



# Centri-Cast® Pipe Repair Mortar

Centrifugally Cast, Fiber-Reinforced  
Cementitious Repair Mortar

## PRODUCT DESCRIPTION

Five Star Centri-Cast® Pipe Repair Mortar is a high-performance cementitious mortar designed for the trenchless renewal of underground pipes without disturbing the pipe. It is a one component, fiber-reinforced hydraulic repair material enhanced with migrating corrosion inhibitors. Five Star Centri-Cast® Pipe Repair Mortar provides sealing, rehabilitation and corrosion protection of existing underground metal and concrete pipes and is a quick and economical pipe repair solution that creates a dense and highly impermeable repair coating.

## ADVANTAGES

- Large volume applications
- Long finishing time
- Centrifugally cast in place
- Low chloride ion permeability
- Migrating Corrosion Inhibitors for outstanding corrosion resistance for protection and rehabilitation
- Versatile ¼ inch (6 mm) to ½ inch (13 mm) single pass applications
- Fiber reinforced for crack resistance and strength

## USES

- Trenchless repair of underground pipes
- Pipe rehabilitation, repair and protection
- New pipe corrosion protection

## PACKAGING AND YIELD

Five Star Centri-Cast® Pipe Repair Mortar is packaged in 50 lb. (22.7 kg) heavy-duty polyethylene lined bags yielding approximately 0.45 cubic feet (12.7 liters) of hardened material at 4 quarts water. Bulk bags are available upon request.

## SHELF LIFE

One year in original unopened packaging when stored in dry conditions; high relative humidity will reduce shelf life.

### TYPICAL PROPERTIES AT 70°F (21°C)

#### Compressive Strength, ASTM C 109

1 Day	3,000 psi (20.7 MPa)
7 Days	6,000 psi (41.4 MPa)
28 Days	8,000 psi (55.2 MPa)

#### Bond Strength, ASTM C 882

28 Days	2,000 psi (13.8 MPa)
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#### Flexural Strength, ASTM C 348

1,300 psi (9.0 MPa)

#### Thermal Coefficient of Expansion, ASTM C 531

$5.5 \times 10^{-6}$  in/in/°F

#### Chloride Ion Permeability, ASTM C 1202

28 Days	Very Low
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#### Modulus of Elasticity, ASTM C 496

$3.6 \times 10^6$  psi

#### Drying Shrinkage, ASTM C 157

28 Days Wet	+0.05%
28 Days Dry	-0.15%

#### Working Time at 70°F (21°C)

30 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.*

## PLACEMENT GUIDELINES

- 1. PREPARATION:** Completely remove or mitigate all obstructions that may hinder proper installation of product prior to commencing work. Ensure all active water flow is diverted or stopped prior to commencing work. Completely remove all loose, delaminated and weak materials including dirt and debris from work area. Prepare pipe surfaces using high pressure water blasting to thoroughly remove all contaminants and bond-inhibiting materials. Severely corroded pipe sections may need replacement. Metal surfaces may be blasted to a near-white finish; concrete surfaces should be mechanically prepared to an ICRI Concrete Surface Profile (CSP) of 6 or greater. Metal surfaces may require treating with a corrosion inhibitor after mechanical surface prep if they will not be repaired immediately.
- 2. MIXING:** Wet down mortar mixer (stationary barrel with moving blades) before using and drain any excess water. Add the minimum amount of premeasured potable water — 3.75 quarts (3.55 L) — to mixer. While mixing, slowly add Five Star Centri-Cast® Pipe Repair Mortar and mix to a uniform consistency for two to four minutes. To achieve desired consistency for wet process application, add remaining water as necessary. Do not exceed maximum water content — 4.25 quarts (4.0 L) — or add an amount that will cause segregation. Mix thoroughly for approximately five minutes. Do not mix more material than can be placed within 30 minutes. Do not retemper the mix by adding additional water.
- 3. EQUIPMENT:** Standard mortar mixers, compressors and pumps are applicable. A high-speed rotating applicator device is required. Please contact Five Star Products' Engineering and Technical Center at 1-800-243-2206 for equipment recommendations and detailed installation instructions.
- 4. APPLICATION:** Position the rotating casting applicator within the center of the sewer pipe and commence pumping the mixed mortar. As the mortar begins to be centrifugally cast evenly around the interior, retrieve the applicator head at the best speed for applying the thickness that has been selected. If flows are interrupted for any reason, simply arrest the retrieval of the applicator head until flows are restored. The retrieval speed can be easily varied to create different thickness as the condition may dictate to provide sufficient strengths. Because of the even application throughout the circumference, thickness may be verified at any point. If additional thickness is desired at any level, simply place the rotating applicator at that level and recommence pumping and retrieval until that area is thickened. Built-in bonding agents allow additional layers to be applied at any time. The pressure application from the centrifugal casting of the mortar produces a finely textured surface that requires no additional troweling or finishing.
- 5. POST-PLACEMENT PROCEDURES (CURING):** Wet cure for 24-48 hours after placement or apply curing compound meeting the requirements of ASTM C 309 immediately after placement.

**NOTE: PRIOR TO APPLICATION, READ ALL PRODUCT PACKAGING THOROUGHLY.** For more detailed placement procedures, refer to the Five Star® Design-A-Spec™ installation guidelines or call the Five Star Products' Engineering and Technical Center at 1-800-243-2206.

## CONSIDERATIONS

- Never exceed the maximum water content as stated on the package or mix to a consistency which will cause segregation.
- Temperature of surfaces must be between 45°F and 90°F (7°C and 32°C) at time of placement. For cold and hot weather placement, call the Five Star Products' Engineering and Technical Service Center at 1-800-243-2206.
- Repair mortar shall be protected from freezing until it reaches 1,000 psi (6.9 MPa).
- Placement shall be continuous to avoid cold joints.

## CAUTION

Contains cementitious material and crystalline silica. 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 MATERIAL SAFETY DATA SHEET.

For worldwide availability, additional product information and technical support, contact your local Five Star® distributor, local sales representative, or you may call Five Star Products' Engineering and Technical Center at 1-800-243-2206.

SKU / PRODUCT CODE	DESCRIPTION	UNIT SIZE
12100	Five Star Centri-Cast® Pipe Repair Mortar	50 lb. Bag
Call Customer Service	Five Star Centri-Cast® Pipe Repair Mortar	Bulk Bag

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