of thickness.

Application Temperature : + 5° C. to + 35° C.

(Data @ 23° C. & 50% humidity.)

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### TECHNICAL PERFORMANCES

In compliance with EN 12004: EN R 2T (Standard for Reactive Adhesive)		
Initial shear adhesion strength	> 4.5 N / mm <sup>2</sup>	As per EN 12003
Shear adhesion after water immersion	> 4.5 N / mm <sup>2</sup>	As per EN 12003
Tensile adhesion after 7 days on concrete	≥ 3 N / mm <sup>2</sup>	As per EN 1346
Tensile adhesion strength after freeze / thaw cycle	≥ 2.75 N / mm <sup>2</sup>	As per EN 1346
Elongation after full strength	> 30 %	
Vertical slip	< 0.5 mm.	As per EN1308
Transverse deformation	S2 ≥ 10 mm.	

(Final results @ 28 days. 27° C. & 65% humidity)

In compliance with IS 15477 Type 5 Adhesive	
Shear adhesion strength dry condition	≥ 6.2 N / mm <sup>2</sup>
Shear adhesion strength heat ageing	≥ 4.2 N / mm <sup>2</sup>
Tensile adhesion strength dry condition	≥ 3.15 N / mm <sup>2</sup>

(Final results @ 28 days. 27° C. & 65% humidity)

- Final resistance to temperature after 28 days or full cure: - 30 to + 80° C.
- The final results may vary based on temperature and humidity.



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### GENERAL INSTRUCTIONS

- In case part quantity to be mixed, be careful to measure the correct ratio of Part A & Part B.
- In case of very weak surface, please ensure that proper strength or corrections are done before use of adhesive.
- If product to be applied on cement-based board, check the manufacturer instruction about suitability of board. Apply suitable primer in case needed. Consult Walkley technical representative, if needed.
- When fixing resin based recomposed stone, ensure that adequate joints are provided in internal area.
- If temperature is more than 35° C., than avoid using the products under direct sun.
- In case temperature is cold and below 5° C., the initial and final setting may affect.
- Expansion & connection joint must be followed of concrete and all other elements of concrete structure.
- For any structure related issue, follow local code and appropriate consultant guidelines.
- In case the performance of Walkley products are not as per technical data mentioned, please call Walkley technical helpline.

### WALKLEY QUALITY & SAFETY ASSURANCE

Products supplied are safe to use by any worker at site. However proper tools and safety measures must be in place for prolong working. The gloves, safety glasses and other protection measure must be followed as per local regulation.



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Recycled Raw  
Material



Suitable For All Kind of  
Green / Normal Buildings



100% Suitable To  
Recycle After Expiry

### DECLARATION

All the above information and results are provided based on Walkley internal quality test. Customer must check before using the product about performance and final expected results. Walkley cannot be held responsible for any damage of whatsoever nature at site.

### TECHNICAL HELP

**Walkley Industries Private Limited**

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