

# हर टाइल के पीछे MAGIC

## ULTIMA ADHESIVE

### TECHNICAL DATA SHEET



Impervious and  
Weather Proof



Increased  
Open Time



No  
Shrinkage



No Sagging



All Purpose  
Adhesive



Low  
VOC



Available in 20 kg Bag

## PRODUCT DESCRIPTION

Ultima Adhesive is an all-purpose cementitious adhesive. It is an extremely versatile, and multi-functional adhesive with ultimate strength for fixing all format of tiles & natural stones on all types of floor and vertical surfaces. It can sustain extreme weather condition which ensures that debonding and cracking are never a problem.

## SUITABLE FOR

### Material & Area

- Large format and glass mosaic tiles & stones
- Internal & external application/horizontal & vertical surfaces as well.
- Tiles with porosity ≤ 3%.
- Plaster board and fibre-cement sheets.

### Substrate

- Cement mortar beds
- Cement based plaster/ Concrete / Screed / Terrazzo
- Brick/ Block/ Concrete Masonry
- Tile on Tile
- Cement based self leveling screed
- Waterproofing products
- Fibre cement slabs
- Heating system
- Thermal Insulation paneling systems

## TECHNICAL DETAILS

Conforms to IS 15477:2019 Type - 4'T'S1 | EN 12004 C2 TE S1

## PHYSICAL PROPERTIES @ 70° F (21° C)

Tile laying adhesive mixed with water

PARAMETERS	RESULTS
Colour	Grey/White
Mixing Ratio (Powder To Water)	3.5 : 1
Bulk Density	1.3 - 1.5 gm/cc
Mixing Density	1.7 - 1.9 gm/cc
Pot Life	> 3 Hours
Open Time	> 30 Minutes
Adjustability	~30 Minutes
Final Setting Time	24 Hours
Max. Bed Thickness	15 mm
Time To Light Foot Traffic	16 - 24 Hours
Ready For Grouting	24 Hours
Ready For Use	14 Days

## PERFORMANCE PROPERTIES

### IS 15477:2019

PARAMETERS	REQUIREMENTS	RESULTS	TEST METHODS
Tensile Adhesion (Dry Condition 28 Days)	1.5 N/mm <sup>2</sup>	2.6–2.8 N/mm <sup>2</sup>	IS 15477:2019 Annexure A Clause 5.1
Tensile Adhesion (Wet Condition 28 Days)	1 N/mm <sup>2</sup>	2.6–2.7 N/mm <sup>2</sup>	IS 15477:2019 Annexure A Clause 5.1
Shear Adhesion (Dry Condition 28 Days)	1.5 N/mm <sup>2</sup>	2.5–2.7 N/mm <sup>2</sup>	IS 15477:2019 Annexure B Clause 5.2
Shear Adhesion (Heat Aging Condition 28 Days)	1 N/mm <sup>2</sup>	1.9–2.1 N/mm <sup>2</sup>	IS 15477:2019 Annexure B Clause 5.2
Shear Adhesion (Wet Condition 28 Days)	1 N/mm <sup>2</sup>	1.9–2.1 N/mm <sup>2</sup>	IS 15477:2019 Annexure B Clause 5.2
Slip Resistance	<0.5 mm	0.15–0.2 mm	IS 15477:2019 Annexure E Clause 5.5
Deformability	>2.5 mm to <5 mm	2.5–4 mm	IS 15477:2019 Annexure F Clause 5.6

