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CrownStone TD

System Description Sheet No. 311

Epoxy Polymer Trowel Floor Overlay System

Description

CrownStone TD, System No. 311 is a 100% Solids, 100% reactive, moisture-insensitive non shrink, 3 component, Epoxy Polymer Mortar formulated to be hand or power-troweled applied at a typical thickness of 3/16 - 1/4 in. Crown TD cures to very tough and durable, dense mortar for applications demanding a superior abrasion wear and impact resistance.

Use

- Shallow, Partial & Full Depth Patching.
- Great restoration system to resurface and waterproof
- For heavy-duty protected overlay floor
- To resurface old worn concrete
- For pitching or to pitch concrete areas for discharging to drains

Advantages

- Complies with USDA, FDA, OSHA, ADA
- No VOCs – 100% solids formula
- Nearly no odor during application
- Non-Shrink
- Moisture insensitive formula
- Cures down to 50ºF; lower curing temperature products are available
- Fast Cure available
- Very dense, less than 2% voids
- Excellent Strength Properties
- High Vibration Resistance
- Easy to hand and power trowel

Typical Coverage

Use product 310 primer to wet out surface, priming substrate.
CS 65 kit 39-43 Sq ft. at 1/4" and 43-48 sq ft. at 3/16"

Mix Ratio

Typical mix ratio for hand trowel or power trowel is 1:7-1:8 resin to Crown Trowel Blend Sand. Mix ratio depends on environmental conditions. Trowel Sand provided by Crown Polymers Corp.

Typical Data for Crown TD

(Mix ratio 1:7 Prod. No. 311 to aggregate)

Compressive Strengths
ASTM C579, 7 day full cure, 11,500 psi

Hardness
ASTM D2240, Neat Epoxy, 7 day full cure, Shore D 80

Indentation (Load)
MIL-D-3134, Para. 4.7.4.2.1, 7 day cure
Method: 1 in. diameter steel ram steadily applies a load of 2,000 lbs. for 30 min. on the test specimen that is placed on concrete.
Value 0.004 in. indentation

Indentation (Impact)
MIL-D-3134, Para. 4.7.3, 7 day cure,
Method: 2 lb. steel ball is dropped twice from an 8 ft. height.
Value 0.012 in. indentation

Adhesion To Concrete (Tensile Pull)
ACI 503 R, 7 day cure 410 psi, 100% concrete failure

Abrasion Resistance (Taber)
ASTM D 4060, 7 day cure, 1,000 cycles, 1,000 g load,
Wheel No. 17 Loss 0.051 g

Water Absorption
ASTM D 570, 7 day cure, < 0.15%

Tensile Properties
ASTM D 638 Strength - Neat Epoxy, 7 day cure 8,800 psi
ASTM D 638, Elongation - Neat Epoxy, 7 day cure 5%

Flexural Properties
ASTM D 790, Neat Epoxy, 7 day cure
Strength 9,200 psi
Tangent Modulus of Elasticity 5.1×10^5 psi

Slant Shear Strength
ASTM C 882, 7 day cure

Test Temperature	Value	Mode of Failure
90^0F	4,000 psi	100% Concrete Failure
50^0F	4,200 psi	100% Concrete Failure

Coefficient of Thermal Expansion
Temperature Range: -30C/30C (-22°F / 86°F)
ASTM D 696, 7 day cure, 18.0×10^{-6} in / in ºF

Flammability
ASTM D635, 7 day cure, Self-extinguishing

Slip Resistance
Complies with Americans with Disabilities Act (ADA), Title 111, July 1992 and OHSA Standards 29 CFR-1910. Accepted Industry Standard, ASTM C 1028 Coefficient of Friction Levels range from 0.5 to 1.0. Rating is depended on surface profile selected.

Shelf Life 2 years in original unopened containers

Crown TD, an Epoxy Polymer Concrete Trowel Floor Overlay

Surface Preparation

All substrate surfaces must have all loose and deterioration removed to a sound surface. Concrete and other substrates must be clean, sound, and free of dust, grease, waxes, coatings, curing compounds and all contaminants. Typical removal methods include dust-free abrasive shot-blasting. Clean the substrate to the desired surface profile, until all the surface shows open pores. Follow Crown Polymer Surface Preparation Guide for best results.

Test Substrate for Cleanliness and Adhesion

Before placement of the Epoxy Polymer Concrete, check the concrete and steel substrates for soundness and cleanliness with a Tensile Pull Test (ACI 503 R) or Shear Test. 100% concrete must fail to pass either test.

Preconditioning Epoxy

When temperatures drop, polymers typically thicken and it becomes harder to flow or to spread the product. When the temperatures are warmer, they typically become thinner. To improve the flow-ability maintains product temperature before mixing at about 20°C (73°F). When the substrate temperature is 15°C (60°F) or lower, preheat each epoxy component to 90°F before mixing. Caution the pot life will be reduced by about 50%.

Mixing

Pre-mix Component "A", (when pigmented) then pour Component "B" into "A" and mix for 90 seconds with a low speed paddle attached to a drill (400-600 rpm). Pour the mixed epoxy into a clean 5 gal pail and slowly add the aggregate and mix until uniformly blended, about 4 minutes. For larger batches pour the mixed epoxy into a concrete mixer, add the aggregate into the mixer, and blend for about the same amount of time.

Note: When a mixer is used, on the first batch reduce 5-10 lbs. of aggregate to allow the mixer drum surface to wet out. Be sure the mixing vessel is clean and dry.

Priming

Crown TD formula is designed to prime the surface as part of the placement process and it can normally require priming. Priming may be preferred when using a screed box for application. Problematic concrete surfaces may require priming prior to EPC placement.

Placement

Place the mixed EPC onto the surface, spread evenly with a box screed or a vibrating screed. Finish smooth with hand or power troweling methods at a compacted thickness of $^{3}/_{16}$ – ¼ in.

Limitations

- Substrate temperature must be 3°C or 5°F above measured dew point temperature.
- Minimum application temperature is 10°C (50°F). Lower curing temperature option available.
- DO NOT APPLY on WET SUBSTRATE.
- DO NOT THIN - solvents could prevent proper cure.
- Aggregate must be dry when used.
- Pre-condition polymer as needed.

FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN
KEEP CONTAINERS TIGHTLY CLOSED

Caution

Before Using Read Material Safety Data Sheets.

Component "A"- Irritant

Contains epoxy resins. Prolonged contact with skin may cause irritation. Avoid contact with eyes.

Component "B" - Corrosive

Contains aliphatic/cycloaliphatic amines. Contact with skin may cause severe burns. Avoid eye contact. Product is a strong sensitizer

Component "C" - Contains silica. Avoid breathing product.

Important Information

Use of safety goggles, chemical-resistant gloves, adequate ventilation and NIOSH/OSHA approved respirator is recommended.

Clean Up

In case of spills wear suitable protective equipment, contain spill, and collect with absorbent material, place in suitable container. Ventilate area. Avoid contact. Dispose according to applicable local, state, and federal regulations.

First Aid

In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes. For respiratory problems, remove person to fresh air. Contact Physician Immediately. Wash clothing before re-use.

Consult Safety Data Sheet for More Information

For the Location of Your Nearest Crown Polymers Representative **CALL NATIONWIDE TOLL-FREE 1-888 / 732-1270**

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