



519HT-WB™ Wearing Compound | HIGH-TEMPERATURE RESISTANCE WITH LARGE BEADS

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-WB™ Wearing Compound is a tough epoxy paste blended with large, abrasion-resistant ceramic beads. It is specially formulated to protect surfaces exposed to high temperatures and heavy wear. While many polymers fail when exposed to heat, 519HT-WB™ provides a reliable protective barrier at service temperatures up to 450°F (232°C).

The compound is easy to use, with a 1A to 1B mix ratio by volume, and applies as a thick, non-sag paste—ideal for vertical or overhead patching. Once cured, it becomes waterproof and highly resistant to most common chemicals and solvents, ensuring long-term durability in demanding environments.

ADVANTAGES

- **Heat Resistant Formulation**
- **Extremely Durable Ceramic Matrix**
- **Chemical Resistant**
- **No VOCs or Solvents**
- **Low Odor Formula**
- **Bonds to Most Dry Surfaces**

RECOMMENDED USES

For the patching and repair of worn metal or concrete surfaces that are exposed to abrasive environments.

519HT-WB is ideal for use on:

- Ball Mills
- Cyclones
- Wear Plates
- Hopper and Chutes
- Pipe Elbows
- Pump Casings (Slurry Pumps)
- Dust Collection Systems
- Pneumatic Conveyors
- Chipper and Grain Bins
- Heat Exchangers and Tube Sheets
- Augers, Fan and Impeller Blades

PACKAGING

519HT-WB is available in a **2 Gallon Kit** or a **10 Gallon Kit**.

SHELF LIFE

Factory sealed containers of this product are guaranteed to be of first quality for minimum of 24 months.

ENVIRONMENTAL CONDITIONS

1. When applying in cold conditions, you must preheat the application surface.
2. Do not apply when ambient humidity is greater than 85%.

TECHNICAL DATA

Typical Properties | All Values Measured After 7 Days at 73°F (23°C).

Mix Ratio by Volume:	1A:1B
Mixed Viscosity:	Heavy Paste
Pot Life: (77°F (25°C) 100 gms)	40 min
Cure Time: (75°F (25°C))	4-5 hr
Compressive Strength:	7,583 psi ASTM D-695
Compressive Modulus:	183 ksi ASTM D-695
Tensile Strength:	1,422 psi ASTM D-638
Elongation:	0.17% ASTM D-638
Flexural Modulus:	524 ksi ASTM D790
Flexural Strength:	3,254 psi ASTM D790
Taber Wear Index:	125.44 ASTM D4060-10 MIL-8625F
Shore D Hardness:	78 ASTM D-2240
Color Mixed:	Gray

SURFACE PREPARATION

1. Proper surface preparation is critical to the long-term performance of this product. Requirements will vary depending on your particular application needs. Expected service life, time available for repair, initial substrate conditions at the time of application, can all affect the surface preparation needs.
2. When a thickness of .75 in (19.05 mm) or more is required, we recommend that an expanded metal mesh should be tack welded or mechanically bonded to the substrate before applying 519HT-WB to the surface to aid in adhesion.
3. Clean surface by sandblasting or grinding with a coarse wheel or abrasive disc pad. This will allow for better adhesion of 519HT-WB to the substrate.

For extremely demanding environments the surface should be grit blasted to a near white metal equivalent to SSPC, SP5. When full preparation can't be done or in cases of less severe environments, roughening the surface with hand tools equivalent to SSPC, SP 3 is sufficient.
4. Wipe surface with a solvent to remove all traces of oil, grease, dust or other contaminants which would interfere with 519HT-WB's adhesion to the substrate.

MIXING | MATERIAL SHOULD BE 60-79°F (16-26°C) BEFORE USE.

1. Measure equal parts 1A : 1B by volume and dispense material into 2 separate clean containers.
2. Combine into a third container and mix thoroughly until "streak-free". Large volumes can be mixed using two trowels.

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DO NOT mix more than can be applied within the working time of 35 minutes.

Alternatively, a high torque power drill with a spiral mixing blade may be used to mix, but you must be sure to scrape the sides and bottom of the container to ensure all material is mixed fully and is “streak-free”.

3. If mixing multiple small batches, each batch must be mixed in a clean container. Failing to do so will cause off-ratio mixes which can cause the product to fail.

APPLICATION METHODS

- **519HT-WB** should be applied as soon as possible after the substrate has been cleaned with a solvent.
- To ensure maximum adhesion to the substrate, a thin coating of 519HT-WB should be applied to the entire surface as a primer coat .
- Spread additional material with a trowel over the thin primer coat, slowly building it up to the desired thickness of 1/4 in. (6.35 mm) **DO NOT** apply more than 5/8 in. (16mm) per layer at a time.
- While applying pay attention and try to avoid air entrapment as much as possible.
- Epoxy can be smoothed with a trowel dipped in solvent, by a gloved hand dipped in solvent, or in a solution of soap and water.
- When applying at an ambient temperature of 77°F (25°C) the working time for 1 lb. (1/2 kg)of 519HT-WB is approximately 15 to 20 minutes.
- Chilling material slightly will also allow for more working time. **DO NOT** chill below 60°F (25°C).

USAGE TIPS

**MATERIAL IS MASS SENSITIVE,
More Mass = Less Time to Work.**

- Apply and spread quickly to achieve the maximum working time Temperatures above 77°F (25°C) will reduce working time.

- Always store the material at room temperature 77°F (25°C).
- Pre-heating the surface you are applying to no more than a maximum temperature of 90°F (32°C) will help with the bond and also speed the materials cure time.
- Mixing a small amount at a time reduces the mass which will give you more time to work.
- Chilling the material slightly will also give you more working time. Do not intentionally subject material to temperatures below 60°F (16°C) or material may not cure at all.

LIMITATIONS

DO Not apply over 5/8 in. (16 mm) thick per layer. Additional thickness can be built up with multiple coats.

Allow prior coat to harden and cool to touch before the application of the next layer.

Not for use on wet or oily surfaces.

DO NOT install when surface temperature is below 45°F (7°C) or above 90°F (32°C).

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-WB may irritate eyes and skin. Avoid contact with eyes or prolonged contact with skin.

For professional use only.

Keep out of reach of children.



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).