



519HT Ceramic Tile Adhesive™ | EXCELLENT ADHESION TO MOST SURFACES

Manufactured by Polygem, 5600 Lower Macungie Rd. | Macungie, PA 18062 | 630-231-5600 | Made in USA

POLYGEM
polygem.com

TB - TECHNICAL BULLETIN

PRODUCT DESCRIPTION

519HT High Temp Ceramic Tile Adhesive™ is our industry standard epoxy tile adhesive for use in environments up to 400°F (204°C). 519HT is a thixotropic gel that can adhere tiles applied to vertical and overhead surfaces. 519HT is formulated to provide for a tenacious bond to most ceramic, metal, concrete, fiberglass or wood surfaces. 519HT is moisture resistant and will even cure underwater.

ADVANTAGES

- **High Heat Resistance** [400°F (204°C)]
- **Excellent Adhesion to Most Surfaces**
- **Bonds to Itself**
- **Chemical Resistant**
- **Solvent Resistant**
- **Moisture Resistant** (Will Cure Underwater)
- **Creates a Tough, Durable Surface**
- **No VOCs or Solvents**
- **Easy Water Clean-up**

RECOMMENDED USES

For adhering, patching, crack and joint repair as well as general bonding in high temp abrasive environments.

- **Adhere Ceramic Tiles**
- **Crack & Joint Repair**
- **Patching & Filleting**
- **General Purpose Bonding**

SURFACE PREPARATION

Proper surface preparation is critical to the performance of 519HT. The substrate must be structurally sound, clean, dry, and free of all contaminants that could inhibit adhesion.

1. Clean the surface by removing all dirt, grease, oil, curing compounds, laitance, form release agents, and any loose or deteriorated material. Use industrial-grade degreasers for oil and grease. High-pressure water jetting may be used, but the surface must be allowed to dry completely before application.
2. Mechanically prepare the surface to create an anchor profile for maximum adhesion. For concrete, grind or shot blast to a Concrete Surface Profile (CSP) of 3-5. For steel, abrasive blast to a near-white metal finish (SSPC-SP10/NACE No. 2).
3. Vacuum the surface after mechanical profiling to remove all dust and debris. The final surface must be completely dry before applying the adhesive.

MIXING

1. **Measure & Mix**– Measure out equal parts 1A:1B by volume. Combine and mix material thoroughly until it is “streak-free” and an even uniform color.

DO NOT mix more than can be applied within the working time of 45 minutes @ 77°F (25°C). Higher temperatures will shorten the pot life.

PACKAGING

519HT is available in a 2 Gallon Kit.

SHELF LIFE

Unopened containers are guaranteed for 12 months when stored at 60–80°F (16–22°C).

For best results, purchase quantities suited to your project and use material soon after receipt.

Storage above 85°F (29°C) may reduce shelf life. Keep from freezing.

LIMITATIONS

DO NOT apply over 1/4 in (6.35 mm) thick per layer. Additional thickness can be built up with multiple coats. Allow prior coat to harden before the application of the next layer.

Not for use on wet or oily surfaces.

During cool conditions epoxy will cure slower, protect finished work from wear and abrasion until fully cured.

CAUTIONS

Wear chemical goggles and NIOSH approved respirator. Wear proper protective clothing and gloves to prevent direct contact of resins. Consult Material Safety Data Sheet for full listing of protective requirements.

519HT Ceramic Tile Adhesive may irritate eyes & skin. Avoid contact with eyes or prolonged contact with skin.

For professional use only.

Keep out of reach of children.

TECHNICAL DATA

TYPICAL PROPERTIES | All values measured after 7 days at 73°F (23°C).

