



HYDA CON
Innovative chemical solutions

Technical Data Sheet

HYDAPOXY AD 18 2C
SPECIALITY EPOXY ADHESIVE

ABOUT HYDAPOXY AD 18 2C

HYDAPOXY AD 18 2C is a high-performance, two-component epoxy adhesive formulated for the installation of ceramic tiles, vitrified tiles, natural stones on a wide variety of substrates. Engineered for strength, durability, and chemical resistance, this product is ideal for areas requiring a high level of mechanical and chemical performance, including industrial, commercial, and wet area applications.

HYDAPOXY AD 18 2C conforms to the following international standards:

- **ANSI A118.3**
- **EN 12004 / ISO 13007**

SURFACE APPLICATION MATERIALS

- | | |
|---|--|
|  Cement backer boards |  Cement mortar beds |
|  Concrete slabs and screeds |  Metal surfaces |
|  Epoxy coated surfaces |  Cementitious waterproofing membranes |
|  Plywood and wood substrates (interior dry areas only) |  Existing tiles and stone (provided properly fixed) |

RECOMMENDED SURFACES / SUBSTRATES

- | | |
|---|---|
|  Horizontal and vertical surfaces |  Interior and exterior substrates (protected from UV exposure) |
|  Rigid and stable substrates free from movement and contaminants |  Industrial factory floors, processing plants, and chemical labs |

APPLICATION AREAS

- | | |
|---|---|
|  Swimming pools and water features |  Hospitals and clean rooms |
|  Pharmaceutical and chemical laboratories |  Commercial kitchens and food processing zones |
|  Industrial warehouses and workshops |  Cold storage rooms and freezers |
|  Wet and submerged areas (e.g., water tanks) | |

PRODUCT HIGHLIGHTS

❖ **HIGH CHEMICAL RESISTANCE:**

Withstands exposure to a broad range of chemicals, oils, greases, and cleaning agents.

❖ **EXCELLENT ADHESION STRENGTH:**

Bonds securely to difficult substrates, including metal, glass, and epoxy-coated surfaces.

❖ **EASY APPLICATION:**

Smooth, creamy consistency for easy troweling and installation even in vertical applications.

❖ **WATER CLEANABLE:**

Unlike conventional epoxies, the adhesive can be cleaned with water before curing, reducing cleanup efforts.

❖ **NON-SAG FORMULA:**

Thixotropic nature prevents tile slippage during wall applications.

❖ **THERMAL SHOCK AND MOISTURE RESISTANT:**

Performs in extreme temperature changes and moisture-saturated environments.

TECHNICAL DETAILS

EN / ISO Data

PROPERTY	TEST METHOD	REQUIREMENT	HYDAPOXY AD 18 2C VALUES
Shear Adhesion Strength (7-day cure)	ISO 13007-2 4.3.4 / EN 12003-7.3	≥ 2 N/mm ²	11–14 N/mm ² (1595–2030 psi), Tile/Stone failure
Shear Adhesion Strength (After Water Immersion)	ISO 13007-2 4.3.5 / EN 12003-7.4	≥ 2 N/mm ²	11–14 N/mm ² (1595–2030 psi), Tile/Stone failure
Shear Adhesion Strength (After Thermal Shock)	ISO 13007-2 4.3.8 / EN 12003-7.5	≥ 2 N/mm ²	9–12.5 N/mm ² (1305–1813 psi), Stone failure
Open Time (After 20 minutes)	ISO 13007-2 4.1 / EN 1346	≥ 0.50 N/mm ²	4.0–5.0 N/mm ² (20 minutes)
Vertical Slip Resistance	ISO 13007-2 4.2 / EN 1308	≤ 0.50 mm (0.02 in)	0.4–0.5 mm (0.016–0.020 in)