Ultima adhesive mortar conforms to IS 15477:2019 Type 4T S1

### EN 12004

PARAMETERS	REQUIREMENTS	RESULTS	TEST METHODS
E- Extended Open time	≥ 0.5 N/mm <sup>2</sup> after not less than 30 min	1–1.1 N/mm <sup>2</sup>	EN 1346
T-Slip Resistance	≤0.5 mm	0.3–0.5 mm	EN 1308
S - Transverse Deformation (S1)	≥ 2.5 mm - < 5 mm	2.8 to 3.2 mm	EN 12002
Tensile Adhesion Strength (C2)	≥ 1 N/mm <sup>2</sup>	2.5–2.7 N/mm <sup>2</sup>	EN 1348 Clause 8.2
Tensile Adhesion Strength (After Water Immersion)	≥ 1 N/mm <sup>2</sup>	1.5–1.6 N/mm <sup>2</sup>	EN 1348 Clause 8.3
Tensile Adhesion Strength (Heat Ageing)	≥1 N/mm <sup>2</sup>	1.8–2 N/mm <sup>2</sup>	EN 1348 Clause 8.4
Tensile Adhesion Strength (Freeze & Thaw)	≥ 1 N/mm <sup>2</sup>	1.8–2 N/mm <sup>2</sup>	EN 1348 Clause 8.5

Ultima adhesive mortar conforms to EN 12004 C2 TE S1/ISO 13007

### ANSI A118

PARAMETERS	REQUIREMENTS	RESULTS	TEST METHODS
Open Time (20 Minutes At 28 Days)	≥ 0.5 N/mm <sup>2</sup>	0.9–1.1 N/mm <sup>2</sup>	ANSI A118 Clause – 5.3
Sag Resistance	≤ 0.5 mm	0.15–0.25 mm	ANSI A118- Clause 6.0
<b>Glazed Wall Tile</b>			
Shear Strength (7 Days)	>2.07 N/mm <sup>2</sup>	2.8–3 N/mm <sup>2</sup>	ANSI A118 – Clause 7.1.2
Shear Strength (7 Days Water Immersion)	>1.38 N/mm <sup>2</sup>	2.0–2.2 N/mm <sup>2</sup>	ANSI A118- Clause 7.1.3
<b>Porcelain Mosaic Tile</b>			
Shear Strength (1 Day)	>0.5 N/mm <sup>2</sup>	1.1–1.2 N/mm <sup>2</sup>	ANSI A118 – Clause 7.2.2
Shear Strength (7 Days)	>1.38 N/mm <sup>2</sup>	2.5–2.7 N/mm <sup>2</sup>	ANSI A118 – Clause 7.2.3
Shear Strength (7 Days Water Immersion)	>1.03 N/mm <sup>2</sup>	2–2.2 N/mm <sup>2</sup>	ANSI A118 – Clause 7.2.4
Shear Strength (28 Days)	>1.38 N/mm <sup>2</sup>	2.5–2.75 N/mm <sup>2</sup>	ANSI A118 – Clause 7.2.5
Shear Strength (28 Days Freeze- Thaw Cycling)	>1.2 N/mm <sup>2</sup>	2–2.2 N/mm <sup>2</sup>	ANSI A118 – Clause 7.2.5
Shear Strength (12 Weeks)	>1.38 N/mm <sup>2</sup>	2.5–2.8 N/mm <sup>2</sup>	ANSI A118 – Clause 7.2.7
<b>Quarry Tile</b>			
Shear Strength (28 Days)	>1.03 N/mm <sup>2</sup>	2.4–2.6 N/mm <sup>2</sup>	ANSI A118- Clause 7.3.2
Shear Strength (28 Days Freeze- Thaw cycling)	>0.69 N/mm <sup>2</sup>	2.1–2.2 N/mm <sup>2</sup>	ANSI A118 – Clause 7.3.3

