



Technical Data Sheet

JB-DIAMOND-ADH

High Performance Tile & Stone Adhesive

1. DESCRIPTION

JengaBond® JB-DIAMOND-ADH is a high polymer modified, grey cement-based tile adhesive engineered for fixing medium format tiles and natural stone in interior wall/floor and exterior floor applications up to 6 mm bed thickness (can be extended up to 12 mm in areas of limited extent). The set adhesive is fully water-resistant, making it ideal for wet areas including showers and submerged environments such as swimming pools. JB-DIAMOND-ADH is formulated for fixing mosaics, vitrified and fully vitrified tiles, terrazzo, and natural stone, and is highly recommended for renovation (tile-over-tile) for rapid, durable installations.

Note: Not recommended for direct application onto gypsum plaster (wall finishes), painted surfaces, or metal substrates.

2. STANDARDS COMPLIANCE

- **IS 15477: 2019:** Type 2T ("Adhesives for use with Ceramic, Mosaic and Stone Tiles")
- **EN 12004: 2017:** Class C1T (Normal cementitious adhesive with slip resistance)

3. KEY FEATURES & ADVANTAGES

- **Superior Adhesion:** High bond strength to vitrified, fully vitrified, and dense porcelain tiles.
- **Workability:** Excellent thixotropy, smooth troweling, and extended open time for rapid execution.
- **Water Resistance:** High resistance to water ingress, suitable for swimming pools, wet areas, and water tanks.
- **Tile-over-Tile Renovation:** Direct application over sound existing glazed/unglazed tiles and stone flooring.
- **Latex Compatible:** Enhanced flexibility and bond strength when mixed with Jenga latex bonding additive.

4. SUITABLE BACKGROUNDS / SUBSTRATES

- **New Substrates:** Concrete walls & floors (cured ≥ 4 weeks), cement-sand screeds (cured ≥ 3 weeks), and cement-sand renders/plasters (cured ≥ 2 weeks).
- **Renovation Substrates:** Sound unglazed & glazed tiles, vitrified tiles, hard natural stones, terrazzo, and in-situ mosaic flooring (surface must be mechanically abraded and cleaned prior to installation).

5. TECHNICAL SPECIFICATIONS & PERFORMANCE

Physical Properties (@ 27 ± 2°C)

Property	Specification / Value
Bed Thickness	Up to 6 mm (up to 12 mm in limited areas)
Pot Life	4.0 hours
Setting Time	24 hours
Temperature Resistance	-30°C to +150°C
VOC Content	1.12 g/L (Low VOC / Eco-friendly)

Performance Properties as per IS 15477: 2019 (@ 27 ± 2°C)

Property with Test Method	Min. Requirement (Type 2T)	Typical Result
Tensile Adhesion – Dry Condition (Annex A)	≥ 1.00 N/mm ²	≥ 1.15 N/mm ²
Tensile Adhesion – Wet Condition (Annex A)	≥ 1.00 N/mm ²	≥ 1.00 N/mm ²
Shear Adhesion – Dry Condition (Annex B)	≥ 1.25 N/mm ²	≥ 1.25 N/mm ²
Shear Adhesion – Heat Aging Condition (Annex B)	≥ 1.00 N/mm ²	≥ 1.00 N/mm ²
Shear Adhesion – Wet Condition (Annex B)	≥ 1.00 N/mm ²	≥ 1.00 N/mm ²
Open Time (Annex C)	As per Manufacturer	20 minutes
Adjustment Time (Annex D)	As per Manufacturer	30 minutes
Slip Resistance (T) (Annex E)	≤ 0.50 mm	≤ 0.20 mm

Performance Properties as per EN 12004: 2017 (@ 23 ± 2°C)

Property with Test Method (Part 2)	Min. Requirement (Class C1)	Typical Result
Initial Tensile Adhesion Strength (Clause 8.3)	≥ 0.50 N/mm ²	≥ 1.10 N/mm ²
Tensile Adhesion after Water Immersion (Clause 8.3)	≥ 0.50 N/mm ²	≥ 0.95 N/mm ²

Tensile Adhesion after Heat Aging (Clause 8.3)	$\geq 0.50 \text{ N/mm}^2$	$\geq 1.05 \text{ N/mm}^2$
Tensile Adhesion after Freeze-Thaw Cycles (Clause 8.3)	$\geq 0.50 \text{ N/mm}^2$	$\geq 0.70 \text{ N/mm}^2$
Open Time @ 20 mins: Tensile Adhesion (Clause 8.1 & 8.3)	$\geq 0.50 \text{ N/mm}^2$	$\geq 0.65 \text{ N/mm}^2$
Slip Resistance (T) (Clause 8.2)	$\leq 0.50 \text{ mm}$	$\leq 0.25 \text{ mm}$

6. COVERAGE ESTIMATES

Coverage will depend on the nature and flatness of the surface, tile format, and application technique (@ 45° trowel angle). Ensure surfaces are smooth, plumb, level, and free of undulations.

