

**CE-257**  
**11/13 Supersedes 01/99**

## **TUFCHEM<sup>®</sup> SILICATE CONCRETE - TROWEL GRADE**

### **DESCRIPTION**

TUFCHEM Silicate Concrete - Trowel Grade is a totally inorganic potassium silicate based topping formulated to provide a chemical resistant lining to protect Portland cement concrete or to restore deteriorated concrete which has been subjected to acid attack. **For complete installation instructions, consult Corrosion Engineering installation specification [CES-343](#).**

### **AREAS OF USE**

TUFCHEM Silicate Concrete - TROWEL GRADE can be used anywhere in the heavy process industries to protect concrete slabs from splash and spillage of acids, solvents, and other corrosive chemicals. It is not resistant to acid fluorides or hydrofluoric acid, and it should not be used in alkaline or caustic environments.

### **OUTSTANDING FEATURES**

- Handles similarly to cementitious patching compounds. It is easy to trowel and cleans up with water.
- Similar linear coefficient of thermal expansion to that of Portland cement concrete.
- Totally inorganic, uses well known potassium silicate chemistry which is Resistant to all acid exposures to a pH of 0.0. Also resistant to a broad range of chemicals and solvents.
- Uses potassium silicate binders rather than organic resins provides for an economical patching or topping compound.
- Fast strength development, foot traffic in 8 hours at 70°F (21°C), in service in 24 hours at 70°F.

**TYPICAL PHYSICAL PROPERTIES**

PROPERTY	TUFCHEM Silicate Concrete Trowel Grade
Color	Charcoal Gray
Work Life/ Set Time @ 70°F (21°C)	30 minutes/ 1 hour
Density (ASTM C-138)	138 lbs cu ft (2083 Kg/m <sup>3</sup> )
Compressive Strength (ASTM C-579): 24 Hours 3 Days 28 Days	>2,250 psi (15.5 MPa) >3,600 psi (24.8 MPa) >4,000 psi (27.6 MPa)
Tensile Strength (ASTM C-307)	>550 psi (7 days) / >590 psi (28 days)
Flexural Strength (ASTM C-580)	>900 psi (7 days) / >935 psi (28 days)
Absorption, % (ASTM C-413) (48 hour immersion)	5.6% maximum
Shrinkage: 3 days/ 28 days	0.16% / 0.3%
Coefficient of Thermal Expansion (75°F-210°F) (ASTM C-531)	6.7 x 10 <sup>-6</sup> /in/in/°F
Adhesion to clean concrete	250 psi (primed with wet PENNTROWEL® Epoxy Primer)
Modulus of Elasticity, ASTM C-580	1.3 x 10 <sup>6</sup> psi

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

PRODUCT	CODE	PACKAGING	MIX RATIO
TUFCHEM Silicate Concrete Trowel Grade Filler	19551	53 lb (24 kg) bag	6.0:1.0 - filler to solution by weight. A 309 lb unit (2.24 cu ft) unit consists of 5 x 53 lb bags of filler and 1 x 44 lb pail of solution  8.75 lbs of mixed TUFCHEM Silicate Trowel Grade are required to cover 1 square foot of concrete 3/4" thick.
TUFCHEM Silicate Solution	19546	44 lb (20 kg) pail	

**SAFETY PRECAUTIONS / DISCLAIMER**

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.



Corrosion Engineering | 300 Stevens Drive, Suite 310, Lester, PA 19113  
 +1-610-833-4001 Phone | +1-610-833-3040 Fax | [corrosion-engineering.com](http://corrosion-engineering.com)