Ultima adhesive mortar conforms to ANSI A118.4ET

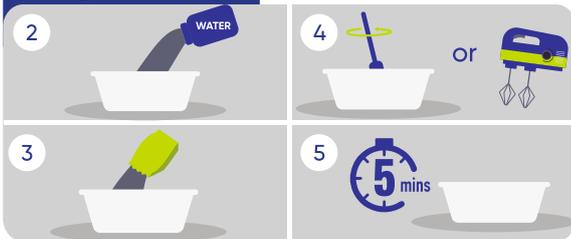
## INSTALLATION

### Surface Preparation



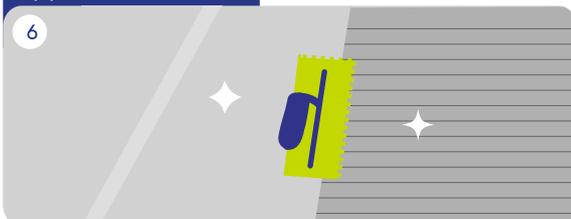
- All surfaces must conform to the dimensional stability requirements outlined in IS 1443-2018.
- They should be level, properly cured, undamaged, compact, rigid, resistant, dry, free from any debonding agents, and protected against damp rising.
- Pre-wet or dampen highly absorbent concrete surface with good quality fresh water.

### Mixing



- Use 5-6 litres of potable water for every 20 kg of adhesive.
- Pour the minimum recommended amount of potable water into a clean mixing container.
- Gradually add dry mix product to the water (not vice versa) while continuously mixing it with a low-speed electric single-paddle (spiral) mixer for mixing at a speed of <math><500\text{ rpm}</math>.
- Mix thoroughly for 2-3 minutes or until you achieve a uniformly colored, smooth mixture. Add additional water, if necessary, but do not exceed the maximum specified amount.
- Allow the mixed product to 'mature' for 4-5 minutes without stirring.
- Remix for 15 seconds just before using.
- Avoid over-mixing to minimize air entrapment

### Application



- The adhesive needs to be applied with a flat side of the trowel using a scrapping motion.
- Additional mortar should be then applied with the notched edge of the trowel.
- For large size tiles with sides > 2 feet, apply additional adhesive to the back of the tile surface with the flat side of the trowel.
- Occasionally check to inspect tiles are properly stuck. If the adhesive seems to be non-sticky, remove the existing and replace with fresh adhesive. Use a rubber mallet to tap the tile and ensure it is fully bedded in the adhesive.

### To create elastic expansion joints, follow these guidelines:

- For external applications, create 5 mm joints at every 10 m<sup>2</sup>.
- For internal applications, create 3 mm joints at every 25 m<sup>2</sup>.
- In long, narrow applications, create 3 mm joints after every 8 meters.

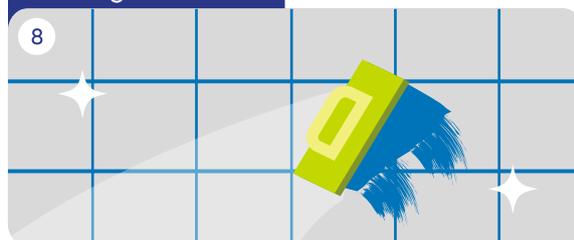
Always respect all structural, fractionizing, and perimeter joints present on the surfaces.

### Cleaning



- Clean any excess adhesive from the tile surfaces and grout lines immediately with a damp sponge or cloth.

