

PRODUCTNAME

Spray-Con[®] WS ST Wet Shotcrete

MANUFACTURER

Gemite[®] Products Inc.

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FEATURES

- Low rebound
- Up to 30 cm (12 in) in a single application
- Easy, crack free thick to thin application
- Long lasting crack resistance
- Low shrinkage
- Excellent freeze/thaw durability
- High bond strength
- Salt resistant
- Maintenance free
- Non-toxic
- Easy, superior workability
- Applied by authorized applicators
- Labor saving system

PRODUCT DESCRIPTION

Basic Use

Spray-Con WS ST is used in concrete restoration of bridges, tunnels, parking garages, ceilings, columns, beams, water storage tanks, swimming pools, concrete silos and other concrete structures.

Composition and Materials

Spray-Con WS ST is a Portland cement based, fibre reinforced, silica-fume modified wet shotcrete material, formulated for vertical and overhead repairs of deteriorated concrete.

Limitations

Do not apply *Spray-Con WS ST* when the temperature is expected to be below 4°C (40°F) within 48 hours after application. Follow Hot Weather concreting procedures when applying *Spray-Con WS ST* at temperatures exceeding 25°C.

Health and Safety

Spray-Con WS ST is non-toxic. Your skin might be sensitive to hydrochloric acid or the liquid additive. 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.

Color

Dark Grey.

Yield

Spray-Con WS ST Premix yields 12.9 L (0.46 ft³) and covers approximately 2.2 m² @ 6 mm (21.9 ft² @ ¼”) thickness per bag. *Spray-Con WS ST Concentrate* (single bag) yields 89.3 L (3.4 ft³) and covers approximately 14.9 m² @ 6 mm (161.6 ft² @ ¼”) thickness per bag. *Spray-Con WS ST Concentrate* (double bag) yields 178.5 L (6.7 ft³) and covers approximately 29.8 m² @ 6 mm (323.3 ft² @ ¼”) thickness per bag.

All allowance must be made for waste and “cut-off”.

Packaging

Spray-Con WS ST Premix is supplied in 22.7 kg (50 lb) bags. *Spray-Con WS ST Concentrate* (single) is supplied in 8.5 kg (18.7 lb) bags and *Concentrate* (double) is supplied in 17.1 kg (37.6 lb) bags.

Storage and Transportation

Spray-Con WS ST, stored on pallets in a dry, cool area, has a shelf-life of 12 months. Pack aged 55 bags (*Premix*), 80 bags (*Concentrate Single*) or 40 bags (*Concentrate Double*) per pallet.

TECHNICAL DATA

| | |
|---|---|
| Compressive Strength 28 days (ASTM 109) | 41.4 - 44.8 MPa 6,000 - 6,500 psi |
| Salt Scaling Resistance (ASTM C 672) | excellent |
| Fibre volume | 0.6% min. |
| Young's Modulus | 68.96 Gpa (10 x 10 ⁶ psi) |
| Freeze/Thaw Resistance (ASTM C666 A) | weight loss below 1% |
| Bond Strength with Concrete | > 1 MPa (>150 psi) |

INSTALLATION

Current Guide Specification and Application Instructions contain additional information specific to each application and must be followed. Gemite's Technical Service must be consulted before starting a project to ensure that the correct surface preparation and application procedures are followed.

Surface Preparation

Remove all loose, delaminated or grease contaminated concrete. Use sandblasting, scabbling, high pressure waterblast (min. 8-10,000 psi), or other approved methods to remove any laitance, dirt and efflorescence.

Crack Treatment

Mesh all dynamic cracks with galvanized welded wire fabric mechanically fastened over the crack. See Guide Specifications for detailed instructions.

Reinforcing Steel

Remove concrete behind the reinforcing steel to 25 mm (1 in) depth. Remove loose rust from the surface of the reinforcing steel and apply two coats of *Fibre-Prime* rust proofing.

Mixing

Use mortar paddle mixer, min. 270 L (10 ft³) capacity, or the mixing equipment of the wet shotcrete pump. Place most of the water into the mixer. Remove the separately packaged bag of fibres. Add powder into the water while mixing and mix for one (1) minute. Add sand and cement and mix until free of lumps. Add reinforcing fibres gradually and mix for not more than one (1) minute. Adjust the water for suitable workability. Do not over mix. Convey mixed material to the point of placement in clean containers.

Discard mixed materials that show signs of attaining initial set. Clean the equipment whenever more than 45 minutes has elapsed between batches. Keep the material consistency constant for an easy and continuous spray application.

| Mix Design | Single | Double |
|------------------------------------|------------------|-------------------|
| <i>Spray-Con WS ST Concentrate</i> | 8.5 kg (18.7 lb) | 17.1 kg (37.6 lb) |
| Cement | 40 kg (94 lb) | 80 kg (188 lb) |
| Sand | 150 kg (353 lb) | 300 kg (706 lb) |
| Water | 16.5 L (4.7 USG) | 33 L (9.3 USG) |
| <i>Spray-Con WS ST Premix</i> | 22.7 kg (50 lb) | |
| Water | 3.6 L (1.0 USG) | |

Aggregate Extension:

For some applications, the unit can be further extended with 9 mm (3/8 in) pea gravel. Contact Gemite Technical Service for further information.

Application

Spray apply *Spray-Con WS ST* using wet shotcrete equipment. The sprayer should be equipped with a continuous application mechanism. The operator must have positive on/off control at the nozzle to allow for an even spray. When applying layers in excess of 2.5-5cm (1-2 in) use a liquid accelerator at the nozzle. Contact Gemite's Technical Service for information regarding the use of *Adi-Con* shotcrete accelerators and the selection of wet shotcrete equipment.

Curing

Spray-Con WS ST must be wet cured for 2 days. Protect against fast drying using a surface evaporation retardant, curing compound or fine water mist. When working under tarps at freezing temperatures, use electrical heaters. Avoid using propane heaters to prevent "carbonation" of the material.

AVAILABILITY AND COST

Spray-Con WS ST is available world wide. Contact the Manufacturer for the name of the nearest Gemite Representative/Distributor and for 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 suitability of *Spray-Con WS ST* for a specific application, specification assistance and application instructions, contact Technical Service: USA at 888-443-6483; Canada at 905-672-2020.

Short Specification

The concrete repair material will be *Spray-Con WS ST*, crack resistant, fibre reinforced wet shotcrete material manufactured by Gemite Products Inc., [USA 888-443-6483] [Canada 905-672-2020]. *Spray-Con WS* will be applied by an Authorized Applicator according to the Manufacturer's specifications and recommendations. Contact the Manufacturer or a local representative for specification assistance and application instructions.