



ABOUT CORE 504

CORE 504 is a high-performance, polymer-modified adhesive specially designed for installing all types of natural stone tiles, mosaics, large-format semi-vitreous and vitrified tiles. It is suitable for both horizontal and vertical applications in dry and wet environments, making it ideal for both indoor and outdoor use.

CORE 504 exceeds the performance standards-

IS 15477:2019 (Type 2T)

EN 12004/ISO 13007 C2T

ANSI A118.4

With superior bonding strength, **CORE 504** is perfect for commercial spaces, as it absorbs shocks and withstands heavy traffic, ensuring long-lasting durability. Its reinforced composition delivers exceptional grip and resilience, making it an excellent choice for demanding spaces such as commercial establishments, balconies, and other areas subject to heavy use and impact.

SURFACE APPLICATION MATERIALS

- | | |
|---|--|
|  Marble & natural stones |  Vitrified tiles & paver bricks |
|  Precast terrazzo |  Low-thickness slabs & slim tiles |
|  Large-format tiles |  All types of ceramic tiles |
|  Brick & terracotta pavers |  Terracotta tiles |

RECOMMENDED SURFACES / SUBSTRATES

- | | |
|--|---|
|  Brickwork & AAC blocks |  Concrete surfaces |
|  Cement-based screeds & mortar beds |  Drywall panels (cement, bison, gypsum boards, etc.) |
|  Cement-plastered & rendered surfaces |  Existing tiled & stone surfaces |
|  Other cement-based substrates |  Waterproofing-treated surfaces |

APPLICATION AREAS

- | | |
|---|--|
|  Dry & wet areas (saunas, spas, fountains, swimming pools) |  External shaded & open areas |
|  Terraces, balconies & podium decks |  Flooring & walls (internal & external) |
|  Residential & commercial applications |  New construction & renovation projects |

PRODUCT HIGHLIGHTS

- ❖ **EASY TO USE** –Simply mix with water for on-site preparation.
- ❖ **HIGHLY POLYMER-MODIFIED**– Ensures superior adhesion on various substrates for different tile and stone types.
- ❖ **SAG-RESISTANT**– Allows effortless application on vertical surfaces.
- ❖ **WATER & SHOCK RESISTANT** – Perfect for wet areas and high-traffic commercial flooring.
- ❖ **EXTENDED OPEN TIME**– Ideal for large-format tiles and external conditions.
- ❖ **HEAT-RESISTANT** – Withstands high-temperature conditions, making it suitable for outdoor spaces, Jacuzzis, and saunas.
- ❖ **LOW VOC** – Contributes to a healthier indoor environment.
- ❖ **FLEXIBLE FORMULATION** – Absorbs minor substrate vibrations, preventing surface cracks.

TECHNICAL DETAILS

ANSI DATA

| PROPERTY | TEST METHOD | REQUIREMENT | CORE 504 VALUES |
|---|--------------------------|------------------------|---------------------------------|
| Open Time (30 Minutes at 28°C) | ANSI A118.4 Clause 5.3 | ≥75 psi (0.50 MPa) | 125-145 psi (0.86–1.000 MPa) |
| Sag | ANSI A118.4 Clause 6.0 | ≤0.02 Inches (0.50 mm) | 0.01–0.01 Inches (0.38–0.45 mm) |
| Glazed Wall Tile Shear Strength 7 Days | ANSI A118.4 Clause 7.1.2 | >300 psi (2.07 MPa) | 330-360 psi (2.27–2.48 MPa) |
| 7 Days Water Immersion | ANSI A118.4 Clause 7.1.3 | >200 psi (1.38 MPa) | 230-255 psi (1.58–1.75 MPa) |
| Porcelain Mosaic Tile Shear Strength 1 Day | ANSI A118.4 Clause 7.2.2 | >75 psi (0.50 MPa) | 130–180 psi (0.89–1.24 MPa) |
| Porcelain Mosaic Tile Shear Strength 7 Days | ANSI A118.4 Clause 7.2.3 | >200 psi (1.38 MPa) | 255–280 psi (1.75–1.93 MPa) |
| 7 Days Water Immersion | ANSI A118.4 Clause 7.2.4 | >150 psi (1.03 MPa) | 230–270 psi (1.58–1.86 MPa) |
| 28 Days | ANSI A118.4 Clause 7.2.5 | >200 psi (1.38 MPa) | 300–350 psi (2.06–2.41MPa) |
| 28 Days Freeze-Thaw Cycling | ANSI A118.4 Clause 7.2.5 | >175 psi (1.20 MPa) | 230–280 psi (1.59–1.93 MPa) |
| 12 Weeks | ANSI A118.4 Clause 7.2.7 | >200 psi (1.38 MPa) | 260–310 psi (1.79–2.13 MPa) |
| Quarry Tile Shear Strength 28 Days | ANSI A118.4 Clause 7.3.2 | >150 psi (1.03 MPa) | 210–260 psi (1.44–1.79 MPa) |
| 28 Days Freeze-Thaw Cycling | ANSI A118.4 Clause 7.3.3 | >100 psi (0.69 MPa) | 160–210 psi (1.10–1.44 MPa) |

