

PRODUCT NAME

Fibre-Patch™ ES ST (High Early Strength) Fast Strength Concrete Patch



MANUFACTURER

Gemite® Products Inc.

Toll Free: 888-4-GEMITE (888-443-6483)

E-mail: techinfo@gemite.com

Web Site: www.gemite.com

USA

160-3480 East Robinson Rd.

Amherst, NY 14228

Phone 888-443-6483

Fax 888-443-6329

CANADA

1787 Drew Road

Mississauga, Ontario L5S 1J5

Phone 905-672-2020

Fax 905-672-6780

FEATURES

- One component material
- Drying shrinkage compensated
- Long term crack resistance
- Superior freeze/thaw resistance
- Breathable
- Nonflammable
- Salt resistant
- Nontoxic
- 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 trowel. The product uses *Adi-Con BA AC Super* slurry as a bonding agent.

Composition and Materials

Fiber-Patch ES ST consists of Portland cement, aggregates, proprietary chemicals, to form a high performance concrete restoration material. The proprietary additives provide a fast strength development and excellent drying shrinkage compensation.

Limitations

Do not apply *Fiber-Patch ES ST* 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 Plus*. 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 ST is nontoxic and nonflammable. 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 digested. Keep product out of reach of children. FOR INDUSTRIAL USE ONLY. Consult MSDS for additional information.

Colors

Cement gray.

Packaging

Fiber-Patch ES ST is a one component material, packaged in 22.7 kg (50 lbs.) bags.

Yield

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

Storage and Transportation

Fiber-Patch ES ST 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
1 hour	No strength	
4 hours	2,300-2,500	15.9-17.2
8 hours	3,00-3,200	20.7-22.1
24 hours	4,400-4,600	32.7-34.5
7 days	6,100-6,300	42.1-43.4
28 days	8,900-9,100	61.4-62.7
Initial Set (at 20 °C)	20-25 minutes	
Final Set (at 20 °C)	30-35 minutes	
Bond Strength with Concrete with the bonding agent (Pull off test)	Greater than tensile strength of the substrate concrete	
Slant Shear Strength (ASTM C882-87)	3380	22.9
Linear shrinkage (ASTM C157)	0.08% max.	
Water Absorption (MTO Report, MI-67)	4.7%	
Salt Scaling (MTO Report, MI-67)	0.04 g/ cm ²	
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.

Gemite Products Inc.
October 1998

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03700 Concrete Restoration
Fast Setting Fibre-Reinforced Patch

Surface Preparation

Remove all unsound concrete, dirt, oil, grease, laitance, efflorescence and any other bond inhibiting 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 chipping, sandblasting, high pressure waterblast (7,000 psi), or other mechanical means to achieve clean & 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 2.9 L (0.76 USG) water. Place water, 2.9 L, into the mixing container. While mixer is running add contents of the bag and mix until the material is lump free. Working time is 20-25 minutes at 20°C and will decrease with hot and increase with cold weather. Mix only enough material to use within working time 15 -20 minutes. Do not re-temper or add any admixtures. Do not overmix (4-5 minutes maximum). The 22.7 kg bag (50 lbs) can be extended with 10 kg (22 lbs) of 9 mm (3/8) Pea Gravel or 6 mm (1/4 in) crushed stone. The addition of coarse aggregate does not significantly decrease compressive strength and can be done when exceeding the thickness of approximately 40 mm (1.5 in). To make the bonding slurry, mix *Adi-Con BA AC Super* with water 1:1 by volume and use as the mixing liquid with *Fibre-Patch ES ST* to make an easy to brush bonding slurry - approximately 1 kg of mixing liquid and 1 kg of dry powder of *Fibre-Patch ES ST*.

Application

Fibre-Patch ES ST must be placed immediately after the mixing is completed into the “*wet*” bonding slurry. The surface should be water saturated, surface damp prior to application of the bonding slurry. Trowel apply *Fibre-Patch ES ST* and float the layer to obtain an even surface. “Close” with the steel trowel if necessary. Do not overwork the material.

Curing

Protect against rapid surface evaporation under warm, sunny and windy conditions to avoid plastic shrinkage cracking. Water misting, wet burlap 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 ST is available worldwide. 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 ST* 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 ST* 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 ST* Product Data Sheet.