



SILKON
ADDITIVES (INDIA) PVT LTD

Silplast PMF100

Silplast PMF100 is Shrinkage compensated, fibre reinforced, single component, polymer modified, cementitious, repair mortar system is used for the reinstatement of concrete in small localized patch repairs. Silplast PMF100 is alkaline in nature and will protect embedded steel reinforcement. It is specially designed for location where high compressive strengths are required. The mortar is suitable where superior resistance is required to chlorides and carbon dioxide. Silplast PMF100 is a Dual Shrinkage expansion, fibre reinforced, single component, polymer modified, cementitious, repair mortar system supplied as a ready to use blend of dry powders, which requires only the addition of clean water to produce a highly consistent, repair mortar suitable for structural concrete and masonry repairs. Silplast PMF100 may be hand & trowel applied, please see application method statement for details.

Usages And Advantages

- Vertical and overhead repairs to restore 'cover concrete'
- General concrete and masonry repairs
- Voids greater than 10 mm deep
- Repairs to honeycombing
- Larger scale repairs where formwork cannot be erected
- The dimensions of the repair remain stable; and thus eliminating failure, due to shrinkage cracking.
- This in turn leads to a series of associated benefits :
- Cost effective - shrinkage control enables repairs to be completed 'right first time'
- Enhanced durability - works in tandem with extremely low permeability to prolong effective working life
- Compatibility - aligns performance closer than ever before, to that of host concrete
- User friendly - specifically developed to provide an easy to apply product suitable for local conditions
- Definable performance - positive benefits are easily demonstrated via a single, simple measurement

Technical support

Silkon offers a technical support package to specifiers, end users and contractors as well as on-site technical assistance in locations all over the country.

Technical Properties

These results were obtained at Water: Powder ratio of 0.16 and temperature @ 30°C under controlled laboratory conditions.

| | | |
|-----------------------------|---------|-----------------------|
| Compressive strength | 7 Days | 52 N/mm ² |
| | 28 Days | 72 N/mm ² |
| Flexural strength | 28 days | >10 N/mm ² |
| Percentage water absorption | | < 2% |
| Rapid chloride permeability | | <1800 Coulombs |
| Tensile Strength | 28 days | > 4 N/mm ² |
| Permeability | | < 6 mm |
| Drying Shrinkage | 7 Days | <350 Microstrain |
| | 28 Days | <500 Microstrain |

Recommended limits for a single application are:

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|-----------------------------|----------------------|
| Minimum applied thickness | : 10 mm |
| Overhead sections | : up to 10 mm thick |
| Vertical sections | : up to 12 mm thick |
| Small pockets or horizontal | : up to 100 mm thick |

Application Methodology

Surface preparation

Saw cut or cut back the extremities of the repair locations to a depth of at least 10mm to avoid feather edging and to provide a square edge. Break out the complete repair area to a minimum depth of 10mm up to the saw edge. Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae. Where breaking out is not required, roughen the surface and remove any laitance by light scrubbing or grit sand blasting. Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. The effectiveness of decontamination should then be assessed by a pull off test. For vertical renders the concrete substrate should have surface profile of min 500 microns.

Zinc Rich Primer Coat

It is likely that, steel reinforcement in the area around a patch repair, particularly in a chloride contaminated environment, will typically corrode after the repairs are carried out, referred to as the incipient anode or Halo effect.

Silkon zinc primer, two component, zinc rich epoxy based anti-corrosive protective coating should be brush applied over the prepared & dry surface of the exposed rebars and allowed to completely dry prior to application of Silplast PMF100 repair mortar.



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Priming

Mix the base and hardener components of Superbond BA, two component epoxy bonding agent with a paddle mixer for 3-5 minutes and brush apply in a thin layer over the prepared old concrete substrate to be repaired and allow the epoxy bonding agent to become tacky. Tacky condition will exist from 1-2 hours @30⁰C from the application time.

Mixing

Silplast PMF100 repair mortar shall be prepared by adding & mixing the 25 kg dry powder and recommended water of 4 litres (w/p = 0.16) into a plastic container of suitable size using a paddle mixer for 3 - 5 minutes until it attains a trowellable consistency . The mixed mortar should be applied to the prepared concrete surface or to the tacky Superbond applied surface . Superbond BA applied surface will attain tacky condition from 1-2 hours @ 30⁰C from the application time.

Note :

- Do not apply Silplast PMF100 repair mortar over tack free or pre-tacky condition of Superbond BA since it acts as a debonding agent.
- Under no circumstances part mixing or additional is not allowed. Either of these two actions will adversely affect material performance.

Packaging

Silplast PMF100 : 25 Kg Bags

Yield : 13.5 Liters

Cautions:

- Silplast PMF100 should not be used when the ambient temperature is below 5°C and falling.
- Silplast PMF100 should not be part mixed, nor part bags used.
- Silplast PMF100 should not be exposed to running water either during application or prior to final setting time of mortar.

Shelf Life

Silplast PMF100 has a shelf life of 6 months if kept in a dry store in the original, unopened bags or packs

Health and Safety

Silplast PMF100 contains cement powders which, when mixed with water or upon becoming damp, release alkalis which can be harmful to the skin. During use, avoid inhalation of the dust and contact with the skin or eyes. Wear suitable protective clothing - eye protection, gloves and respiratory equipment (particularly in confined spaces). The use of barrier creams to provide additional skin protection is also advised. In case of contact with the skin, rinse with plenty of clean water, then cleanse thoroughly with soap and water. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately - do **not** induce vomiting.

Fire

Silplast PMF100 is non flammable