

CE-238
11/13 Supersedes 01/99

TUFCHEM[®] SILICATE GUNITE

DESCRIPTION

TUFCHEM Silicate Gunite is an inorganic, two component, 100% potassium silicate-bonded gunite applied lining. Properly installed, TUFCHEM Silicate Gunite yields a strong, dense, acid-resistant lining which protects concrete and steel substrates from most oils, solvents, and a wide range of corrosive acids. It is not resistant to acid fluorides, hydrofluoric acid, or alkaline environments.

TUFCHEM Silicate Gunite is usually installed with an anchoring system. **Consult Corrosion Engineering specification [CES-329](#) for complete anchor details, and specification [CES-336](#) for complete installation details.**

AREAS OF USE

TUFCHEM Silicate Gunite can be used as a monolithic lining for new equipment or as a maintenance material for patching and restoring existing linings. It is recommended for use in acidic environments found in chimneys, breeching ducts, stacks, process vessels, sulfuric acid towers, pollution control equipment, and corrosive ash hopper linings.

OUTSTANDING FEATURES

- 100% potassium silicate-bonded, free of any hydraulic cements, thus providing resistance to sulfation-hydration reactions.
- Non-exothermic chemical setting and curing allows installation of thick sections.
- Easy of use - low rebound.
- An acid-resistant gunite utilizing liquid silicate binder allows greater tolerance than single component compositions to which water alone is added, thus providing greater versatility in placement.
- Outstanding resistance to most acids including sulfuric, hydrochloric, and nitric.
- Provides high strength with good abrasion resistance.
- Where necessary, it may be applied over chemical-resistant membranes, such as PENNCOAT[®] 101 System, TUFCHEM[®] II Membrane, and PACMASTIC[®] 325 Coating.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TUFCEM Silicate Gunite
Color	White
Density (ASTM C-138)	132 lb cu ft
Compressive Strength (ASTM C-579) (7 days)	>2,700-3,800 psi
Flexural Strength (ASTM C-580)	>550-900 psi
Flexural Modulus of Elasticity (ASTM C-580)	8.3 x 10 ⁵ psi (Average)
Shrinkage, % (ASTM C-531)	0.1% (Cast Specimens cured 28 days @ 70°F)
Coefficient of Thermal Expansion (75°F-210°F) (ASTM C-531)	8.2 x 10 ⁻⁶ in/in/ °F
Thermal Conductivity BTU-in./FT ² /hr/°F	5.3 - 6.1 (275°F - 1000 °F Mean Temp.)
Maximum Service Temperature	1650 ° F (900 ° C)

ESTIMATING/PACKAGING THEORETICAL QUANTITIES – NO OVERAGE ALLOWANCE

PRODUCT	CODE	PACKAGING	MIX RATIO
TUFCEM Silicate Gunite Filler	19548	55 lb bag	As a gunite: 5.5 to 1.0 powder to solution by weight
TUFCEM Silicate Solution	19547	600 lb drum	As a castable: 4.0 to 1.0 powder to solution by weight Allow 22 lb per SF* @ 2" thickness Allow 16.5 lb per SF* @ 1.5" thickness * Plus rebound allowance - will vary with individual nozzle operator

SAFETY PRECAUTIONS / DISCALIMER

Mixes and applications of this product present a number of hazards. Read and follow the hazard information, precautions and first aid directions on the individual product labels and [material safety data sheets](#) before using. While all statements, technical information, and recommendations contained herein are based on information our company believes to be reliable, nothing contained herein shall constitute any warranty, express or implied, with respect to the products and/or services described herein and any such warranties are expressly disclaimed. We recommend that the prospective purchaser or user independently determine the suitability of our product(s) for their intended use. No statement, information or recommendation with respect to our products, whether contained herein or otherwise communicated, shall be legally binding upon us unless expressly set forth in a written agreement between us and the purchaser/user.



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