### Grouting

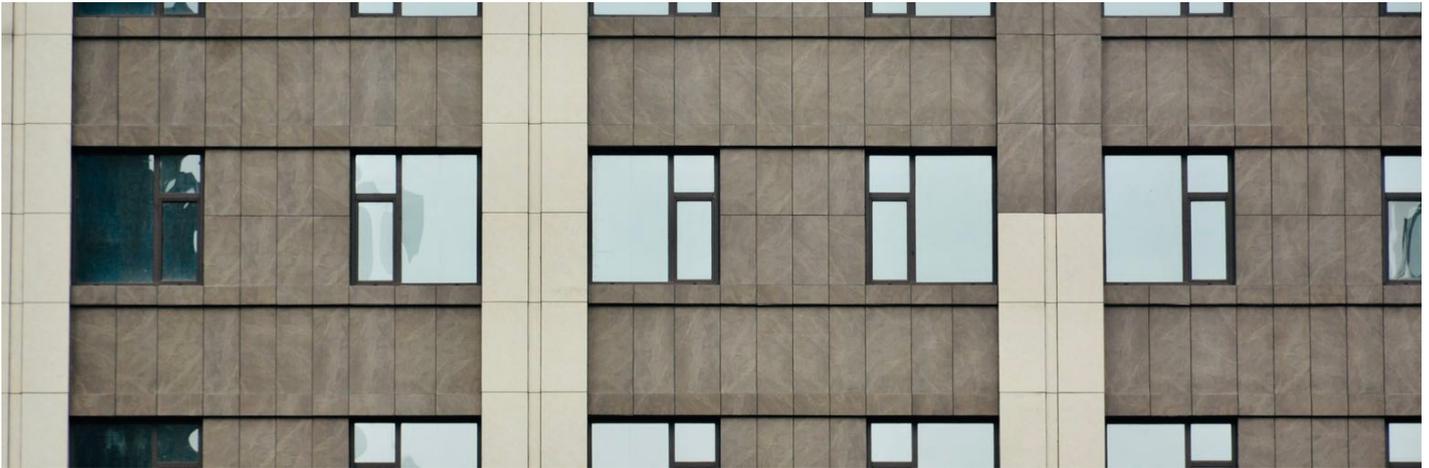


- Grouting should be carried out after 24 hours of tiling. It is advisable to use the appropriate grouting material from Magicrete range of cementitious or epoxy grouts.

## COVERAGE

- A coverage of 55-60 Sq. Ft. per bag of 20 Kg is received when used with a bed thickness of 3mm (using 6mm x 6mm square notched trowel).

Note: Coverage is based on smoothness and evenness of the substrate, and the thickness of mortar used.



## SHELF LIFE

Factory packed bags of Tile Laying Adhesive Ultima carries a shelf life of 12 months, if stored in cool & dry place. However, as temperature, humidity, water addition & other parameters vary from site to site.

## LIMITATIONS

Adhesives and grouts for tiles are not replacements for waterproof membranes. When a waterproof membrane is required, use Magicrete waterproofing products by Magicrete or any other waterproofing product available in the market.

