

PRODUCTNAME

# Fibre-Patch® ES (Early Strength) Fast Strength Concrete Patch



MANUFACTURER

Gemite® Products Inc.

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FEATURES

- One component material
- Long term crack resistance
- Superior freeze/thaw resistance
- Self-curing
- Breathable
- Very low shrinkage
- Non-flammable
- Salt resistance
- Non-toxic
- Easy, one-coat application

Basic Use

The fast strength developing mortar for the repair of concrete floors and slabs where a fast opening to traffic is required. One component, "add water only", exhibiting an excellent bond to a clean, structurally sound concrete, superior crack, weather and freeze/thaw resistance. Mixed on site with water and applied by troweling or spray.

Composition and Materials

Fiber-Patch ES consists of Portland cement, aggregates, reinforcing fibers, dry polymers and other proprietary chemicals to form a high performance concrete restoration material. The dry polymer modification allows air curing after 24 hours of wet cure and adds toughness to the material, when applied in thin sections. The fibre reinforcement allows a crack free application of "thin to thick", highly durable and tough sections. The proprietary additives provide a fast strength development.

Limitations

Do not apply Fiber-Patch ES when the temperature is expected to be below 4°C (40°F) within 48 hours or when rain is imminent. The proper surface preparation is essential for a successful concrete repair using Fiber-Patch ES. Consult Gemite Technical Service before starting a project to ensure that correct surface preparation and application procedures are followed.

Health and Safety

Fiber-Patch ES is non-toxic and non-flammable. Your skin might be sensitive to cement. We recommend use of rubber gloves. Avoid contact with eyes and prolonged contact with

skin. If contact occurs, flush immediately with water. Seek medical advice if irritation occurs. Harmful if ingested. Keep product out of reach of children. FOR INDUSTRIAL USE ONLY. Consult MSDS for additional information.

Colors

Cement grey.

Packaging

Fibre-Patch ES is a one component material, packaged in 22.7 kg (50 lb) bags.

Yield

Fibre-Patch ES yields 12.4 L (0.44 ft³) and covers approximately 2.1 m² @ 6 mm (21 ft² @ ¼") thickness per bag.

Storage and Transportation

Fibre-Patch ES stored on pallets in a dry, cool area has a shelf-life of 12 months. Packaged 55 bags per pallet.

TECHNICAL DATA

| Compressive Strength Development, (ASTM C109 Modified): |  |             |
|---|--|-------------|
| Time  | psi  | MPa         |
| 2 hrs   | 150-200  | 1.03-1.38   |
| 4 hrs   | 800-900  | 5.50-6.20   |
| 6 hrs   | 1300-1450  | 8.96-10.00  |
| 24 hrs  | 3300-3500  | 22.76-24.13 |
| 7 days  | 5900-6100  | 40.69-42.06 |
| 28 days   | 6100-6300  | 42.06-43.44 |
| Modulus of Rupture (ASTM C27-40) 28 days                | 1290-1540  | 8.9-10.6    |
| Bond Strength with Concrete (Pull off test)             | Greater than ten sile strength of the substrate concrete |             |
| Slant Shear Strength (ASTM C882-87)                     | 3380   | 22.9        |
| Water Absorption (MTO Report, MI-67)                    | 4.8%   |             |
| Rapid Chloride Permeability (AASHTO T 277)              | 680 Coulombs   |             |
| Salt Scaling (MTO Report, MI-67)                        | 0.04 g/cm²   |             |
| Freeze/Thaw Durability (ASTM C 666, Procedure A)        | Less than 1% loss  |             |

INSTALLATION

Current Guide Specification and Application Instructions contain additional information specific to each application and must be followed.

Surface Preparation

Remove all unsound concrete, dirt, oil, grease, laitance, efflorescence and any other bonding materials from surface. Vertical edge of 6 mm (1/4 in) or more must be created by saw cutting and chipping. The surface must be thoroughly cleaned by

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Fast Setting Fibre-Reinforced Patch

chipping, sandblasting or high pressure water waterblasting (14,000 psi) or other mechanical means to achieve clean and sound concrete with exposed fractured aggregate and a surface profile of 3 mm (1/8 in). Rebar and mesh must be replaced or cleaned as directed by the consultant.

### **Mixing**

Use rubber tipped paddle mortar mixer or a slow speed (400 - 600 RPM) electric drill with a mixing paddle. Mix one bag, 22.7 kg (50 lbs) with 4 L (1.1 USG) water. Place water into the mixing container. While mixer is running add contents of the bag and mix until the material is lump free. Adjust the water for the desirable consistency. Working time is 15- 20 minutes and will decrease with hot and increase with cold weather. Mix only enough material to use within working time. Do not re-temper or add any admixtures. Do not over mix (4-5 minutes maximum).

### **Application**

*Fibre-Patch ES* must be placed immediately after the mixing is completed. The surface should be water saturated, surface dry (SSD). Trowel apply *Fibre-Patch ES* on vertical and overhead surfaces. Over very rough surface, fill-in the voids first. Float the final layer to obtain an even surface. "Close" with the steel trowel if necessary. Do not over work the material.

### **Curing**

Protect against rapid surface evaporation under warm, sunny and windy conditions to avoid plastic shrinkage cracking. Water misting, wet bur lap or non-solvent evaporation retardant should be used as cure for 24 hours for best results. For repairs 25 mm (1 in) and over, follow ACI recommendations for curing. Protect from rain and freezing.

### **Clean up**

Tools must be cleaned with water immediately after use. Cured material must be removed mechanically.

### **AVAILABILITY AND COST**

*Fibre-Patch ES* is available world wide. Contact Gemite Products Inc. for the name of the Representative/Distributor and current pricing information.

### **MAINTENANCE**

None required.

### **WARRANTY**

A limited twelve (12) month Material Replacement Warranty is available. For complete details contact Gemite's Head Office.

### **TECHNICAL SERVICE**

For advice on the suitability of *Fibre-Patch ES* for a specific application, specification assistance and application advice contact Gemite Technical Service: USA 888-443-6483 or Canada 905-672-2020.

### **Short Specification**

The concrete repair material will be *Fibre-Patch ES* manufactured by Gemite Products Inc. [USA 888-443-6483] [Canada 905-672-2020]. It will be mixed and applied according to manufacturer's specifications and recommendations. Contact Gemite Products Inc. or a local Representative for specification assistance and application instructions. It will meet all the Technical Data specified in the current *Fibre-Patch ES* Product Data Sheet.