



SILKON
ADDITIVES (INDIA) PVT LTD

Silplast PM15

Silplast PM15 is two component structural grade polymer modified mortar which is used for the reinstatement of concrete in small localised patch repairs. Silplast PM15 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 PM15 is supplied as a grey powder along with a liquid polymer and has to be mixed with water on site to produce a highly consistent, high strength repair mortar. The material is based on carefully blended cement, graded fillers and chemical additives and is polymer modified to provide a mortar with good handling characteristics, while minimising water demand. The hardened product exhibits excellent thermal compatibility with concrete and outstanding water requirement ensures fast strength gain and long-term durability.

Usages And Advantages

- High strength
- Can be applied by hand, like conventional mortars
- Extremely low permeability provides maximum protection against carbon dioxide and chlorides
- Excellent bond to the concrete substrate
- Shrinkage compensated
- No site batching required, supplied in pre-weighed prepacked condition
- Only addition of water at site to be made while mixing the powder and liquid parts
- Contains no chlorides.

Silplast PM15 is designed for vertical or horizontal applications. It can be applied from a minimum of 5mm to 15mm thickness in vertical sections. Higher thicknesses can be achieved by the use of formwork. Thicker sections can be built up in layers. In horizontal locations Silplast PM15 can be applied up to 50mm thickness. The material should not be applied at less than 5mm thickness. Consult Silkon for further information.

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 a Water: Powder ratio of 0.13 and temperature @ 30°C under controlled laboratory conditions.

Compressive strength	1 Day	13 N/mm ²
	28 Days	46 N/mm ²
Flexural strength	28 days	7 N/mm ²
Percentage water absorption (immersion test) after	24 hrs	0.45
Chloride ion diffusion (Accelerated electrochemical chloride ion diffusion test) in mg/litre After	24 hours	Nil
Depth of carbonation,mm (Accelerated carbonation test)	2 hours	Nil
	4 hours	Nil
Coefficient of thermal expansion	7 to 12 x 10 ⁻⁶ / °C	
Setting time	Initial set	3 hrs 20 mins
	Final set	4 hrs 40 mins
Fresh wet density	Approx 2120 kg/m ³ (varies depending on actual consistency)	

Chemical resistance

The low permeability of Silplast PM15 severely retards chemical attack in aggressive environment. The cured mortar is highly impermeable to acidic gases, chloride ions, oxygen and water.

Application Methodology

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 scrubbling or grit sand blasting.

