



CLARIFIER RESURFACER

Cementitious Clarifier Overlay Material

Formerly Clarifier Grout

PRODUCT DESCRIPTION

Five Star® Clarifier Resurfacer is a single component, sulfate resistant, cement-based, overlay material used for pourable and pumpable resurfacing of concrete structures in aqueous environments. It may be extended with coarse aggregate for large volume installations. Application thickness can range from 1 to 12 inches (25 mm to 300 mm).

ADVANTAGES

- Single component for reliability and ease of use
- High sulfate resistance
- High bond strength
- Coarse aggregate extension up to 80% with Five Star® Dried 3/8 Coarse Aggregate
- Non-shrink from time of placement

USES

- Clarifier bottoms
- Sulfate resistant overlays in aqueous environments

PACKAGING AND YIELD

Five Star® Clarifier Resurfacer is packaged in heavy-duty, polyethylene lined bags and is available in 50 lb. (22.7 kg) units yielding approximately 0.45 cubic feet (12.7 liters) of hardened material at maximum water content. Also available in 3,000 lb. (1,363 kg) bulk bags yielding approximately 36 cubic feet (1019 liters) when extended 50% by weight with coarse aggregate at maximum water.

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)

Bond Strength , ASTM C882 / 28 Days	2,000 psi (13.8 MPa)
Sulfate Resistance , wet expansion, %, ASTM C1012, 1 x 1 x 11" bars cured per ASTM C157 immersed in 5% sodium sulfate solution for 1 year, 0.1% expansion maximum per ASTM C1157	≤ 0.1%
Freeze/Thaw Resistance , ASTM C666 (Procedure A) at 300 cycles	≥ 90% RDM
Compressive Strength , ASTM C109	
1 Day	2,500 psi (17.3 MPa)
7 Days	5,000 psi (35.3 MPa)
28 Days	7,000 psi (48.3 MPa)
Working Time May be affected by colder & warmer temperatures.	45 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.

APPLICATION INFORMATION

Mixing Ratio	3½ to 4½ qts (3.25 - 4.25 L) potable water per 50 lb. bag (22.7 kg)	Neat Placement Depth	1 - 2 in. (25 mm - 50 mm) > 2 in. (50 mm), contact Five Star
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PLACEMENT GUIDELINES

Five Star® Clarifier Resurfacer can be installed between 40°F - 90°F (4°C and 32°C); however, for optimum performance install at temperatures between 60°F - 85°F (15°C and 29°C). After installation, maintain resurfacer and substrate temperatures above 40°F (4°C) until resurfacer reaches a minimum of 1,000 psi (6.9 MPa) compressive strength. Strength gain is adversely affected by lower temperatures. Refer to **Five Star® Technical Bulletin (TB) 304 Clarifier Resurfacer for Clarifier Tank Overlays** for detailed installation guidelines.

- SURFACE PREPARATION:** Construction practices dictate concrete foundation should achieve its design strength / dimensional stability before installing the material. All surfaces in contact with Five Star® Clarifier Resurfacer shall be clean and free of oil, grease, laitance, and other bond-inhibiting contaminants. To maximize bond, concrete surfaces shall be prepared by mechanical means to remove the top surface to coarse aggregate exposure. A minimum 1/2 inch (12 mm) peak to valley surface profile is required. Presoak concrete surfaces with potable water for a minimum of 24 hours, continuously and consistently, via wet rags, wet burlap, ponding, or similar method to obtain a Saturated Surface Dry (SSD) condition. Presoak times are temperature dependent. Any existing cracks shall be brought to the project engineer's attention prior to material installation.
- MIXING:** Use of a mortar mixer (stationary barrel with moving blades) is required to completely mix the material. Start with approximately 4 quarts (3.75 L) potable water per 50 lb. (22.7 kg) bag. Add Five Star® Clarifier Resurfacer and mix for approximately 2 – 3 minutes to a uniform consistency. To achieve desired flow, add additional potable water and mix for an additional 2 minutes. Do not exceed the maximum recommended amount of potable mixing water as directed. Do not allow the material to segregate. For pours over 2 inches (50 mm) refer to Five Star® TB304 for further guidelines. For bulk mixing refer to Five Star® TB405 *Bulk Mixing in a Ready Mix Truck*.
- PLACEMENT PROCEDURES:** Five Star® Clarifier Resurfacer may be poured or pumped into place. If possible, firmly work the material into substrate and place at full depth from one side of the installation to the other. Placement of cold joints should be dictated by the project engineer. Finish as necessary.
- POST-PLACEMENT PROCEDURES:** Begin wet cure immediately after product reaches initial set using wet rags, burlap, or burlene saturated with potable water/ice. Place plastic sheeting over material used for wet cure to protect against evaporation. Monitor condition of material used for wet cure (i.e. rags) to ensure drying does not occur. Once installation is complete, Five Star® Clarifier Resurfacer must be flood cured for a minimum of three days as part of the initial curing process. During the initial curing process, protect the material from direct sun and wind exposure. Do not allow material to freeze until it reaches 1,000 psi (6.9 MPa) compressive strength. Five Star® Clarifier Resurfacer is intended to be placed into service or coated with a moisture insensitive coating immediately after the initial cure is complete. Do not allow Five Star® Clarifier Resurfacer to dry beyond saturated surface dry condition.
- CLEAN UP:** All tools and equipment may be cleaned with soap and water before the material hardens.

For additional Five Star® Technical Bulletins, visit FiveStarProducts.com. For further questions, or if additional information is required, contact your local Five Star® Technical Sales Representative at 1-800-243-2206.

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 SAFETY DATA SHEET.**

SKU/PRODUCT CODE	DESCRIPTION	# UNITS/PALLET	UNIT SIZE
20962	Five Star® Clarifier Resurfacer	56	50 lb. (22.7 kg) bag
20950	Five Star® Clarifier Resurfacer - bulk bag	1	3,000 lb (1,363 kg) bulk bag

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Specifications Subject to Change.

For most current version of datasheet, go to FiveStarProducts.com

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