

PRODUCT DATA

FIVE STAR 528 STRUCTURAL CONCRETE V/O VERTICAL / OVERHEAD PERMANENT REPAIR

PRODUCT DESCRIPTION

528 Structural Concrete V/O is a high strength, rapid setting, one component, permanent concrete repair material for vertical and overhead structural repairs. 528 Structural Concrete V/O produces a repair which is dimensionally stable, develops an integral bond to existing concrete, and restores structural integrity within hours of placement. 528 Structural Concrete V/O provides increased corrosion protection to steel reinforced structures with migrating corrosion inhibitor technology and very low chloride ion permeability. Moisture sensitive coatings can be applied in 8 to 24 hours.

ADVANTAGES

- Can be troweled vertically or overhead
- One product for thin and thick placement
- Very low chloride ion permeability
- Excellent freeze/thaw resistance
- High 3-hour strength gains
- Outstanding corrosion resistance for protection and rehabilitation
- Can be coated in 8 to 24 hours

USES

- Rapid repair of load bearing walls, ceilings and other structural members
- Marine and hydraulic structure repairs
- Rapid repairs during shutdown
- Available for Nuclear Safety Zone Applications¹

PACKAGING AND YIELD

Five Star Structural Concrete V/O is packaged in heavy-duty polyethylene lined bags or plastic pails and is available in 50 lb. (22.7 kg) units yielding approximately 0.44 cubic feet (12.5 liters) at maximum water.

SHELF LIFE

One year (packaged in bags) or two years (packaged in pails) in original unopened packaging when stored in dry conditions; high relative humidity will reduce shelf life.

PLACEMENT GUIDELINES

1. SURFACE PREPARATION: All concrete surfaces in contact with 528 Structural Concrete V/O shall be free of oil, grease, laitance,

TYPICAL PROPERTIES @ 77°F (25°C)

Compressive Strength, ASTM C 109

• 3 Hours	2,500 psi (17.2 MPa)
• 1 Day	3,500 psi (24.2 MPa)
• 7 Days	4,000 psi (27.6 MPa)
• 28 Days	5,000 psi (34.5 MPa)

Bond Strength, ASTM C 882

• 1 Day	1,500 psi (10.4 MPa)
• 7 Day	2,200 psi (15.2 MPa)

Length Change, ASTM C 157

• 28 Days Wet	+0.04%
• 28 Days Dry	-0.13%

Freeze/Thaw Resistance, ASTM C 666A

• Relative Durability Modulus	95%
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Chloride Ion Permeability, ASTM C 1202

• 28 Days	Very Low (<1,000 Coulombs)
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Working Time at 70°F (21°C)

15 Minutes

The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown may result. Test methods are modified where applicable.

and other contaminants. All concrete surfaces must be clean, sound and rough to ensure a good bond. Mechanically roughen concrete surfaces in accordance with ICRI Technical Guideline 03732 to a minimum concrete surface profile roughness (CSP) 6 or greater. Remove all oxidation from exposed reinforcing steel. A perimeter edge and minimum depth of 1/4 inch (6 mm) should be provided for a durable repair. Featheredging is not desirable. Soak concrete surfaces prior to application with liberal quantities of potable water, leaving the concrete saturated and free of standing water. Surfaces shall be conditioned to between 40°F and 90°F (5°C and 32°C) at time of placement.

2. MIXING: Mix 528 Structural Concrete V/O thoroughly for approximately three to four minutes to a uniform consistency with a mortar mixer (stationary barrel with moving blades). A drill and paddle mixer is acceptable for single bag mixes. Mix 528 Structural Concrete V/O with 3 to 4 quarts potable water per 50 lb. unit. Working time is approximately 15 minutes at 70°F

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VERTICAL / OVERHEAD PERMANENT REPAIR

(21°C). Follow printed instructions on the package. Start by adding the minimum amount of pre-measured water to mixer and, after mixing for three to four minutes, adjust consistency as required to achieve non-sag consistency.

3. **PLACEMENT PROCEDURES:** Firmly work a small amount of 528 Structural Concrete V/O into concrete surface with a trowel, taking care not to leave air pockets. Application is from one side of the repair to the other, filling the repair to the desired level. For multiple lift applications, contact Stonhard at (800) 263.3112. Finish as necessary.

4. **POST PLACEMENT PROCEDURES:** 528 Structural Concrete V/O shall be kept continuously wet for at least 30 minutes after final set. Protect from freezing until a compressive strength of at least 1,000 psi (6.9 MPa) is reached.

NOTE: PRIOR TO APPLICATION, READ ALL PRODUCT PACKAGING THOROUGHLY. For more detailed placement procedures, refer to Design-A-Spec™ installation guidelines or call Stonhard at (800) 263.3112.

CONSIDERATIONS

- Never exceed the maximum water content stated on the package.
- Temperature of materials, equipment and surfaces must be between 40°F and 90°F (5°C and 32°C) at time of placement. For cold and hot weather placement, consult the Five Star Design-A-Spec™ installation guidelines.
- Substrate shall be free of frost and ice.

CAUTION

Contains cementitious material and crystalline silica. The International Agency for Research on Cancer has determined that there is sufficient evidence for the carcinogenicity of inhaled crystalline silica to humans. Take appropriate measures to avoid breathing dust. Avoid contact with eyes and contact with skin. In case of contact with eyes, immediately flush with plenty of water for at least 15 minutes. Immediately call a physician. Wash skin thoroughly after handling. Keep product out of reach of children. **PRIOR TO USE, REFER TO SAFETY DATA SHEET.**

For worldwide availability, additional product information and technical support, contact your local sales representative, or call Stonhard at (800) 263.3112.

SKU / PRODUCT CODE	DESCRIPTION	UNIT SIZE
26900	Five Star 528 Structural Concrete V/O	50 lb. Bag
29500	Five Star 528 Structural Concrete V/O	50 lb. Pail
29600N ¹	Five Star 528 Structural Concrete V/O for Nuclear Safety Zone	50 lb. Bag
29500N ¹	Five Star 528 Structural Concrete V/O for Nuclear Safety Zone	50 lb. Pail

¹Compliant with NRC 10CFR50 Appendix B and ASME NQA-1 Quality Programs

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