

FIVE STAR STRUCTURAL CONCRETE VERTICAL OVERHEAD REPAIR PLUS MIGRATING CORROSION INHIBITOR

**ONE COMPONENT FORMULATED WITH MCI FOR
REBAR CORROSION PROTECTION
HIGH THREE-HOUR STRENGTHS
VERY LOW CHLORIDE ION PERMEABILITY
HIGH BOND STRENGTH**

PRINCIPAL USES

- Rapid repair of load bearing structure.
- Cold weather repairs.
- One product for thin & thick placements.
- MCI not affected by chlorides in concrete.
- MCI extends life of repair.
- Refer to MCI-2006NS for corrosion protection details.

PLACEMENT GUIDELINES

SURFACE PREPARATION

All surfaces in contact with Five Star Structural Concrete shall be free of oil, grease, laitance and other contaminants. Concrete must be clean, sound and rough to ensure a good bond. Surfaces should be prepared in accordance with 1 or 3 of "Surface Preparation Methods". Remove all oxidation from exposed reinforcing steel. Feather-edging is not desirable for structural repairs. A perimeter edge of 10mm minimum depth should be provided for a durable repair. Soak concrete surfaces prior to application with liberal quantities of potable water, leaving the concrete saturated and free of standing water.

MIXING

Mix Five Star Structural Concrete VO for approximately 3-5 minutes to a uniform consistency with a mortar mixer or heavy-duty drill and paddle mixer. Do not exceed recommended amount of mixing water stated on the package. Do not mix more material than can be placed in 15 minutes. Do not re-temper the mix by adding more water – it will cause shrinkage cracking.

PLACEMENT PROCEDURES

Work a small amount of Five Star Structural Concrete VO into concrete surface, then apply with 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. Roughen surface between lifts. Finish as necessary.

WET-CURING

Five Star Structural Concrete VO shall be set after 20 minutes. Wet cure immediately for 2 hours by covering with water saturated hessian and protect from rain, wind and rapid evaporation for 24 hours after application.

Note: Prior to application, read all product packaging thoroughly and refer to material safety data sheet.

LIMITATIONS

- Never exceed the maximum water content stated on the package.
- Temperature of materials, equipment and surfaces must be between 2°C and 32°C at time of placement. For cold and hot weather placement, consult Design-A-Spec.
- Substrate shall be free of frost and ice.
- Repair material shall be protected from freezing until it reaches 7.0MPa.

CAUTION

Contains cementitious material and crystalline free silica. 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. Prior to use, refer to the material safety data sheet.

TYPICAL PROPERTIES AT 25°C

Compressive Strength ASTM C-109 *	3 Hours > 17 MPa 1 Day: >24 MPa 7 Days: >27 MPa
Bond Strength ASTM C-882	1 Day: 10 MPa 7 Days: 13 MPa 28 Days: >34 MPa
Length Change ASTM C-157	28 Days (wet) +0.04% 28 Days (dry) -0.13%
Chloride Ion Permeability ASTM C-1202	3 Days - <1000 coulombs 28 Days - <1000 coulombs
Working Time	15 Minutes
Yield	25kg yields ± 14 litres
Shelf Life	1 Year in original plastic shrink-wrapped pallet load, when stored in dry conditions. High humidity will reduce shelf life. Individual bags will have limited shelf life.