ANSI DATA

PROPERTY	TEST METHOD	REQUIREMENT	HYDAPOXY AD 18 2C VALUES
Compressive Strength	ANSI A118.3 Clause 5.6	≥ 3500 psi (24.13 MPa)	57 MPa (8,277 psi)
Tensile Strength	ANSI A118.3 Clause 5.7	≥ 1000 psi (6.90 MPa)	9.90–13.4 MPa (1,436–1,946 psi)
Shear Bond Strength (Tile to Tile)	ANSI A118.3 Clause 5.5	≥ 1000 psi (6.90 MPa)	7.90–9.60 MPa (1,147–1,393 psi) Tile failure
Shear Bond Strength (Marble to Metal)	ANSI A118.3 Clause 5.5	≥ 1000 psi (6.90 MPa)	9.2–11.3 MPa (1,334–1,641 psi) Stone failure
Thermal Shock (Porcelain Tile & Stone)	ANSI A118.3 Clause 5.8	≥ 500 psi (3.45 MPa)	6.8–10.0 MPa (987–1,450 psi) Tile/Stone failure

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION GUIDELINES

1. CLEAN & PREPARE SURFACE

- Ensure the substrate is clean, dry, and structurally sound. Remove oil, grease, dust, curing compounds, sealers, laitance, and any contaminants that may affect adhesion.

2. ALLOW CONCRETE TO CURE

- New concrete must be cured for a minimum of 28 days.
- Verify moisture content is within acceptable limits.

3. LEVEL SURFACE IRREGULARITIES

- Use appropriate levelling or smoothing agents to eliminate surface irregularities and undulations.
- Achieve a flat, even substrate.

4. AVOID EXPANSION JOINTS & UNSTABLE AREAS

- Do not install over expansion joints or substrates subject to movement.
- Honor existing joints and fill with flexible sealants as required.

HOW TO MIX THE ADHESIVE

1. CHECK COMPONENT RATIOS

Mix Part A and Part B in the ratio of 1 : 1.5 by weight.

Do not attempt partial mixing. Always mix full units to ensure uniform performance.

2. MIX THOROUGHLY

Use a slow-speed drill (approx. 400 RPM) with a mixing paddle to blend the components.

Mix until a uniform, lump-free consistency is achieved. Scrape sides and bottom of the container to ensure a complete blend.

3. ADJUST CONSISTENCY IF REQUIRED

For large format tiles or bed buildup, add Part C (filler powder) gradually to the mixed resin.

Continue mixing until a smooth, trawable paste is obtained.

4. AVOID AERATION AND DELAYS

Do not mix at high speed or for excessive durations to prevent air entrapment.

Use immediately after mixing; do not leave the mixed adhesive standing unused.

STEP-BY-STEP TILE APPLICATION GUIDE

1. SURFACE PREPARATION

- All surfaces must be structurally sound, dry, clean, and free from dust, grease, oil, loose particles, laitance, sealers, and curing compounds.
- Substrates should be level, crack-free, and free from rising damp.
- Ensure ambient and surface temperatures are between 4°C and 35°C during application.

- New concrete must be cured for at least 28 days.
- Correct any surface irregularities using suitable levelling or smoothing compounds.
- Expansion and movement joints must be carried through the tile finish and must not be bridged with adhesive.

2. ADHESIVE APPLICATION

- Using the flat side of a notched trowel, firmly apply HYDAPOXY AD 18 2C onto the substrate.
- Comb the adhesive using the notched side to achieve uniform ridges.
- Work in areas that can be tiled within 10–15 minutes of adhesive application.
- Do not use adhesive that has skinned over—remove and reapply fresh adhesive.

3. TILE / STONE INSTALLATION

- Position the tile/stone and press firmly into the adhesive bed.
- Tap tiles with a rubber mallet or use a beating block to ensure full contact and level alignment.
- For large format tiles (larger than 600 x600mm), back-butter the tile surface to ensure 100% adhesive coverage.
- Periodically lift tiles to check for adequate adhesive transfer.

