

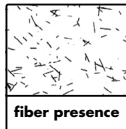
Polycrete ST

Polymer modified high strength cementitious repair mortar

Polymer modified repair mortar, specially formulated by blending OPC with non shrinking additives, fibers, polymers and fillers for repairing of beams, columns and slabs.

CHARACTERISTICS

- ▶ Extra reinforced strength due to the presence of fibres
- ▶ Shrinkage compensated
- ▶ Suitable for high build applications
- ▶ Suitable for use in marine and industrial areas
- ▶ Prevents the corrosion of steel reinforcement in concrete
- ▶ Can be applied by trowel, pump or spray
- ▶ High strength repair of concrete



DESCRIPTION

Polycrete ST is a high strength structural polymer modified repair mortar. The product is specially formulated by blending OPC with non shrinking additives, fibres, polymers and fillers for repairing of beams, columns and slabs in structures which are subjected to dynamic loads and traffic.

FIELDS OF APPLICATION

- specially formulated for columns, slabs and for repair of heavy structural concrete damages
- repair of concrete in highly corrosive environments such as marine structures, sea walls port structures etc.

APPLICATION INSTRUCTIONS

Surface preparation

The surface of the concrete to be repaired should be sound, clean and uncontaminated. The decayed or damaged area should be saw cut, keeping the sides of the area as square as possible. Loose materials must be removed carefully using suitable means such as sharp tools or chipping hammer. If the reinforcement is corroded make sure that the back of the steel is completely exposed. Then clean the steel to bright metal condition.

Priming

- Reinforcement steel: After cleaning, prime the reinforcement using zinc rich primer (Polyzinc*). Brush apply a continuous coat of Polyzinc to the dry steel. A second coat may be applied after 1-2 hours to cover all the pin holes.



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1

- Concrete: if the concrete damage is severe and is due to chloride attack, a bonding coat with Polybond EP*/ Polybond AC* is advisable before placing Polycrete ST to achieve optimum bond in the fresh and cured sections. To achieve optimum bond between fresh and cured section, Polycrete ST should be applied when the bonding coat is still tacky. For new concrete saturate the area to be repaired thoroughly with water prior to the application of the repair mortar.

Mixing

Polycrete ST can be mixed by mechanical means. Slowly add the Polycrete ST to 3.50-4.0L of clean gauged water (w/p ratio of 0.14 - 0.16 approx) working well to produce a smooth mortar. The consistency of the mix can be adjusted by the addition of more powder or water as necessary, depending on the temperature.

Placing and finishing

Whilst the primer is still tacky, apply the mortar mix and compact well. Application can be done with trowel or a rubber hand glove to paste the material in place. Polycrete ST can be applied to desired thicknesses in layers on vertical and overhead surfaces. High build application can be achieved by using a formwork. While applying multiple layers, the previous layer should be crosshatched

and allowed to set before applying the next coat. Polycrete ST can be applied to a thickness of 40 mm in one single application if the ambient temperature is less than 25°C and the weather conditions are normal.

Curing

Due to the presence of rapid drying polymers, the repaired area shall be cured in accordance with good concrete curing practice by and protected from drying winds. Curing shall be done by non degradable type of curing compounds or wet hessian cloth. When cured with wet hessian cloth, the area shall be covered immediately with a high density polyethylene sheet which shall be taped to all edges.

CLEANING

Clean all the tools with water immediately after use. Hardened materials can be removed mechanically only.

YIELD

Polycrete ST 13.81L/25 kg (w/p ratio of 0.16)

STORAGE & SHELF LIFE

Store in a cool, dry place and keep away from all sources of heat and sunlight. In tropical climates, store in air condition rooms. The shelf life is up to 12 months in un-opened condition and if stored as per recommendations. Excessive exposure to sunlight, humidity and UV will result in the deterioration of the quality of the product and reduce its shelf life.

SUPPLY

Polycrete ST 25kg bag

HEALTH & SAFETY

As with all construction chemical products, caution should always be exercised. protective clothing such as gloves and goggles shall be worn. Treat any splashes to the skin or eyes with fresh water immediately. Should any of the products be accidentally swallowed, do not induce vomiting, but call for medical assistance immediately.

TECHNICAL SPECIFICATION

Typical properties achieved with w/p ratio of 0.16

PROPERTIES	VALUES	TEST STANDARDS
Color & appearance	Grey powder	-
Mixed density, [g/cc]	2.1±0.05	ASTM C D 1475
Application life, [minutes]	30	ASTM C 308
Compressive strength @28 days, [N/mm ²]	> 50	ASTM C 579
Flexural strength @28 days, [N/mm ²]	> 7	ASTM C 580
Shear bond strength @28 days [N/mm ²]	> 20	ASTM C 882
Adhesion strength @28 days, [N/mm ²]	> 1.5	ASTM C 882 ASTM D 4541
Water permeability,@5 bar pressure	< 10 mm	BS EN 12390
Water absorption, [%]	< 2.5	BS 1881 ASTM D 642
Application thickness Minimum, [mm/layer]	5	
Vertical, [mm/layer]	up to 40	
Overhead, [mm/layer]	up to 15	
Horizontal, [mm/layer]	up to 100	
Application temperature, [°C]	5 to 45	

All values given are subject to 5-10% tolerance

Apart from the information given here it is also important to observe the relevant guidelines and regulations of various organisations and trade associations as well as the respective standards. The aforementioned characteristics are based on practical experience and applied testing. Warranted properties and possible uses which go beyond those warranted in this information sheet require our written confirmation. All data given was obtained at an ambient and material temperature of +23°C and 50 % relative air humidity at laboratory conditions unless specified otherwise. Please note that under other climatic conditions hardening can be accelerated or delayed.

The information contained herein, particularly recommendations for the handling and use of our products, is based on our professional experience. As materials and conditions may vary with each intended application, and thus are beyond our sphere of influence, we strongly recommend that in each case sufficient tests are conducted to check the suitability of our products for their intended use. Legal liability cannot be accepted on the basis of the contents of this data sheet or any verbal advice given, unless there is a case of wilful misconduct or gross negligence on our part. This technical data sheet supersedes all previous editions relevant to this product.