## SAFETY PRECAUTIONS

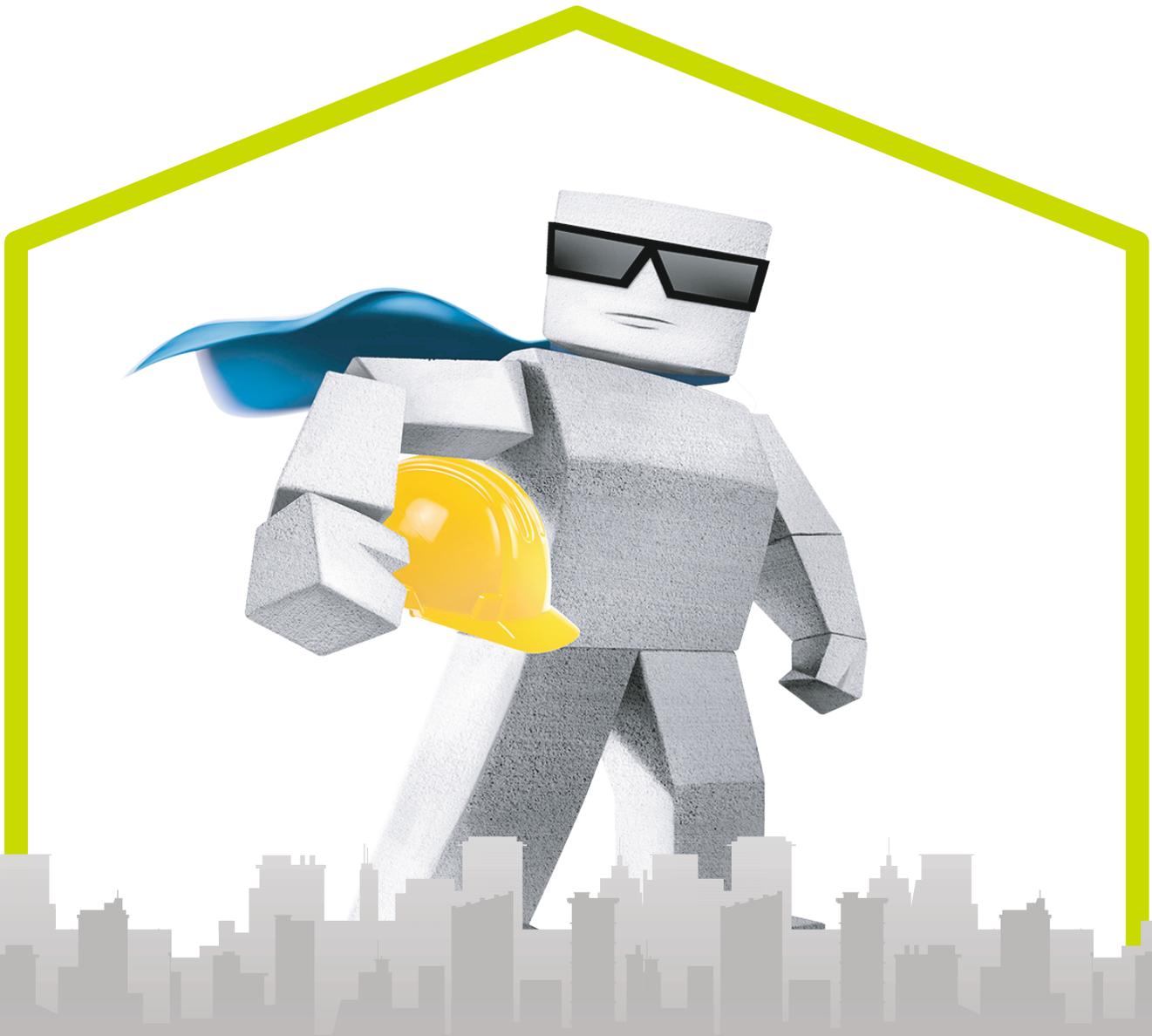
- Keep out of reach of children.
- Wear suitable protective clothing, gloves, and eye/face protection.
- After contact with the skin, wash immediately with plenty of clean water.
- In case of eye contact, rinse immediately with plenty of clean water and seek medical advice.

## IMPORTANT NOTES

- Always add powder to water.
- Do not add excess water than recommended.
- Do not add extra cement or sand to tile adhesive, as it can disturb the Magicrete product's intended formulation and compromise its performance.
- Do not use on wet screed, surface must be fully cured (28 days).
- Do not use the adhesive to correct surface irregularities >12 mm. May go up to 15 mm in limited extent.
- Applicator must evaluate the use of an additional mechanical fastening system for extra security in case of heavy stone/large tiles for more than 3m height (such as steel hooks fastened to the substrate).
- Protect from direct rainfall/ foot traffic for at least 24 hours.
- Leave gap between the tiles with the help of spacers & fill gaps with Magicrete tile grout.
- It is mandatory to use appropriate size notched trowel to achieve required thickness of adhesive
- It is advisable to use Magicrete Ultrabond on the back surface of tile/stone when either substrate or tile/stoned to be applied is highly absorbent.

# magicrete®

magic behind happy homes



## Magicrete Building Solutions Pvt. Ltd.

(ISO 9001 :2015, ISO 14001 :2015 & ISO 45001 :2018 Certified co.)

101 Ritz Square, Near Narmad Library,  
Ghod Dod Road, Surat-395007 (Gujarat)

☎ 80 70 40 80 10

✉ info@magicrete.in

🌐 magicrete.in



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