

MortarTec Silicate™



High Density, Microsilica Modified Mortar

Item# RCHA1 Revised: 10/28/2009

Description

Epoxytec MortarTec Silicate™ is a blend of Portland cement, graded silica sand, fibers and silica fume. The mortar may be hand or spray applied, typically from ½" to 1" in depth. Uses include repairing concrete walls, ceilings, lining brick or concrete infrastructure, etc. MortarTec Silicate™ provides an extremely dense matrix and will accept coatings at earlier ages than typical Portland cement repair products.

Typical Uses

Any concrete and masonry surfaces where rehabilitation of an existing structure requires enhancement of the structural integrity and /or there is a need to stop inflow and infiltration.

- Industrial infrastructure repair / resurfacing
- Sanitary sewers / manholes
- Clarifiers
- Lift stations
- Digesters
- Wastewater treatment plants
- Water treatment facilities

Surface Preparation

Remove all loose concrete, brick or mortar from affected area by mechanical means. Surfaces shall be free of paints, oils, dirt, dust, curing compounds, sealers, form release agents or any material that would prevent mortar from coming into contact with the open pores of the concrete. Shot blasting, sandblasting, chipping and high pressure water blasting (3,500 psi) are all excellent surface preparation methods. Smooth concrete surfaces may require etching with muriatic or sulfamic acid, then thoroughly cleaned with pressure washer.

Dampen area to achieve a saturated, surface dry condition (SSD). Leaving no puddles.

Application Method

NOTE: [The material will flash set if contaminated with calcium aluminate cement.] Make sure all equipment for mixing, pumping, etc. are free from any calcium aluminate cement or products that contain calcium aluminate cement. Begin by adding 1 gallon clean water to mixing vessel and then add 1 bag (60#) MortarTec Silicate™. Adjust water as needed (up to 1.4 gallons) to provide proper consistency for placing by hand or pump sprayer. Apply in successive lifts to desired thickness. Use brush, float or trowel to achieve desired texture.

Curing

Damp curing or use of a curing compound, that complies with ASTM C-309, may be necessary to prevent rapid drying of mortar. Curing compounds may need to be removed prior to coating. Replace manhole cover as soon as troweling is finished.

Clean-up

Clean up is simple and easy with soap and water. Rinse tools before material hardens.

Limitations

Ambient and surface temperatures must be 38° F and rising during application. Protect from rain until initial set has been achieved. To avoid flash setting, Do Not contaminate MortarTec Silicate™ with other type cements.

- Minimum thickness: ½ inch
- Maximum thickness: 4 inches in successive applications.

MortarTec Silicate™

Storage & Handling

- Shelf life: 12 months, sealed.
- Storage: Store in a dry area away from direct sunlight. The product should be conditioned to between 40° F and 95° F before use.

Packaging & Color

- 60 lb. / 27 kg multiwall bags (grey) Item# RCHA1-60

Coverage

Volume yields .54 cu.ft. and will cover 12.5 Sq. ft. at a 1/2 inch thickness per 60 lb. bag.

Health & Safety

Health Precautions: This product contains Portland cement and crystalline free silica. Avoid breathing the dust. Exercise care, as with handling any chemical construction product.

Safety Precautions: Use adequate ventilation. Use of a NIOSH/ MSA approved dust respirator, safety goggles and chemical resistant gloves are strongly recommended. Remove contaminated clothing immediately.

First Aid: Skin Contact: wash thoroughly with soap and water. Eye Contact: flush immediately with water and contact a physician. Respiratory Problems: remove affected person to fresh air immediately and contact a physician. Hygiene: wash hands immediately after use. Wash clothing before reuse.

Spills: Collect in appropriate container. Uncured material may be removed with water.

Disposal: Dispose of in accordance with local, state or federal regulations.

Warning: KEEP CONTAINER CLOSED WHEN NOT IN USE. KEEP OUT OF REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY BY A QUALIFIED TECHNICIAN.

Consult the Material Safety Data Sheet for further health and safety information.

Technical Properties

Compressive Strength	
ASTM C-109	
1 Day	2,100 psi
7 Days	7,060 psi
28 Days	10,400 psi
Flexural Strength	
ASTM C-293	
7 Days	605 psi
28 Days	960 psi
Bond Strength	
ASTM C-882 (mod)	
1 Day	380 psi
7 Days	900 psi
28 Days	1695 psi
Shrinkage (inch/inch)	
ASTM C-596	
28 Days	(0.001)
Freeze / Thaw	
ASTM C666	
	100 cycles - no damage
Unit Weight	
	128.3 PCF

* Safety: Consult Material Safety Data Sheet for all material safety information.