EN / ISO DATA

| PROPERTY | TEST METHOD | REQUIREMENT | CORE 504 VALUES |
|---|--------------------|-------------------------|-----------------------------|
| Open Time | EN 1346 | ≥0.50 N/mm ² | 0.77–1.02 N/mm ² |
| Slip Resistance | EN 1308 | ≤0.50 mm | 0.30–0.40 mm |
| Tensile Adhesion Strength (Initial) | EN 1348 Clause 8.2 | ≥1.00 N/mm ² | 1.30–1.55 N/mm ² |
| Tensile Adhesion Strength (After Water Immersion) | EN 1348 Clause 8.3 | ≥1.00 N/mm ² | 1.27–1.52 N/mm ² |
| Heat Ageing | EN 1348 Clause 8.4 | ≥1.00 N/mm ² | 1.05–1.30 N/mm ² |
| Freeze-Thaw | EN 1348 Clause 8.5 | ≥1.00 N/mm ² | 1.30–1.60 N/mm ² |

IS DATA

| PROPERTY | TEST METHOD | REQUIREMENT | CORE 504 VALUES |
|----------------------------------|----------------------|-------------------------------|-----------------------------|
| Tensile Adhesion (Dry Condition) | Annex A (Clause 5.1) | Minimum 1.5 N/mm ² | 1.57–1.67 N/mm ² |
| Tensile Adhesion (Wet Condition) | Annex A (Clause 5.1) | Minimum 1.0 N/mm ² | 1.15–1.25 N/mm ² |
| Shear Adhesion (Dry Condition) | Annex B (Clause 5.2) | Minimum 1.5 N/mm ² | 1.62–1.72 N/mm ² |
| Heat Ageing (Dry Condition) | Annex B (Clause 5.2) | Minimum 1.0 N/mm ² | 1.13–1.23 N/mm ² |
| Shear Adhesion (Wet Condition) | Annex B (Clause 5.2) | Minimum 1.0 N/mm ² | 1.17–1.27 N/mm ² |
| Slip Resistance | Annex E (Clause 5.5) | ≤0.5 mm | 0.38–0.48 mm |

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION GUIDELINES

- 1) CLEAN & STABLE SURFACE** – Ensure the substrate is level, firm, and free from dust, grease, loose particles, or any contaminants that may compromise adhesion.
- 2) EVEN & LEVEL BASE** – The surface should be plumb and true within 6 mm over a 3-meter (10 ft) span to prevent tile misalignment and irregularities.
- 3) DRY & MOISTURE-CONTROLLED**– The substrate must be dry, structurally sound, and free from rising dampness or excessive moisture, which can affect bonding performance.
- 4) PRE-WET IF NECESSARY** – For dry or highly absorbent surfaces, lightly dampen the area before application, ensuring no excess water remains.
- 5) CURE NEW CONCRETE**– Newly laid concrete must be cured for at least 28 days to reduce shrinkage and ensure a stable foundation for tiling.
- 6) PRESERVE EXPANSION JOINTS** – Maintain expansion joints and fill them with a flexible sealant. Do not cover them with tile adhesive or tiles to prevent structural stress.

HOW TO MIX THE ADHESIVE

- 1) MIXING RATIO**– For 20 kg bag, use 5.0-6.5 liters of water, Adjust slightly for the desired consistency.
- 2) BLENDING PROCESS** –use a clean mixing vessel and blend with a mechanical stirrer or a low-speed drill (50 – 100 rpm) until a smooth, lump-free homogeneous paste is achieved.
- 3) RESTING PERIOD** – Allow the mixture to rest for 5 minutes before use, then stir briefly before application.
- 4) APPLICATION CAUTION** – Mix only the required quantity that can be used within the pot life. Do not add extra water after the mixing process.

