



HYDA CON
Innovative chemical solutions

Technical Data Sheet

STANDARD 502

Polymer Based Tile Adhesive For Interior Floors & Walls

ABOUT STANDARD 502

STANDARD 502 is a polymer-based tile adhesive for ceramic, vitrified, and natural stone tiles. It works on vertical and horizontal cement-based surfaces, including tile-on-tile applications, in dry and wet indoor areas.

STANDARD 502 exceeds the performance standards-

IS 15477:2019 (Type 1T)

EN 12004/ISO 13007 C1T

ANSI A118.1 T

STANDARD 502 is a multipurpose tile adhesive designed for various applications in both new construction and renovation projects. It works well for both residential and commercial installations, making it a reliable choice for different tiling needs.

SURFACE APPLICATION MATERIALS:

 Semi vitreous tiles

 Small format natural stones

 Precast terrazzo

 Ceramic tiles (all types)

 Terracotta tiles

RECOMMENDED SURFACES / SUBSTRATES

 Brickwork & AAC blocks

 Concrete surfaces

 Cement-based screeds & mortar beds

 Cement-plastered & rendered surfaces

 Other cement-based substrates

 Existing tiled & stone surfaces

APPLICATION AREAS

- | | |
|---|--|
| <ul style="list-style-type: none">  New construction & renovation  Residential & commercial projects  Internal applications | <ul style="list-style-type: none">  External shaded & open areas  Flooring & walls |
|---|--|

PRODUCT HIGHLIGHTS

- ❖ Strong bonding – Excellent adhesion to various cement-based surfaces for long-lasting durability.
- ❖ Easy to prepare – Just mix with water, and it's ready to apply.
- ❖ No sagging.
- ❖ Low Emission – Ensures a healthier indoor environment with minimal emissions.

TECHNICAL DETAILS

ANSI DATA

PROPERTY	TEST METHOD	REQUIREMENT	STANDARD 502 VALUES
Open Time (20 Minutes at 28°C)	ANSI A118.1 – Cl. 5.3	≥75 psi (0.50 MPa)	100–105 psi (0.69–0.72 MPa)
Sag	ANSI A118.1 – Cl. 6.0	≤0.02 in (0.50 mm)	0.021–0.023 in (0.53–0.58 mm) <i>(approx)</i>
Glazed wall tile – 7 Days	ANSI A118.1 – Cl. 7.1.2	>200 psi (1.38 MPa)	205–230 psi (1.41–1.59 MPa)
7 Days Water Immersion	ANSI A118.1 – Cl. 7.1.3	>150 psi (1.03 MPa)	155–180 psi (1.07–1.24 MPa)
Porcelain Mosaic – 1 Day	ANSI A118.1 – Cl. 7.2.2	>50 psi (0.34 MPa)	80–105 psi (0.55–0.72 MPa)
Porcelain Mosaic – 7 Days	ANSI A118.1 – Cl. 7.2.3	>150 psi (1.03 MPa)	180–205 psi (1.24–1.41 MPa)
7 Days Water Immersion	ANSI A118.1 – Cl. 7.2.4	>100 psi (0.69 MPa)	155–180 psi (1.07–1.24 MPa)
28 Days	ANSI A118.1 – Cl. 7.2.5	>150 psi (1.03 MPa)	180–205 psi (1.24–1.41 MPa)
12 Weeks	ANSI A118.1 – Cl. 7.2.6	>150 psi (1.03 MPa)	180–205 psi (1.24–1.41 MPa)

EN / ISO DATA

PROPERTY	TEST METHOD	REQUIREMENT	STANDARD 502 VALUES
Open Time	EN 1346	$\geq 0.50 \text{ N/mm}^2$	0.70 - 0.72 N/mm^2
Slip Resistance	EN 1308	$\leq 0.50 \text{ mm}$	0.43 - 0.45 mm
Tensile Adhesion Strength (Dry Condition)	EN 1348 Clause 8.2	$\geq 0.50 \text{ N/mm}^2$	0.58 - 0.65 N/mm^2
After Water Immersion	EN 1348 Clause 8.3	$\geq 0.50 \text{ N/mm}^2$	0.57 - 0.65 N/mm^2
Heat Ageing	EN 1348 Clause 8.4	$\geq 0.50 \text{ N/mm}^2$	0.59 - 0.65 N/mm^2
Freeze-Thaw Resistance	EN 1348 Clause 8.5	$\geq 0.50 \text{ N/mm}^2$	0.59 - 0.65 N/mm^2

IS DATA

PROPERTY	TEST METHOD	REQUIREMENT	STANDARD 502 VALUES
Tensile Adhesion Strength (Dry Condition)	IS 15477:2019 Annex A	Minimum 0.50 N/mm^2	0.68 - 0.74 N/mm^2
Shear Adhesion Strength (Dry Condition)	IS 15477:2019 Annex B	Minimum 1.00 N/mm^2	1.13 - 1.22 N/mm^2
Slip Resistance	IS 15477:2019 Annex E	$\leq 0.5 \text{ mm}$	0.2 - 0.3 mm

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION GUIDELINES

- CLEAN & SOLID BASE** – Make sure the floor or wall is completely clean (no dust, grease, or dirt) and strong enough to hold the tiles.
- FLAT & EVEN** – The surface should be straight and smooth, with no bumps or dips deeper than 6 mm over a 3-meter (10 ft) area.
- DRY & STABLE** – There should be no moisture, dampness, or oily stains that could weaken the bonding.
- DAMPEN IF NEEDED** – If the surface is too dry or powdery, lightly wet it before applying adhesive—but don't leave puddles.
- FRESH CONCRETE**– If using new concrete, let it harden for at least 4 weeks (28 days) to avoid cracks from shrinking.
- LEAVE GAPS FOR MOVEMENT** – Always include small gaps HYDACON PVC SPACERS between tiles in large areas. Fill these with HYDACON TILE JOINT GROUTS —never cover them with tiles or glue.