Square Notch Trowel Size	Coverage per 25 kg Bag	Coverage per 50 kg Bag
6 mm × 6 mm	98 – 101 sq.ft (9.1 – 9.4 m ²)	197 – 202 sq.ft (18.3 – 18.8 m ²)
8 mm × 8 mm	73 – 76 sq.ft (6.8 – 7.1 m ²)	147 – 152 sq.ft (13.7 – 14.1 m ²)
12 mm × 12 mm	50 – 51 sq.ft (4.6 – 4.7 m ²)	100 – 102 sq.ft (9.3 – 9.5 m ²)

7. APPLICATION INSTRUCTIONS

A. Substrate Preparation

- **General:** The base must be structurally sound, dry, flat, and free from dirt, dust, oil, grease, curing compounds, and loose particles.
- **Curing Times:** Concrete bases must be cured for at least 4 weeks. Plaster/render must dry for at least 2 weeks (3 weeks for pools).
- **Existing Screeds/Concrete:** Cut out loose or hollow sounding sections and reprofile with 1:3 cement-sand mortar over a slurry bonding coat; allow 7 days curing.
- **Tile-over-Tile:** Verify sound adhesion of existing tiles. Remove loose tiles, repair hollows, and clean thoroughly with heavy-duty tile/stone cleaner.

B. Mixing Ratios & Instructions

Add JB-SS-ADH powder gradually to clean water in a clean mixing bucket. Mix thoroughly with a slow-speed mechanical stirrer (400–500 rpm) for 3–5 minutes until a smooth, lump-free paste is achieved. Allow the mix to rest (slake/mature) for 3 to 5 minutes, then remix for 30 seconds before application. Do not add extra water after slaking.

- Water Ratios:**
- 25 kg Bag: 5.5 to 6.25 Litres clean water
 - 50 kg Bag: 11.0 to 12.5 Litres clean water
 - With Latex Additive (25 kg): 4.25 to 5.0 L water + 1.25 L latex additive
 - Volume Ratio: Approx. 1 : 3.5 (Water : Powder) | Pot Life: 4 hours @ 27°C

C. Application Procedure

1. Spread only enough adhesive that can be tiled within the open time of the adhesive (approx. 20 mins).



2. Apply adhesive firmly with the flat side of the trowel to key into the substrate, then comb through with the recommended square-notched trowel.
3. Press tiles firmly into the wet ribbed bed with a slight twisting/sliding motion to achieve 100% solid bed fixing.
4. Periodically lift a freshly placed tile to inspect for complete adhesive transfer without hollow voids.
5. If adhesive ribs form a dry skin, scrape off immediately and reapply fresh adhesive.
6. Leave adequate joints between tiles using spacers. Clean surplus adhesive from tile faces and joints before setting.

8. APPLICATION NOTES, SPACERS & GROUTING

- **Environmental Conditions:** Do not use in damp conditions or when ambient/substrate temperatures are below 5°C or above 40°C.
- **High Elevation Fixing:** Use mechanical clamps/anchors alongside adhesive for tile/stone installations above 3 m height per IS 15477 recommendations.
- **Movement Joints:** Provide perimeter and intermediate movement joints at every 3 m interval and fill with flexible polyurethane/silicone sealant per BS 5385.
- **Spacers:** Use tile spacers (minimum 2 mm) for uniform joint widths; remove all spacers before grouting.
- **Grouting:** Grouting should be carried out after 24 hours. Use JengaBond® JB-S-GROUT for standard applications. For wet areas, swimming pools, and high hygiene/chemical environments, use JengaBond® JB-EP-GROUT3K (Three-component epoxy grout).

9. PACKAGING, STORAGE, SAFETY & DISCLAIMER

- **Storage & Shelf Life:** 25 kg and 50 kg moisture-resistant bags. Shelf life is 12 months from manufacturing date when stored unopened in dry, elevated, shaded conditions.
- **Cleaning:** Clean tools and equipment with clean water immediately after use. Hardened adhesive must be removed mechanically.
- **Health & Safety:** Contains Portland cement. Alkaline when wet. Avoid skin and eye contact. Wear gloves, safety goggles, and protective clothing. In case of eye contact, rinse immediately with plenty of clean water and seek medical advice. Keep out of reach of children. Refer to SDS.
- **Warranty & Disclaimer:** BGSB Construction Products Ltd warrants that its products are free from manufacturing defects. Technical data are based on laboratory testing and site experience, given in good faith. BGSB accepts no liability for loss or damage arising from incorrect site conditions or improper application.