4. SPECIAL MATERIALS APPLICATION

a) Stone Veneers (FRP-Based):

- Apply adhesive as per standard procedure.
- Use a roller to press and embed panels, ensuring complete contact behind the surface.

b) Glass Mosaic Tiles:

- Use a 3–4 mm V-notched trowel to apply a 1.5–2 mm adhesive bed.
- Set tiles while the adhesive is still tacky.
- Beat gently using a float and remove facing paper once tiles are firmly set.

c) Drywall Boards (CB, WB, GWB):

- Provide spacers between tiles.
- Grout joints using flexible materials such as Stellar Grout, silicone, or acrylic sealants.

5. JOINT SPACING AND CLEANING

- Use spacers to maintain uniform grout joint width.
- Clean excess adhesive from tile surfaces and joints using a damp sponge before the adhesive sets.
- Ensure periphery joints and expansion joints are free and filled with flexible sealants.

6. PRECAUTIONS & ADDITIONAL CONSIDERATIONS

- Do not tile over movement joints; allow them to extend through the tile system.
- For external applications, leave adequate spacing between tiles/stones to accommodate thermal expansion and fill joints with high-performance flexible sealants.
- Avoid locking the tile system into surrounding walls or plaster; leave periphery joints open.

- Apply a suitable impregnating sealer to moisture-sensitive or porous natural stones before installation to avoid staining.

PRO TIPS AND PRECAUTIONS

- Maintain ambient and surface temperatures between 4°C to 35°C (40°F to 95°F).
- Do not install over expansion joints—carry them through tile work and fill with flexible material.
- Use spacers for consistent grout joints and allow for substrate movement.
- Store adhesive at 25°C for 2–3 days prior to use for best results.
- For bonding to acrylic sheets, pre-cure adhesive on surface for 6–10 hrs before final fixing.

PRODUCT SPECIFICATION AND STORAGE GUIDELINES

PACKAGING: Available in 5 kg pails.

MIXING RATIO: Part A: Part B = 1: 4 (by weight).

COLOUR:

Light Brown (After mixing part A and part B)

POT LIFE: 60–90 minutes at 25°C.

SHELF LIFE: 12 months from the date of manufacture when stored properly.

STORAGE CONDITIONS:

- Store in original, sealed packaging.
- Keep in a cool, dry place between 10°C and 35°C.
- Protect from direct sunlight, moisture, humidity, and extreme temperatures (below 5°C or above 35°C).

QUALITY CHECK:

- Do not use if the container is leaking or the material has hardened.
- Discard compromised material to ensure application integrity.

GROUTING INSTRUCTIONS

- 1. WAITING TIME:** Begin grouting after 24 hours of tile installation.
- 2. RECOMMENDED PRODUCTS:**
 - HYDAPOXY 711: For maximum stain resistance.
 - HYDAPOXY UV 10: For flexibility and exterior durability.
 - HYDAGROUT 100: Mixed with Hydamix 141.
- 3. APPLICATION TIP:** Ensure grout is applied to clean, dry tiles and that the joint spaces are clear of debris before beginning the grouting process.

COVERAGE DETAILS

- 1 kg pack covers ~10 sq. Ft. at 1.5 mm bed thickness using a V-notched trowel.
- Actual coverage varies with tile size, surface texture, and trowel notch.
- Actual Coverage May Vary Based On:
 - Trowel notch size and application technique
 - Tile size, type, and back profile
 - Substrate smoothness, porosity, and flatness
 - Ambient temperature and working conditions
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FACTORS AFFECTING COVERAGE

- Substrate roughness and porosity
- Trowel type and angle
- Tile size and back profile
- Installer technique
- Ambient temperature and humidity
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SAFETY AND APPLICATION GUIDELINES FOR HYDAPOXY AD 2C

- Use gloves and goggles during mixing and application.
- Ensure good ventilation.
- In case of skin or eye contact, wash thoroughly with clean water and seek medical attention.
- Refer to the Safety Data Sheet (SDS) for detailed information.

PERFORMANCE LIMITATIONS

- Not intended for use over movement joints.
- Do not apply in continuously submerged areas unless specified.
- Avoid installation below 4°C or above 35°C.
- Not suitable for direct exposure to UV without a protective layer.

END OF TDS