

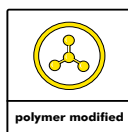
Polycrete XPRESS

Fast-setting cementitious repair mortar

Polymer modified mortar for rapid anchoring, assembly and repair of indoor and outdoor surfaces

CHARACTERISTICS

- ▶ Fast-setting (5 minutes @ 45°C)
- ▶ High strength
- ▶ Multi-purpose
- ▶ Good mechanical properties
- ▶ For filling cavities and cracks, depth up to 50 mm
- ▶ Chloride free
- ▶ Prevents the corrosion of steel reinforcement in concrete
- ▶ Suitable for use in marine and industrial areas



polymer modified



fast setting



strong

DESCRIPTION

Polycrete XPRESS is a high strength polymer modified structural repair mortar. The product is specially formulated by blending OPC with special additives, polymers and fillers for repairing of beams, columns and slabs in structures which are subjected to dynamic loads and traffic, rapid anchoring and fixing. After mixing with water, Polycrete XPRESS becomes a fast-setting mortar that can be easily applied by trowel.

FIELDS OF APPLICATION

- when high early strength and fast-setting is required;
- embed, repair and anchor quickly any kind of concrete, cement-bond plasters, brickwork and screeds e.g. anchors, hooks connectors, hinges, elements of electrical installations, (junction and outlets boxes), guide strips of corner slats, installation elements (passage pipes, brackets);
- specially formulated for columns, slabs and for repair of heavy structural concrete damages;
- fast filling of assembly holes and small defects in anchor points and steel elements;
- fast filling of locally damaged concrete surfaces as nicked steps, corners, screeds – where stopping traffic is kept to minimum;
- repair of concrete in highly corrosive environments such as marine structures, sea walls, port structures, etc.

APPLICATION INSTRUCTIONS

The application temperature shall be between 5°C and 45°C. Application procedures may vary slightly depending



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upon site conditions, the general recommended guidelines for the application Polycrete XPRESS is as follows:

Surface preparation

The surface 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

- a. Reinforcement steel: After cleaning, prime the corroded 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.
- b. Concrete: if the concrete damage is severe and is due to chloride attack, a bonding coat with Polybond EP or Polybond AC modified as cement slurry, is advisable before placing Polycrete XPRESS to achieve optimum bond and shall 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 XPRESS can be mixed by mechanical means. On a mixing container, slowly add Polycrete XPRESS powder, to 14 - 16% by weight of clean gauged water (1.4 to 1.6 L of water per 10 kg bag) and mix well continuously 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

Prewet the area, 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 XPRESS 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. Polycrete XPRESS can be applied to a thickness of 50 mm in one single application when the ambience and the weather conditions are normal. At extreme high temperatures, chilled tap water can be used. Subsequent works that impose load on the repaired areas can be continued after 24 hours, from the finishing of final layer.

CURING

Due to the presence of rapid drying polymers, the repaired area shall be cured in accordance with good concrete curing practice and protected from drying winds. Under hot and windy conditions, all concrete tends to lose moisture unevenly and may develop plastic shrinkage cracks. 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 tools immediately with water after use. Hardened materials can be removed mechanically only.

YIELD

Polycrete XPRESS 5.4 L/10KG (@W/P ratio 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 unopened 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.

HEALTH & SAFETY

As with all construction chemicals 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

SUPPLY

Polycrete XPRESS 10 Kg bag

TECHNICAL SPECIFICATION

PROPERTIES	VALUES	STANDARD
Colour	Grey powder	-
Mixed density, [g/cc]	2.15 ± 0.05	ASTM D 1475
Application life		
@30°C [mins]	25	-
@45°C [mins]	5	-
Compressive strength		
@28 days, [N/mm ²]	>50	ASTM C 579
Tensile strength		
@28 days, [N/mm ²]	>2.5	ASTM C 307
Pull off strength		
@28days, [N/mm ²]	>1.5	ASTM D 4541
Flexural strength		
@28 days, [N/mm ²]	>7	ASTM C 580
Shear bond strength,		
[N/mm ²]	>10	ASTM C 881
Water permeability		
@5 bar pressure, [mm]	<10	BS EN 12390, part 8
Chloride ion permeability,		
[Coulombs]	<1000	ASTM C 1202
Service temperature, [°C]	-5 to 70	-

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.