STEP-BY-STEP TILE APPLICATION GUIDE

1. SURFACE PREPARATION

- Apply adhesive evenly to the substrate using the flat side of a notched trowel.
- Use the notched side to create uniform ridges for optimal adhesion.
- Recommended Trowel Sizes:
 - Small tiles (up to 30x30 cm): 6 mm notches
 - Medium tiles (30x60 cm): 8-10 mm notches
 - Large tiles (60x60 cm and above): 10-12 mm notches

2. TILE PLACEMENT

- Work Efficiently: Fix tiles within 20 minutes of adhesive application (varies with porosity and weather conditions).
- Check for Skin Formation: If a dry layer forms, remove it and apply fresh adhesive.
- Firm Pressing: Set tiles by pressing firmly with a slight twisting motion.
- Level Adjustment: Use a rubber mallet to tap tiles into place for a uniform level.

3. ACHIEVING FULL ADHESION

- Back-Buttering (For Large/Uneven Tiles): Apply adhesive to both the substrate and tile back to ensure full contact.
- Prevent Voids: Ensure complete adhesive coverage to eliminate weak spots, especially in wet areas.

4. SPACING & CLEANING

- Use Tile Spacers: Maintain consistent joint spacing as per project specifications.
- Remove Excess Adhesive: Clean tile surfaces and joints before the adhesive hardens.

5. SPECIAL CONSIDERATIONS

- Wall Tile Installation: Use temporary supports along with adhesive for stability.
- Highly Absorbent Natural Stones: Pre-treat with a suitable impregnating sealer to prevent moisture stains.
- Consult for Special Surfaces: For drywall, porous, or non-standard surfaces, seek technical advice for the best application methods.

PRO TIPS & PRECAUTIONS

- ✓ Protect freshly installed tiles from rain and foot traffic for at least 24 hours.
- ✓ Maintain the correct mix—do not add sand or cement on-site.
- ✓ Use the recommended water ratio—excess water can weaken the adhesive.
- ✓ For installations above 3m, consider additional mechanical support, like steel hooks, for enhanced stability.
- ✓ Always add powder to water, not the other way around, for a smooth mix.
- ✓ Avoid excessive surface corrections—do not use adhesive to fix irregularities deeper than 15 mm.
- ✓ Ensure the substrate is fully cured before application—never apply adhesive on wet screed.

PRODUCT SPECIFICATIONS & STORAGE GUIDELINES

AVAILABLE PACKAGING

- Grey: 20 kg bag
- White: 20 kg bag

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

STORAGE LIFE:

- Keep in original sealed packaging
- Store in a cool, dry place (10–30°C)
- Protect from:
 - Direct sunlight
 - Moisture/humidity
 - Extreme temperatures (<5°C or >35°C)

QUALITY CHECK: Discard if the bag is torn or contents have hardened.

GROUTING INSTRUCTIONS

1. **WAITING TIME:** Begin grouting after 24 hours of tile installation.
2. **RECOMMENDED PRODUCTS:** Use HYDAPOXY grouts (HYDAPOXY 711, HYDAPOXY 712) for best results.
3. **APPLICATION TIP:** Maintain uniform joint gaps before applying grout.

COVERAGE DETAILS

- 20 kg bag:
 - 5-6 m² at 3 mm thickness (using a 6×6 mm notched trowel)
 - 2.5-3 m² at 6 mm thickness (using a 12×12 mm notched trowel)
- Usage Rate: ~1.2 kg/m² per mm thickness

FACTORS AFFECTING COVERAGE:

- Trowel size & application technique
- Tile size & material
- Surface smoothness & porosity

SAFETY & APPLICATION GUIDELINES FOR CORE 504

1. PERSONAL PROTECTION

- Wear protective gloves, clothing, and eye/face protection while handling.
- Keep out of reach of children at all times.
- For professional use only – not for consumer DIY applications.

2. EMERGENCY PROCEDURES

- Skin Contact: Wash immediately with plenty of clean water.
- Eye Contact: Rinse thoroughly with water for 15 minutes and seek medical attention.

3. MIXING INSTRUCTIONS

- Always add powder to water – never reverse the order.
- Follow recommended water ratios – excess water weakens adhesion.
- Do not mix with cement, sand, or other additives.

4. SURFACE PREPARATION

- Ensure the substrate is dry, level, and fully cured before application.
- Not suitable for wet screeds or fresh concrete (must be at least 28 days old).
- For uneven surfaces (>15 mm variation), use a levelling compound.

5. INSTALLATION & PROTECTION

- Protect newly installed tiles from rain, foot traffic, and heavy loads for at least 24 hours.
- For high-rise applications or heavy cladding:
 - Consult a structural engineer.
 - Use mechanical fastening systems if required.
 - Check substrate load capacity.

PERFORMANCE LIMITATIONS

- Not a self-levelling compound – use appropriate levelling materials if needed.
- Curing time may vary based on environmental conditions.
- Test on a small area if uncertain about substrate suitability.