

DESCRIPTION

STRUCTURAL TECHNOLOGIES' Infuseable concrete restoration materials and processes deliver reliable repairs by promoting and enhancing bond with existing substrates. Tstrata ISR™ is a specially formulated, one part microsilica modified concrete restoration material containing an integral corrosion inhibitor and designed specifically for restoration of sulfur pits. It is a pre-mixed, dry packaged concrete material that contains pea gravel suitable for interior and exterior "form and pour" and "form and pump" installation. Requiring only the addition of water, Tstrata ISR™ is a high strength material with an extended working time for ease of placement. It is handled and placed like ordinary high slump concrete.

PRIMARY APPLICATION

Tstrata ISR™ is specifically formulated for restoration and repair of sulfur pits

FEATURES/BENEFITS

- Microsilica modified for high strength
- Excellent sulfate resistance
- For interior or exterior use
- Contains an integral corrosion inhibitor
- Premixed with pea gravel, ready-to-use
- Extended working time

TECHNICAL INFORMATION

Typical Engineering Data based on testing @ 73°F (23°C); using 0.5 gallons (4.17lbs) of water per 50lbs bag.

HARDENED CONCRETE PROPERTIES

Compressive Strength ASTM C39 (3"x6" cyl.)

1 day.....	4,000 psi (28 MPa)*
7 days.....	7,000 psi (48 MPa)
28 days.....	8,500 psi (59 MPa)
56 days.....	8,900 psi (61 MPa)

Flexural Strength ASTM C78

7 days.....	1,100 psi (7.5 MPa)
28 days.....	1,300 psi (9 MPa)

Sulfate Resistance ASTM C1012

28 days.....	+0.022%
6 months.....	+0.027%

Freeze/Thaw Resistance ASTM C666 Procedure A

300 Cycles	98% relative dynamic modulus of elasticity
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Rapid Chloride Permeability ASTM C1202

28 days.....	900 coulombs
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Resistivity

FM-5-578.....	82,000 Ω-cm @28 days
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FRESH CONCRETE PROPERTIES

Slump ASTM C143

Initial slump.....	8-11" (200-275 mm)*
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Working Time.....

2 hrs 30 min*

Set Time ASTM C403

Initial.....	Approx. 9Hrs*
Final.....	Approx. 10Hrs

Unit Weight ASTM C138

146 lb/ft³ (2345kg/m³)

* Temperature will greatly affect these results in the field

Tstrata ISR™ is a free flowing powder designed to be mixed with water. After mixing and placing, the color may initially appear somewhat darker than the surrounding concrete. While this color will lighten substantially as the concrete cures and dries out, the repair may always appear slightly darker than the surrounding concrete.

PACKAGING/YIELD

Tstrata ISR™ is packaged in 50 lb (22.7 kg) bags. Yield: 0.37 ft³ (0.01m³) per bag when mixed with 0.5 gal (1.9 L) of water. Bulk bags suitable for mixing in transit mix trucks are also available

SHELF LIFE

1 year in original, unopened package.

COVERAGE:

One unit of Tstrata ISR™ will cover approximately 4.4 ft² (0.41 m²) when placed at an average depth of 1" (2.5 cm). Tstrata ISR™ is fully extended with pea gravel and yields approximately 0.37 ft³ (0.01m³) per bag when mixed with 0.5 gal (1.9 L) of water.

DIRECTIONS FOR USE:

Surface Preparation: Concrete surfaces must be structurally sound, free of loose or deteriorated concrete and free of dust, dirt, paint, efflorescence, oils and/or all other contaminants. Mechanically abrade the surface to achieve a surface profile equal to CSP 5-7 in accordance with ICRI Guideline 310.2. Properly clean profiled area. A Saturated Surface Dry (SSD) concrete surface can be primed with a scrub coat of freshly mixed Tstrata ISR™. The repair must be made before the scrub coat dries out.

Exposed Reinforcement Steel: Remove rust and scaling prior to placing material.

Mixing: Small quantities may be mixed with a low RPM drill and "jiffy" mixer. Use a paddle type mortar mixer for large projects. All materials should be in the proper temperature range of 60° - 90°F (15° - 32°C). Add the appropriate amount of water, for the batch size, 0.45 - 0.50 gal (1.7 - 1.9L) per bag, and then add the dry product. Mix for a minimum of 4 minutes. For projects requiring much larger placements, material can be mixed in transit mix drum mixers or other mixers sized to the correct batch size, using material supplied in bulk bags.

Placement: Discharge material from mixer and place using "form and pour" or "form and pump" techniques. Material may also be placed using a trowel, come-a-long, or square tipped shovel to a thickness that matches the surrounding concrete

Finishing: This product is designed for finishing with a float or broom appearance. A steel trowel finish may be applied but timing of the final trowel is critical and it may be difficult achieving a smooth finish over a large area. DO NOT add or work in additional water to the surface during the finishing operation.

Curing & Sealing: To prevent surface cracking, cure the floor with a high solids curing compound. In hot, windy or direct sunlight situations, re-wet the surface after the curing compound has dried and cover with polyethylene for a minimum of three days. If a curing compound is not desired, wet cure for a minimum of three days, to ensure the concrete surfaces does not dry out.

CLEAN-UP:

Clean tools and equipment with water before the material hardens.

PRECAUTIONS/LIMITATIONS:

- Do not use material at temperatures below 45°F (7°C), Unless proper cold weather precautions are implemented
- Do not use material at temperatures above 90°F, unless proper hot weather precautions are implemented"
- No heavy traffic until the product has cured.
- Keep repair from freezing until a minimum strength of 3000 psi (20 MPa) is reached.
- A curing compound is recommended for Tstrata ISR™
- In all cases, consult the Material Safety Data Sheet before use.

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