HOW TO MIX THE ADHESIVE

1. **MIXING RATIO** – For 20kg bag, needs about 5.5 to 6.5 Litres of water, adjusting slightly for the desired consistency.
2. **MIXING METHOD** – Add powder to potable water in a clean vessel, Use a slow drill (50-100 rpm) or mechanical mixer.
3. **REST & REMIX** – Keep the mix for 5 minutes, then stir again before use.
4. **USE IT FRESH** – Only mix what you can use before it hardens. Do not add more water after mixing.

STEP-BY-STEP TILE APPLICATION GUIDE

1. PREPARING THE SURFACE

- Spread STANDARD 502 adhesive using the flat side of a notched trowel for a thin, even base layer.
- Then, comb adhesive with the notched side to create uniform ridges for better tile adhesion.
- Trowel Size Matters:
 - Small tiles (up to 30x30 cm) → 6 mm notches
 - Medium tiles (30x60 cm) → 8-10 mm notches
 - Large tiles (60x60 cm+) → 10-12 mm notches

2. SETTING THE TILES

- Work fast! Place tiles within 15-20 minutes—adhesive dries quicker in hot/dry conditions.
- Check for Skinning: If adhesive forms a dry film, scrape it off and reapply fresh adhesive.
- Press & Twist: Firmly press tiles with a slight twist to ensure full contact.
- Tap into Place: Use a rubber mallet to gently adjust alignment.

3. ENSURING FULL COVERAGE

- Back-Buttering (For Tiles): Apply adhesive on both the substrate and tile back to prevent hollow spots.
- No Gaps Allowed! Press firmly to eliminate air pockets.

4. SPACING & ALIGNMENT

- Use Tile Spacers to maintain even gaps (as per design specs).
- Remove Excess Adhesive immediately from tile surfaces and joints before it hardens.

5. SPECIAL CASES

- Walls & Vertical Surfaces: Use temporary supports (like battens or clips) until adhesive sets.
- Natural Stone Tiles: Pre-treat with HYDACON Deep Penetrating Sealer to prevent stains.

PRO TIPS & PRECAUTIONS

- ✓ Work in small sections (1-2 m² at a time) to avoid adhesive drying too fast.
- ✓ Test adhesive on a sample area if unsure about porosity or weather effects.
- ✓ Never "stretch" adhesive by adding water—remix fresh batches instead.

PRODUCT SPECIFICATIONS & STORAGE GUIDELINES

AVAILABLE PACKAGING:

- ❖ Grey: 5 kg, 20 kg
- ❖ White: 20 kg

SHELF LIFE : 12 months from manufacturing date when:

STORAGE LIFE

- ❖ Kept in original sealed packaging
- ❖ Stored in a cool, dry place (10–30°C / 50–86°F)
- ❖ Protected from:
 - Direct sunlight
 - Moisture/humidity
 - Temperature extremes (<5°C or >35°C)

QUALITY CHECK: Discard if bags are torn or contents show hardening.

GROUTING INSTRUCTIONS

1. **WAITING TIME:** Begin grouting after 24 hours of tile installation.
2. **APPLICATION TIP:** Maintain uniform joint gaps (per project specs) before grout application.

COVERAGE DETAILS

- 20kg bag: 5-6 m² (3mm thickness, 6×6 mm trowel)
- 30kg bag: 7.5-8 m² (3mm thickness, 6×6 mm trowel)
- Usage rate: ~1.2 kg/m² per 1 mm thickness

FACTORS AFFECTING COVERAGE:

- Trowel size & technique
- Tile size & material
- Surface flatness & porosity

SAFETY & APPLICATION GUIDELINES FOR STANDARD 502

1. PERSONAL PROTECTION REQUIREMENTS

- Always wear protective gloves, clothing and eye/face protection during handling
- Keep product out of reach of children at all times
- Designed for professional use only - not suitable for consumers

2. EMERGENCY PROCEDURES

- Skin contact: Wash affected area immediately with clean water
- Eye contact: Rinse thoroughly with clean water for 15 minutes and seek immediate medical attention

3. PROPER MIXING PROTOCOL

- Always add powder to water - never reverse this order
- Strictly follow recommended water quantities - excess water compromises strength
- Never mix with cement, sand or other additives on-site

4. SURFACE PREPARATION REQUIREMENTS

- Substrate must be completely dry and fully cured before application
- Not suitable for wet screeds or fresh concrete
- Maximum allowable surface irregularity: 15mm (use leveling compound for greater variations)

5. INSTALLATION BEST PRACTICES

- Protect installed tiles from rain and foot traffic for minimum 24 hours
- For high-rise applications or heavy cladding:
 - Consult structural engineer
 - Consider supplemental mechanical fastening systems (anchor hooks, etc.)
 - Verify substrate load capacity

PERFORMANCE LIMITATIONS

- Not designed as a levelling compound
- Environmental conditions may affect curing time
- Always test application when uncertain about substrate conditions