



## PRODUCT INFORMATION

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**CE-238**

**10/18 Supersedes 02/16**

### ***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 CES322 and CES329 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, sulfur pits, and corrosive ash hopper linings.

#### **OUTSTANDING FEATURES**

- 100% potassium silicate-bonded, free of any hydraulic cement, thus providing resistance to sulfation-hydration reactions.
- Non-exothermic chemical setting and curing allows installation of thick sections.
- Easy to use – relatively 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.
- In wet condensing environments or where necessary, it may be applied over chemical-resistant membranes, such as PACMASTIC™ 325 Coating or TUFCHEM™ II Membrane. Consult your Ergon representative for more detail.

**TYPICAL PHYSICAL PROPERTIES**

PROPERTY	TUFCHEM Silicate Gunite
Color	White
Density (ASTM C-138)	126 lb cu ft (2000 kg/m <sup>3</sup> )
Compressive Strength (ASTM C-579) (7 days)	>2,700 psi (18.6 MPa)
Flexural Strength (ASTM C-580)	>550 psi (3.79 MPa)
Flexural Modulus of Elasticity (ASTM C-580)	3.1 x 10 <sup>6</sup> psi (2.1 x 10 <sup>5</sup> kg/cm <sup>3</sup> ) 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 <sup>-6</sup> in/in/°F
Thermal Conductivity (65°F-1000°F)	5.4 - 6.3 BTU-in./FT <sup>2</sup> /hr/°F
Maximum Service Temperature	>1000°F (540°C)

**ESTIMATING/PACKAGING THEORETICAL QUANTITIES – NO OVERAGE ALLOWANCE**

PRODUCT	CODE	PACKAGING	MIX RATIO and COVERAGE
TUFCHEM Silicate Gunite Filler	29590	50 lb bag	As a gunite: 6.0 to 1.0 powder to solution by weight.
TUFCHEM Silicate Gunite Solution	29636 29641	600 lb drum 50 lb pail	*Allow 21 lb per SF* @ 2" thickness *Allow 15.75 lb per SF* @ 1.5" thickness  * Theoretical volume only. Plus rebound allowance. Rebound can and will vary with gunite orientation, individual nozzle operator expertise, equipment and nozzle style, pressures, temperature and other variables.

**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.