Mix Ratio:	1A to 1B
Mixed Viscosity:	Heavy Gel ASTM D2393
Color: (May Vary)	Dark Gray
Part A: Charcoal Part B: Tan	
VOC Content:	0%
Pot Life: (100 gms)	30 mins. ASTM D-2471
Thin Film Working Time: (73°F - 23°C)	45 mins.
Cure Time: [@ 1/8 in. (3.17 mm.)]	16 hrs.
Cure Time: [@ 1/4 in. (6.35 mm.)]	5 hrs.
Compressive Strength:	14,000 p.s.i. ASTM D-638
Tensile Strength:	6,000 p.s.i. ASTM D-638
Impact (IZOD) Strength:	21 ft. lbs. ASTM D-638
Specific Volume: (ASTM D792 - Mixed)	21.46 cu in/lb
Operating Temperature:	350-400°F (177-204°C)
Shore D Hardness:	80 D ASTM D2240

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APPLICATION INSTRUCTIONS

Apply the mixed adhesive to the prepared substrate using a trowel, putty knife, or caulking tool.

Ceramic Tile Adhesion (Mining & Industrial Floors/Walls)

1. Using the flat side of a v-notch or square-notch trowel, apply a thin "bond coat" of the mixed adhesive to the substrate to wet out the surface.
2. Immediately apply additional material and use the notched side of the trowel to achieve a uniform bed thickness, typically 1/8 in. (3.17 mm).
3. Press tiles firmly into the wet adhesive with a slight twisting motion to ensure full transfer and coverage. For large format tiles (over 12"x12") or in high-stress areas, "back-buttering" the tile is recommended to guarantee 100% coverage.
4. Ensure consistent joint spacing and alignment as work progresses.

Crack & Joint Repair

1. For non-moving cracks or control joints, chase the crack with an angle grinder and a diamond blade to create a "V" groove that is a minimum of 1/4 in. (6.35 mm) deep and wide.
2. Clean all dust and debris from the prepared groove. Force the mixed epoxy into the groove using a margin trowel or putty knife, ensuring the material fills the entire void.
3. Slightly overfill the groove and then strike it off flush with the surrounding surface.

Patching, Resurfacing & Filleting

1. For cracked or chipped concrete and voids, apply the mixed adhesive with a trowel, pressing firmly to compact the material and ensure a strong bond. For deep repairs (greater than 1/2 in. or 13 mm), apply in multiple lifts.
2. To create a reinforcement cove at inside corners, apply a bead of adhesive and tool it into a smooth, uniform radius using a cove tool or rounded trowel.

General Purpose Bonding:

1. Apply a thin, even layer of the mixed adhesive to both surfaces to be bonded.
2. Mate the surfaces and apply firm, consistent pressure. Clamp or brace the assembly as required to prevent movement until the adhesive has set.

TOOLING AND FINISHING

To achieve a smooth finish on patches or fillets, the surface of the uncured epoxy can be lightly tooled with a trowel dampened with water. Use minimal water to avoid affecting the epoxy's surface cure.

CURING

Allow the material to cure according to the following schedule, based on conditions of 77°F (25°C) and 50% Relative Humidity. Lower temperatures will extend cure times.

Full Cure & Max Resistance: 7 days

Allow a full 7-day cure before exposing the material to harsh chemicals or its maximum service temperature of 400°F (204°C).

CLEAN-UP

Uncured Material: Remove excess uncured adhesive with a scraper followed by a water rinse. Clean tools and spills immediately with water.

Cured Material: Cured epoxy must be removed by mechanical means (e.g., grinding, sanding, or chipping).

Applying mild heat with a heat gun to soften the epoxy followed by scraping with a scraper is also an option.



POLYGEM

POLYGEM LIMITED WARRANTY:

Polygem warrants that during the shelf life of the product (as determined from the date of manufacture), the product will conform to the specifications provided in this technical bulletin. POLYGEM MAKES NO OTHER WARRANTIES, EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Neither any performance or other conduct, or any oral or written representation, statement or advice provided by Polygem or any of Polygem's distributors, agents, or employees will create a warranty, or in any way increase the scope or duration of this limited warranty. Polygem will have no warranty obligation if the product becomes defective, in whole or in part, as a result of: (i) the transportation of the product; (ii) any alteration or modification to the product by third parties; or (iii) improper handling or storage of the product (including improper handling or storage by third-party carriers or distributors).