

Plast Roc S

Single component structural grade polymer modified concrete reinstatement mortar

Uses

For the reinstatement of large areas of concrete and for small, localized patch repairs. Plast Roc S can also be used in combination with **Techno bond EP** bonding agent for trafficked repairs. Plast Roc S is alkaline in nature and will protect embedded steel reinforcement. It is specifically designed for locations where high compressive strengths are required or in locations where good abrasion resistance is necessary.

Advantages

High strength and high abrasion resistance Can be applied by the wet or dry spray process for fast, exceptionally high build repairs with enhanced characteristics. Extremely low permeability provides maximum protection against carbon dioxide and chlorides Excellent bond to the concrete substrate Shrinkage compensated. Pre-bagged to overcome site-batched variations only the site-addition of clean water required Contains no chloride admixtures

Standards compliance

Plast Roc S Techno Epoxy Zinc and Techno bond SBR have been approved by the British Board of Agreement, Certificate No. 92/2824.

Description

Plast Roc S is supplied as a ready to use blend of dry powders requiring only the site addition of clean water to produce a highly consistent, high strength repair mortar .The material is polymer modified to provide a mortar with good handling characteristics, while minimizing water demand. The hardened product exhibits excellent thermal compatibility with concrete and outstanding water repellent properties. The low water requirement ensures fast strength gain and long-term durability.

Design criteria

Plast Roc S is designed for vertical or horizontal use. It can be applied up to 10-mm thickness in vertical sections. Up to 100-mm thickness can be achieved in small pockets or by the use of formwork. In horizontal locations, Plast Roc S can be applied up to 100-mm thickness. Thicker sections can be built up in layers. The material should not be applied at less than 5-mm thickness. Thicknesses greater than 10 mm in large areas can be achieved by spray application .For horizontal trafficked locations individual areas should not exceed 4 m².

Properties

The following results were obtained at a water powder ratio of 0.11 and temperature of 20°C.

Compressive strength (BS 6319 Pt 2:1983-dry Cure)

20 N/mm² @ 3 days

45 N/mm² @ 28 days

Modern Technologies for Construction Chemicals

Factory: Wadi Elnatroun - First Industrial Area.

Head Office: New Maadi - 3\288 St. from Aljazaer St.

Fax. & Tel.: 02-25200833 Mob. : 010 209 65554

www.mtcchem.com

Flexural strength (BS 6319 Pt 3: 1983)

10 N/mm² @ 28 days

Coefficient of thermal expansion

7 to 12X10⁻⁶/°C

Fire rating (BS 476 Pt 4: 197)

Non-combustible (Class 0 surface)

Fresh wet density:

Approximately 2300 kg/m³ dependent on actual consistency used

Chemical resistance

The low permeability of Plast Roc S severely retards chemical attack in aggressive environments. The cured mortar is highly impermeable to acid gases, chloride ions, oxygen and water application instructions

Preparation

Saw cut or cut back the extremities of the repair locations to a depth of at least 5 mm to avoid feather-edging and to provide a square edge. Break out the complete repair area to a minimum depth of 5 mm up to the sawn edge. Ensure the surface is clean and free from contamination.

Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or abrasive-blasting. The effectiveness of decontamination should be assessed by a pull-off test. Fully expose any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars. Abrasive blasting is recommended for this process. Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with clean water immediately after abrasive blasting.

Reinforcing steel priming Apply one full coat of Techno Epoxy Zinc and allow to dry before continuing. If any doubt exists about having achieved an unbroken coating, a second application should be made and, again, allowed to dry before continuing.

Substrate priming

The substrate should be thoroughly saturated with clean water (removing residual surface water) prior to applying one coat of Techno Bond SBR primer and scrubbing it well into the surface. Under severe drying conditions repeated soaking may be necessary.

Plast Roc S can be applied as soon as the primer becomes tacky. If the Techno bond SBR is too wet, vertical build up of the Plast Roc S mortar may be difficult. In all areas subject to trafficking or where a substrate/repair barrier is required or where the substrate is wet or likely to remain permanently Damp, Techno bond EP bonding aid must be used.

Plast Roc S can be applied as soon as the primer becomes tacky. If the Techno bond SBR is too wet, vertical build up of the Plast Roc S mortar may be difficult. In all areas subject to trafficking or where a substrate/repair barrier is required or where the substrate is wet or likely to remain permanently Damp, Techno bond EP* bonding aid must be used. Contact the local M.T.C. office for further information.

