

## PRODUCT DATA SHEET

# Mortartec Silicate™



### PRODUCT PROFILE

#### GENERIC DESCRIPTION

High-Density Microsilica Mortar

#### COMMON USAGE

Epoxytec Mortartec Silicate is an industrial-grade blend of Portland cement, graded silica sand, fibers, and microsilica. The mortar may be trowel- or spray-applied, typically from 1/2 inch to 2 inches (12.7 to 50.8 mm) in depth. Uses include repairing concrete or brick masonry, as a stand-alone mortar lining, or as an underlayment in the Epoxytec MH Composite Lining System for sewer manholes.

#### COLORS

Gray

### COATING SYSTEM

#### PRIMERS

Self-priming.

#### TOPCOATS

Series 451, 454, 456, 457

### SURFACE PREPARATION

#### REINFORCING STEEL

The repair of deteriorated concrete resulting from reinforcing steel corrosion should be in accordance with ICRI Technical Guideline No. 310.1R. Remove loose rust and scale from the exposed reinforcing steel (rebar). Steel (rebar) can be primed with Tnemec Series 1 or N69F.

#### CONCRETE

Substrate concrete must be structurally sound and cured a minimum of 28 days. Remove all loose materials, deteriorated concrete, laitance, existing coatings, and other bond-inhibiting materials from the substrate in accordance with SSPC-SP13/NACE 6, minimum surface profile of ICRI-CSP 6.

#### EDGE CONDITIONING

The edges of patch repairs or terminations should be saw cut perpendicular to the surface to a depth of at least 1/2 inch (12.7 mm) into the substrate concrete. Break out the complete repair area to a minimum depth of 1/2 inch (12.7 mm) up to the sawed edge to prevent feather edging. Avoid cutting the reinforcing steel. Refer to the Mortartec Silicate Surface Preparation and Application Guide or contact Tnemec Technical Services with questions.

#### ALL SURFACES

Must be clean, sound and free of oil, grease, curing compounds and other contaminants. Always take precautions to prohibit the surface from becoming contaminated prior to product application.

### TECHNICAL DATA

#### VOLUME SOLIDS

100%

#### RECOMMENDED DFT

##### **Resurfacer:**

**Horizontal/Vertical:** 1/2 inch (12.7 mm) to 2 inches (50.8 mm)

**Overhead:** 1/2 inch (12.7 mm) to 2 inches (50.8 mm)

#### RESURFACER CURE TIME

Temperature	Initial Set	Final Set	To Topcoat*
77°F (25°C)	6 hours	18 hours	24 hours

\* Mortartec Silicate must be mechanically prepared in accordance with SSPC-SP13/NACE 6, ICRI-CSP 5 minimum surface profile prior to application of recommended topcoats unless using as a MH Composite Lining System. Reference Technical Bulletin 24-124.

#### MH COMPOSITE LINING SYSTEM

Minimum <sup>†</sup>	Maximum <sup>‡‡</sup>
2 hours	5 hours

<sup>†</sup> Mortartec Silicate finished with wood float to create a grainy texture surface; see APPLICATION section.

<sup>‡‡</sup>If more than 5 hours have elapsed following installation of



Silicate mortar, the surface shall be cured and prepared as a resurfacer prior to topcoating.

#### VOLATILE ORGANIC COMPOUNDS (VOCs)

0.00 lbs/gallon (0 grams/litre)

#### THEORETICAL COVERAGE

60 lb. bag yields approximately 0.54 cubic feet (0.015 cubic meters) and will cover 12.5 sq. ft. (1.16 m<sup>2</sup>) at a 1/2 inch (12.7 mm) thickness.

#### NUMBER OF COMPONENTS

One

#### PACKAGING

60 lb. (27 kg) multi-wall bags.

#### NET WEIGHT

60 lbs (27 kg)

#### STORAGE TEMPERATURE

Minimum 40°F (4°C) Maximum 95°F (35°C)

For optimum handling and application characteristics, condition product between 65°F to 75°F (18°C to 24°C) prior to use. Protect from moisture; store in dry environment.

#### SHELF LIFE

12 months at recommended storage temperature.

#### FLASH POINT - SETA

N/A

#### NOTICE

Do not contaminate Mortartec Silicate with other type cements.

#### HEALTH AND SAFETY

This product contains chemical ingredients which are considered hazardous. Read container label warning and Safety Data Sheet for important health and safety information prior to the use of this product. **Keep out of the reach of children.**

## APPLICATION

#### MIXING

Begin by adding 1 gallon clean water to mixing vessel and then add 1 bag (60 lbs.) Mortartec Silicate. Adjust water as needed (up to 1.4 gallons (5.3 L)) to provide proper consistency for placing by hand or pump sprayer. Ensure proper Saturated Surface Dry (SSD) prior to starting. Make sure all equipment for mixing, pumping, etc. are free from any calcium aluminate cement or products that contain calcium aluminate cement.

#### APPLICATION

**Substrate:** Concrete substrate shall be "pre-wet" or thoroughly saturated with potable water to a SSD condition prior to Mortartec Silicate application; the concrete substrate is darkened by water but there is no pooling of water on the concrete.

#### Bond Coat (for hand placement or low pressure grout spray):

Using a wood float, work a thin bond coat (scrub coat) of Mortartec Silicate into the SSD substrate to ensure intimate contact and to help prevent sloughing or sagging of repair materials on vertical and overhead surfaces.

**Mortar:** Apply the Mortartec Silicate with adequate pressure before the scrub coat dries. Thoroughly consolidate the repair material into the corners of patch and around any exposed reinforcement steel. Full encapsulation of the reinforcement and intimate contact with substrate is important for long-term durability.

**Finishing:** Finish Mortartec Silicate with a wood float to create a grainy texture surface. Do not overwork the material.

#### APPLICATION EQUIPMENT

Wood float. Do not overwork the surface.

#### TEMPERATURE REQUIREMENT

Minimum 45°F (7°C) substrate and ambient application temperature maximum of 95°F (35°C). Do not apply Mortartec Silicate if expected to fall below this temperature within 24 hours of application. Follow ACI recommendations for Wet Weather Cold Weather or Hot Weather Concrete applications

#### CLEANUP

Uncured material can be removed with water. Cured material can only be removed mechanically.