



# HIGHWAY PATCH

Fiber Reinforced, Fast Traffic Area Repair

## PRODUCT DESCRIPTION

Five Star® Highway Patch is a one component, fiber-reinforced, fast-setting, high strength, cement-based repair mortar designed for transportation applications where high early strength gain is needed to reduce down time. Five Star® Highway Patch combines a unique chemistry requiring **no wet cure or curing compounds** along with fiber reinforcement for excellent crack resistance and long-term durability.

## ADVANTAGES

- High early strength
- One component for ease of use
- Open to traffic in three hours
- Freeze/thaw resistance
- No Wet Cure or Curing Compounds Required
- Resistant to salts
- Cold weather installation
- Coarse aggregate extension

## USES

- Highways and bridges
- Parking decks and ramps
- Airport runways and taxiways
- Warehouse floors
- Sidewalks
- Cold weather repairs

## PACKAGING AND YIELD

Five Star® Highway Patch is packaged in heavy-duty polyethylene lined bags each weighing 50 lb. (22.7 kg) yielding approximately 0.39 cubic feet (11.0 liters) and approximately 0.60 cubic feet (17.0 liters) with a 60% coarse aggregate extension.

## 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

3 Hours	3,000 psi (20.7 MPa)
1 Day	5,000 psi (34.5 MPa)
7 Days	6,500 psi (44.8 MPa)
28 Days	7,500 psi (51.7 MPa)

#### Bond Strength, ASTM C 882

1 Day	1,500 psi (10.4 MPa)
7 Days	2,000 psi (13.8 MPa)

#### Length Change, ASTM C 157

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

#### Freeze/Thaw Resistance, ASTM C 666A

Relative Durability Factor	90% +
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#### Chloride Ion Permeability, ASTM C 1202

28 Days	Low
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Working Time at 70°F (21°C)	15 minutes
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The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown above may result. Test methods are modified where applicable.



## PLACEMENT GUIDELINES

- SURFACE PREPARATION:** All horizontal and vertical surfaces in contact with Five Star® Highway Patch shall be free of oil, grease, laitance, and other contaminants. All horizontal and vertical concrete surfaces must be clean, sound and rough to ensure a good bond. Remove all oxidation from exposed reinforcing steel. A perimeter edge and minimum depth of one inch (25 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 or use Five Star® Bonding Adhesive. Surfaces shall be conditioned to between 40°F and 90°F (4°C and 32°C) at time of placement.
- MIXING:** Pre-wet mortar mixer, empty excess water. Add minimum amount of premeasured potable water to mixer: 2½ to 2¾ quarts (2.4-2.6L) per 50 lb. bag. Slowly add Five Star® Highway Patch and mix thoroughly for approximately four to five minutes to a uniform consistency with a mortar mixer (stationary barrel with moving blades) or a drill and paddle mixer. Adjust consistency if necessary, but do not exceed maximum water content stated on the package or an amount that will cause segregation. Do not mix more material than can be placed in 10 minutes. Do not retemper the mix by adding additional water. Addition of coarse aggregate, meeting ASTM C 33, should be used for pours greater than 2 inches (50 mm) in depth. Always add mixing water first to mixer followed by repair material.
- PLACEMENT PROCEDURES:** Firmly work Five Star® Highway Patch into substrate and place full depth from one side of the repair to the other. Where this is not practical, placement must be continuous to prevent cold joints between pours. Finish as necessary.  
**SPECIAL CONDITIONS:** For use in cold temperatures, Five Star® Highway Patch must be maintained at a temperature of at least 40°F (4°C) until a compressive strength of at least 1,000 psi (6.9 MPa) is obtained. Faster strength gain will occur when the Five Star® Highway Patch and mixing water have been conditioned to a higher temperature prior to placement. In hot temperatures, Five Star® Highway Patch should be kept as cool as possible, but not exceeding 90°F (32°C). Chilled water should be used for mixing to help maintain sufficient working time.
- POST-PLACEMENT PROCEDURES:** No wet cure or curing compound is required. In-service operation may begin immediately after the required strength has been reached.

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

## CONSIDERATIONS

- Never exceed the maximum water content as stated on the package or an amount that will cause segregation.
- Temperature of surfaces must be between 40°F and 90°F (4°C and 32°C) at time of placement. For cold and hot weather placement, call the Five Star Products' Engineering and Technical Service Center.
- Repair material shall be protected from freezing until it reaches 1,000 psi (6.9 MPa).
- Placement shall be continuous to avoid cold joints.

## CAUTION

Irritant, toxic, strong sensitizer. 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 Service Center at 1-800-243-2206.

SKU / PRODUCT CODE	DESCRIPTION	UNIT SIZE
40000	Five Star® Highway Patch	50 lb. Bag

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Specifications Subject to Change.

For most current version of datasheet, go to [FiveStarProducts.com](http://FiveStarProducts.com)

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