



ELASTOMERIC GROUT

Elastomeric Polyurethane Grout

PRODUCT DESCRIPTION

Five Star® Elastomeric Grout is specially designed for light rail transportation grouting. The three component system consists of a two component polymer and aggregate that imparts vibration and sound dampening properties combined with exceptional electrical resistance. This product is formulated for placements that require good flow and adhesion to both rail and concrete, while maintaining line and grade. Five Star Elastomeric Grout is a solvent-free system that provides rapid cure and superior chemical resistance to a variety of chemicals including oils, fuels, acids, caustics and solvents. Five Star Elastomeric Grout is DOT non-hazardous and is environmentally and applicator friendly.

ADVANTAGES

- High electrical resistance
- Low exotherm with early cure
- Absorbs vibration and dramatically reduces noise caused by vibration
- Superior adhesion prevents water penetration
- Chemically resistant
- Strong adhesion to steel and concrete

USES

- Light rail applications
- Railroad track rehabilitation
- Precision alignment under dynamic load conditions
- Vibration and noise dampening applications
- Flexible concrete patching
- Header repair compound
- Cast elastomers

PACKAGING AND YIELD

Five Star Elastomeric Grout is a three component system consisting of partially filled containers of resin and hardener and one polyethylene lined bag of aggregate and is available in a unit yielding approximately 0.45 cubic feet (12.7 liters) of hardened material.

SHELF LIFE

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

TYPICAL PROPERTIES AT 70°F (21°C)

Shore A Hardness , ASTM D 2240	Neat = 70+/-10 Filled = 85+/-10
Volume Resistivity , ASTM D 257	> 1E12 Ohm-cm
Tensile Properties , ASTM D 638 Ultimate Tensile Strength (UTS)	450 psi
Elongation	200%
Tear Resistance , ASTM D 1004	200 lbs per inch
Bond to Concrete , ASTM C 882	No shear failure, deflection to concrete
Bond to Steel , ASTM C 882	No shear failure, deflection to steel
Compression Modulus , ASTM D 575B	7%
Compression Set , ASTM D 395	< 1% Incremental Set, third test
Dynamic Deflection , ASTM D 2231	No failure
Fatigue Resistance , Testing at 1.6E7 Cycles 20Hz, 5-250 psi	< 10 % Deflection
Height Change , ASTM C 827 at 90°F (32°C)	Positive Expansion
Working Time at 70°F (21°C)	30 minutes
Tack Free Time at 70°F (21°C)	3 hours
Cure Time at 70°F (21°C)	12 hours

The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown above may result.

PLACEMENT GUIDELINES

1. **SURFACE PREPARATION:** All surfaces to be in contact with Five Star® Elastomeric Grout shall be free of oil, grease, laitance, and other contaminants. Concrete must be clean, sound, dry and roughened to ensure a good bond. Areas where bond is not desired must be treated with paste wax or polyethylene.
2. **MIXING:** For optimum performance, all components should be conditioned to between 70°F and 80°F (21°C and 27°C) for 24 hours prior to use. Pour all Component B (hardener) into pail containing Component A (resin). Mix thoroughly with a slow speed drill and paddle mixer to avoid air entrapment. While mixing, slowly add Component C (aggregate) and mix only until aggregate is completely wet. Add Component C (aggregate) immediately after mixing Component A (resin) and Component B (hardener). Working time is approximately 30 minutes when temperatures are at 70°F (21°C).
3. **METHODS OF PLACEMENT:** Five Star Elastomeric Grout may be poured into place. All grouting shall be placed from one side to the other, maintaining contact with the bottom of the substrate at all times.
4. **POST-PLACEMENT PROCEDURES:** Final finishing of exposed surfaces may be done before material becomes unworkable. In-service operation may begin immediately after minimum required grout strength and modulus have been achieved.
5. **CLEAN UP:** All tools and equipment may be cleaned with a suitable solvent or a strong detergent solution before material hardens. Sand may be used as an abrasive.

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

CONSIDERATIONS

- Flowability and strength gain are adversely affected by lower temperatures.
- For placement temperatures below 60°F (15.6°C) or above 80°F (26.7°C), contact the Five Star Products Engineering and Technical Service Center at (800) 243-2206.
- Polyurethane polymers and curatives are sensitive to heat and moisture. Avoid excessive conditions and protect area from wetness during cure.
- Do not add solvents to increase flowability.
- For continuous operating temperatures exceeding 120°F (48°C), contact the Five Star Products Engineering and Technical Service Center at (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 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's Engineering and Technical Service Center at (800) 243-2206.

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