REPAIR

VERSASPEED LS100

RAPID HARDENING REPAIR MORTAR WITH EXTENDED WORKING TIME

EUCLID CHEMICAL

PACKAGING
VERSASPEED LS100 is packaged in 25kg polyethylene lined bags.

APPROXIMATE YIELD
13.2 litres per bag when mixed with 3.0 litres of water. VERSASPEED LS100 may be extended with up to 12.5kg of Pro-Struct 53-MC. Approximate extended yield: 17.2 litres

CLEAN-UP
Clean tools and equipment with water before the material hardens.

SHELF LIFE
1 Year in original, unopened container when stored in dry conditions. Heavy relative humidity will reduce the shelf life.

DESCRIPTION

VERSASPEED LS100 is a versatile, single component, rapid strength gaining repair mortar for horizontal and form & pour repair projects. Requiring only the addition of water, VERSASPEED LS100 is a low shrinkage, high early strength material with migrating corrosion inhibitor (MCI™) that is easy to use for fast turn-around projects. Repaired areas may be open to standard tyre traffic 5 hours following the final set. VERSASPEED LS100 is similar in appearance to concrete and is suitable for use in repairing concrete surfaces from approximately 10mm to 150mm in thickness.

PRODUCT CHARACTERISTICS

FEATURES / BENEFITS
- Rapid strength gain with extended working time
- Suitable for interior or exterior applications
- Open to light duty traffic as soon as 4 hours
- Resinous floor coatings can be applied after overnight curing at 25°C
- Micro-fiber reinforced
- Shrinkage compensated
- Can be placed up to 50mm neat
- Can be extended up to 50% by weight with stone
- Contains migrating corrosion inhibitor (MCI™)

PRIMARY APPLICATIONS
- Multi-unit residential
- Warehouses
- Industrial / commercial / institutional floors
- 10mm Minimum thickness for pedestrian and light rubber tyre traffic
- Bridges
- Pavements
- Loading docks
- Roads
- Vertical & overhead form & pour applications
- 25mm Minimum thickness (extended with aggregate) for heavy-duty and hard wheel traffic
- Highways
- Parking decks and ramps

TECHNICAL INFORMATION

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

Property	Values (except where indicated, based on 2.73 litre water) at 25°C		
		2.6 litre	**3.0 litre**
Compressive Strength ASTM C109	3 Hours	9 MPa	6 MPa
	1 Day	27 MPa	18 MPa
	7 Days	40 MPa	30 MPa
	28 Days	55 MPa	45 MPa
Flexural Strength ASTM C348	1 Day	3.7 MPa	
	7 Days	6.9 MPa	
	28 Days	7.6 MPa	
Splitting Tensile Strength ASTM C496	7 Days	2.1 MPa	
	28 Days	3.3 MPa	

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TECHNICAL INFORMATION

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

Slant Shear Bond Strength ASTM C882 (modified per TXDOT DMS-4566)	1 Day	10.3 MPA
	7 Days	14.5 MPa
	28 Days	19.3 MPa
Crack Resistance ASTM C1581	Net Time Until Cracking	>90 Days
	Stress Rate	0.05 MPa/day
Length Change (28 days) ASTM C157*	Air Cure	-0.030%
	Water Cure	+0.013%
Set Time (ASTM C266)	Initial Set: 30 to 60 minutes	Final set: 60 to 100 minutes
Freeze / Thaw Resistance (ASTM C666 Procedure A)	300 Cycles	>95%
Modulus of Elasticity (ASTM C469)	28 Days	36.4 x 10^3 MPa
Resistivity (FM 5-578)	28 Days	31,300 ohm-cm
Abrasion Resistance (ASTM C779)	28 Days	0.483mm of wear at 1hr

**Based on initial length at 24 hours; 7.6cm x 7.6cm x 27.9cm beams*

DIRECTIONS FOR USE

Surface Preparation: Concrete surfaces must be structurally sound, free of loose or deteriorated concrete and free of dust, dirt, paint, efflorescence, oil and all other contaminants. Mechanically abrade the surface to expose the main aggregate and achieve a surface profile equal to CSP (Concrete Surface Profile) 5 to 7 in accordance with ICRI Guidelines 310.2. Properly clean profiled area.

Pre-saturation of the Substrate: Method for pre-saturation to be determined on-site to achieve required saturated surface dry (SSD) condition of the substrate.

Priming & Bonding (Saw Cut & Chipped Out Repairs, Form & Pour Repairs): Where possible, apply a scrub coat of VERSASPEED LS100 to the saturated surface dry (SSD) concrete. The repair material must be placed on the scrub coat before the scrub coat dries out. In areas where a scrub coat is not possible, ensure that the substrate is saturated surface dry (SSD).

Priming & Bonding (Horizontal Toppings): For the best adhesion to concrete, use SL Primer seeded with Stonhard 6225 as the bonding coat. Refer to the SL Primer product data sheet for full instructions. Alternatively, application of a scrub coat of VERSASPEED LS100 to the saturated surface dry (SSD) concrete surface. The topping material must be placed on the scrub coat before the scrub coat dries out. In areas where a scrub coat is not possible, ensure that the substrate is saturated surface dry (SSD).

Mixing: Single bags may be mixed with a drill and #P2 or #P6 mixing paddle according to ICRI Guideline No. 320.5. Use a horizontal shaft mortar mixer for larger jobs. All materials should be in the proper temperature range of 15°C to 29°C. Add the appropriate amount of water for the batch size and then add the VERSASPEED LS100. **The amount of water to be mixed with the VERSASPEED LS100 is critical. Initially add 2.6 litres of water per 25kg bag and mix for 3 minutes. If after the initial 3 minutes of mixing the desired flow is not obtained, no more than 0.4 litres of additional water should be added to the mix in order to achieve more flow.** Mix an additional 2 minutes after adding extra water. For deeper repairs, 50mm to 150mm, extend VERSASPEED LS100 with 12.5kg of Pro-Struct 53-MC.

Placement: ***Important:*** The application temperature range of VERSASPEED LS100 is from 7°C to 35°C. Allow approximately 30 minutes to mix, place and finish VERSASPEED LS100 repair mortar at 22°C. To make repairs, spread with a float, come-a-long, or square tipped shovel to a thickness that is level with the surrounding concrete. Do not use VERSASPEED LS100 for repairs less than 10mm deep.

Finishing: Finish the repair material to the desired texture. Do not add water to the surface during the finishing operation.

Curing & Sealing: If a resinous floor coating will not be applied, wet cure the surface with water and polyethylene sheets at least one day, or use a curing compound. If applying a resinous floor coating, it is important to wet cure with polyethylene sheets for at least 3 hours and then allow to air dry overnight before coating. VERSASPEED LS100 can be coated with resinous flooring the following day at 25°C.

PRECAUTIONS / LIMITATIONS

- The application temperature range of VERSASPEED LS100 is 7°C to 35°C.
- If an epoxy coating will be applied, follow surface preparation procedures as directed by the coating manufacturer.
- When necessary, follow the recommendations in ACI 305R “Guide to Hot Weather Concreting” or ACI 306R “Guide to Cold Weather Concreting”.
- Do not add water to the surface during the finishing operation.
- Do not allow repairs to freeze until the material has reached a minimum of 7 MPa compressive strength.
- Use only potable water for mixing.
- For optimum results, condition material to 15°C to 29°C at least 24 hours prior to use.
- In all cases, consult the Safety Data Sheet before use.

NOTE:

- MCI™ is a trademark of the Cortec Corporation, registered in the United States and other countries.