STRUCTURE GUARD®

Powered by STAG TECHNOLOGIES SE 1000

STRUCTURE GUARD®
TECHNICAL DATA SHEET

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QUADEX™ REPAIR MATERIALS

Typical Performance Characteristics

- Color: Light Bluegreen
- Finish: Very Smooth (Manning Coefficient: .009)
- Flash Point > 250°F (121°C)
- Specific Gravity Resin: 1.45 Hardener: 0.97
- Ratio: 2A to 1B by volume
- Dry Service: 30°F – 250°F (121°C)
- Spill/Splash: 190°F (87.7°C)
- Immersion Service: 150°F (65.5°C)

CHEMICAL RESISTANCE

- Acetic Acid 10%
- Ammonium Hydroxide 25%
- Brine Water
- Copper Sulfate
- Diesel Fuel
- Fatty Acids
- Gasoline
- Hydrochloric Acid up to 20%
- Mineral Spirits
- Potassium Hydroxide 50%
- Crude Oil
- Caster Oil
- Ethylene Glycol
- Sodium Chloride
- Sodium Hydroxide 50%
- Sulfuric Acid 75%
- Sewage (Hydrogen Sulfide)
- Alkalis
- Fresh and non-potable water
- Wine
- Ethanol

Structure Guard passes ASTM F1216 chemical resistance requirements.

CORROSION RESISTANT EPOXY PROTECTIVE COATING

DESCRIPTION

Structure Guard® is a 100% solid, high-build epoxy coating formulated to provide long-term corrosion protection and structural enhancement for manholes, pump stations, treatment plants or any wastewater infrastructure subject to high levels of corrosion and/or abrasion. Structure Guard sets fast for a quick return-to-service in the most aggressive and turbulent environments. It finishes smooth and slick to enhance flow and can also be used as an interior or exterior pipe lining.

FEATURES AND BENEFITS

- 100% Solids, No VOCs
- Spray applied at 200 mils in a single pass
- Excellent corrosion and abrasion resistance

APPLICATION SYSTEMS

- Heated Plural Airless Spray Units
- Minimum Output 5000 psi
- Product Hose: Min. - Optimum I.D. 0.375 - 0.5 inch

CURE TIME (at 70°F or 21°C)

- Re-coat Window — 8 hours
- Light Loading — 6 – 12 hours
- Immersion (Aqueous) Service — 6 - 12 hours
- Full Chemical Cure — 7 days

POT LIFE

- 40°F (4°C) 1 hour
- 75°F (24°C) 35 minutes
- 92°F (33°C) 20 minutes

PACKAGING

Structure Guard is available in 5 gallon pails and 55 gallon drums.

MULTIPLE COATS

Good coating practice typically requires 2 or more coats to attain finished thickness. Second and subsequent coats must be applied before the previous coat has completely cross-linked, typically for 8 hours @ 72ºF (higher temperatures/humidity will shorten this window). If coating after re-coat window, brush blast before applying the next coat. Before reblasting, clean and dry surface thoroughly to remove all contamination, including amine blush or condensation. Small areas may be abraded by sanding or wire brushing.

The same requirements apply when overlapping seams of adjacent coating sections to create a continuous protective film. If the coating surface to be overlapped at the seam cannot be brush blasted, use a non-impact means, such as power brushing or sanding, to create adequate mechanical profile.

YIELD

Structure Guard® will yield theoretical coverage of 20 sq. ft per gallon @ 80 mils thickness. Actual surface coverage will depend on substrate porosity and roughness. Good painting practices suggest application of two coats for quality assurance. A wet film thickness gauge may be used to determine actual coating thickness.

SURFACE PREPARATION

Coating performance is largely determined by the degree of surface preparation... More is Better.

CONCRETE & MASONRY substrates must be prepared in a manner that provides a uniform, sound, clean, neutralized surface with sufficient profile suitable for the specified coating. The substrate must be free of all contaminants, such as oil, grease, rust, scale or deposits and have a surface profile equivalent to a CSP2 to CSP5 in accordance with ICRI Technical Guideline No. 03732. This can generally be achieved by abrasive blasting, shot blasting, high pressure water cleaning, water jetting, acid etch, hot water/steam cleaning or a combination of methods.

STEEL surfaces may require "Solvent Cleaning" (SSPC-SP 1) to remove oil, grease and other soluble contaminants. Chemical contaminants may be removed according to SSPCSP 12/NACE No. 5. Identification of the contaminants, along with their concentrations, may be obtained from laboratory and field tests as described in SSPC-TU 4 "Field Methods for Retrieval and Analysis of Soluble Salts on Substrates". Surfaces to be coated should then be prepared according to SSPC-SP 5/NACE No.1 "White Blast Cleaning" for immersion service or SSPC-SP 10/NACE No. 2. "Near White Blast Cleaning" for all other service. In certain situations, an alternate procedure may be to used such as high (>5,000 psi) or ultrahigh (>10,000 psi) pressure water cleaning or water cleaning with sand injection. The resulting anchor profile shall be 2.5-5.0 mils and be relative to the coating thickness specified.

WARRANTY

Quadex™ warrants its products to be free of defects in material and workmanship. Within one year from purchase, if any Quadex product is proven defective, Quadex will replace said product or refund its purchase price, at Quadex's sole discretion. Quadex's obligation shall be limited solely to such replacement or refund. There are no other warranties by Quadex, expressed or implied. There is no warranty if Quadex products are used contrary to Quadex's written directions.

PHYSICAL PROPERTIES

Gel Time, 150 grams at 25°C	ASTMD2471	18 minutes
Tensile Strength	ASTM D638	6,300 psi
Elongation	ASTM D638	1.5 %
Flexural Strength	ASTM D790	11,700 psi
Flexural Modulus	ASTM D790	530,000 psi
Compressive Strength	ASTM D695	11,100 psi
Shore D Hardness	ASTM D2240	85
Taber Abrasion, CS 17 Wheel	ASTM D4060	<100 mg loss (I kg load / 1000 cycles)
Adhesion to Concrete	ASTM D4541	>2000 psi (substrate failure)
Adhesion to Blasted Steel	ASTM D4541	>3000 psi
Water Vapor Transmission	ASTM D1651	3.0 grams / m2 (24 hours)
Water Absorption	ASTM D570	0.18%
Volatile Organic Content	ASTM D2580	N/A (<10 grams / liter)

Physical properties were evaluated on compounds cured for 5 days at 25°C / 50% relative humidity.