STR Concrete

Flowable, Shrinkage Compensated Structural Repair Mix w/ Ferrolok™ Integral Corrosion Inhibitor

DESCRIPTION

STR Concrete is a slow setting, pumpable, structural concrete repair mix that exhibits excellent flexural properties, shear bond strength and compressive strength. This product is a blend of Portland cement, selected aggregates, proprietary admixtures and has the additional benefit of **US SPEC Ferrolok™**, an integral corrosion inhibitor. **STR Concrete** is ideal for form and pour applications that require extended working time, high fluidity and added depth requirements.

USES

STR Concrete is ideal for a wide variety of formed concrete repairs:

- Bridge Decks
- Tunnels
- Pavements
- Piers, docks and dams
- Warehouse floors and industrial plants
- Horizontal, vertical and overhead formed concrete

BENEFITS

- Resilient: Withstands freeze/thaw cycles and withstands corrosive elements
- Workability: Slow setting, excellent pumpability
- Performance: Excellent compressive strengths
- Consistent: Strict Quality Control testing and standards

STANDARDS

STR Concrete meets and exceeds the requirements of ASTM C-928 R1.

SURFACE PREPARATION

All surfaces in contact with **STR Concrete** shall be free of dirt, oil, grease, laitance and other contaminants that may act as bondbreakers. All unsound concrete should be removed to ensure a good bond. Best results will be obtained by sawcutting the area to be patched, providing uniform depth and firm bonding areas. Smooth, dense surfaces may need to be mechanically abraded to provide necessary bonding requirements. ACI recommends that the area to be patched should be saturated for 24 hours before placement. Remove any standing water. Surface should be saturated surface dry (SSD). For best results, scrub some of the mixed components into the prepared surface. Do not allow scrub coat to fully dry before placement. Always apply a test patch. Maintain contact areas between 40°F (4°C) and 90°F (32°C) prior to repair and during initial curing period.

PHYSICAL PROPERTIES

Compressive Strength (ASTM C-109*)

SET	3 HOURS	1 DAY	7 DAYS	28 DAYS
A NORMAL	1,100 psi (7.58 MPa)	5,900 psi (40.67 MPa)	7,400 psi (51.02 MPa)	8,200 psi (56.53 MPa)

Rate of Set (ASTM C-266*)

SET	INITIAL	FINAL
A NORMAL	:45	1:25

Length Change (ASTM C-157*)

STORAGE	% LENGTH CHANGE AVERAGE
28 DAY AIR	-0.042
28 DAY WATER	+0.035

Bond Strength (ASTM C-882*)

AGE	BOND STRENGTH
1 DAY	1,900 psi (13.09 MPa)
7 DAYS	4,100 psi (28.25 MPa)

Flexural Strength (ASTM C-78*)

AGE	BOND STRENGTH
7 DAYS	900 psi (6.20 MPa)
28 DAYS	1,100 psi (7.58 MPa)

Split Tensile Strength (ASTM C-496*)

AGE	BOND STRENGTH
28 DAYS	2,200 psi (15.16 MPa)

*Notes: 73°F (22.8°C) 55% humidity
A = 3.25 qts

Scaling Resistance of Concrete Surface Exposed to Deicing Chemicals (ASTM C-672) *Pass 25 cycles / 50 cycles

Packaging: 57 lb (25.9 kg) bag, 63 bags per pallet

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MIXING

For best results, use a mechanical mixer with rotating blades. Pre-wet mixer and empty excess water. Place 3.25 qts of cool, clean potable water per 57 lb bag in mixer, then add dry material. Mix on low RPM for a total of 3 to 5 minutes to achieve desired consistency. Mix only enough material that can be placed within working time. Do not blend excess water as this will cause bleeding and segregation. Do not use any other admixtures or additives.

PLACING

STR Concrete should be placed upon completion of mixing. Place material consistently, avoiding any air entrapment. Pour material into prepared sawcut area, ensuring that all pores and voids are filled. Force material against edge of repair, working away from center. Screed or float to the level of the surrounding concrete, then trowel, brush or broom to the desired finish. For vertical or overhead applications, air relief vents in forms should be placed at the highest point in the repair area to prevent voids from entrapped air. For further forming information, refer to ACI 347R "Guide to Formwork for Concrete". When rapid drying conditions exist (hot, dry, windy), use **US SPEC Monofilm ER** evaporation reducer for extended working time.

FINISHING AND CURING

Follow standard ACI curing practices. Exposed surfaces should be cured with a membrane forming compound such as **US SPEC Maxcure Resin Clear**, **Hydrasheen 15%** or **Hydrasheen 30%**.

STORAGE

Normal cement storage and handling practices should be observed. Store material in an interior, cool, dry place. Shelf life is one year in original, unopened container.

LIMITATIONS

In addition to limitations already mentioned, please note the following. Do not apply when temperature is below 40°F (4°C) or when the temperature is expected to fall below 40°F within 48 hours. Do not apply over surfaces that are frozen or contain frost. Do not apply over any active faults or cracks in the substrate without addressing any movement that may occur. Allow concrete to fully cure for 28 days before use of this product. Normal conditions working time is 30 minutes. Minimum application thickness is 3/4" and maximum application thickness is 10" with aggregate extension. Setting time will speed up in hot weather and slow in cold weather. For hot and cold weather applications, contact your US SPEC manufacturer's representative.

REGULATORY

Read and follow application information, precautions and Material Safety Data Information.

Right-to-know

This product contains Portland Cement (CAS#65997-15-1) and Crystalline Silica (CAS# 14808-60-7)

HMIS

Health 1, Fire 0, Reactivity 0

Prop 65

Warning! This product contains Crystalline Silica, a chemical known to the State of California to cause cancer or reproductive toxicity.

VOC Content

0 g/L

CAUTION

EYE AND SKIN IRRITANT

Contains Portland Cement (CAS# 65997-15-1) and Crystalline Silica (CAS# 14808-60-7). Do not allow contact with eyes or skin. Avoid breathing dust - silica may cause serious lung problems. There is limited evidence silica is a carcinogen. The use of gloves, goggles, dust masks and other protective clothing is recommended. If cement or sand particles get into eyes, rinse immediately with clean water and seek prompt medical attention.

TECHNICAL SERVICE

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Yield: 57 lbs (25.9 kg) will fill approximately 0.50 ft³ (0.012 m³) when 3.25 qts mixing water is used.