Mixing

Care should be taken to ensure that Plast Roc S is thoroughly mixed. A forced-action mixer is Essential. For normal applications, place 2.5 to 3.0 litres of drinking quality water into the mixer and, with the machine in operation, add one full bag of Plast Roc S and mix for a minimum of 3 minutes to a maximum of 5 minutes until homogeneous.

Modern Technologies for Construction Chemicals

Factory: Wadi Elnatroun - First Industrial Area.

Head Office: New Maadi - 3\288 St. from Aljazaer St.

Fax. & Tel.: 02-25200833 Mob. : 010 209 65554

www.mtcchem.com

Note that powder must always be added to water. Dependent on the ambient temperature and the desired consistency, a small additional amount of water may be added up to a maximum total water content of 3.0 liters per bag of Plast Roc S

Application

Exposed steel reinforcing bars should be firmly secured to avoid movement during the application process as this will affect mortar compaction, build and bond. Apply the mixed Plast Roc S to the prepared substrate by gloved hand or trowel.

Thoroughly compact the mortar on to the primed substrate and around the reinforcement. If sagging occurs during application, completely remove the effected section and re-apply at a reduced thickness on to the correctly reprimed substrate. Plast Roc S can be applied up to 10 mm thickness in vertical sections but up to 100 mm thickness in smaller pockets or with the use of formwork.

If formwork, is used it should have properly sealed faces to ensure that no water is absorbed from the repair material. In horizontal locations, Plast Roc S can be applied up to 100mm thickness.

Note: the minimum applied thickness of Plast Roc S is 5mm.

Spray application

Plast Roc S can be applied by the wet or dry sprayed techniques. In circumstances where large areas of repair are required the rapid placement and higher build attainable by these methods offer economic advantages over hand trowelling. The resultant repair also offers a generally more dense compound with greatly enhanced mortar/substrate bond characteristics.

Finishing

Plast Roc S can be finished using a float or damp sponge to achieve the desired surface texture. The completed surface should not be overworked. Plast Roc S is finished by striking off with a straight edge and closing with steel float.

Wooden or plastic floats ,or damp sponge may be used to achieve the desired surface texture. The completed surface should not be overworked.

Low temperature working In cold conditions down to 5°C, the use of warm mixing water (up to 30°C) is advisable to accelerate strength development. The material should not be applied when the substrate and/or air temperature is below 5 C and falling. High temperature working At ambient temperatures above 35°C, the material should be stored in the shade and cool water used for mixing.

Curing

Techno bond SBR and Plast Roc S should be removed from tools, equipment and mixer with clean water immediately after use. Cured material can only be removed mechanically. Equipment used with Techno Epoxy zinc and Techno bond EP should be cleaned with Techno solvent.

Plast Roc S must be cured immediately after finishing with a continuous film of Techno bond SBR.

Large areas should be cured as trowelling progresses at 0.5 m² at a time. In fast drying conditions, supplementary curing with polythene sheeting taped down at the edges must be used. In cold conditions, the finished repair must be protected from freezing.

Over coating with protective decorative finishes products may be applied over the repair area without prior removal of the Techno bond SBR. curing membrane. Other curing

Modern Technologies for Construction Chemicals

Factory: Wadi Elnatroun - First Industrial Area.
Head Office: New Maadi - 3\288 St. from Aljazaer St.
Fax. & Tel.: 02-25200833 Mob. : 010 209 65554
www.mtcchem.com

membranes must be removed prior to the application.

Cleaning

Plast Roc S should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

Limitations

Do not mix part bags. The product should not be exposed to moving water during application. Exposure to heavy rainfall prior to the final set may result in surface scour. If in any doubt consult the Local M.T.C. office.

Estimating

Supply

Plast Roc S 25-kg bags

Coverage and yield

Plast Roc S approximately 12.0 liters / 25 kg bag
(1.2 m² at 10 mm thickness)

Techno Epoxy Zinc 7.4 m² / liter

Techno bond SBR. 6 to 8 m² / liter

Techno bond EP 10 to 11.5 m² / pack

Notes: The coverage figures quoted are theoretical due to wastage factors, consistency and application method used. The yield will be reduced if the material is applied by a spray technique.

Storage

All products have a shelf life of 12 months if kept in a dry store in the original, unopened bags or packs. Store in dry conditions in the original, unopened bags or packs. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced to 4 to 6 months.

Precautions

Health and safety

Plast Roc S contains cement powders which, when mixed or become damp, release alkalis which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment. In case of contact with skin, rinse with plenty of clean water, then cleanse 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

Plast Roc S is non-flammable.

Modern Technologies for Construction Chemicals

Factory: Wadi Elnatroun - First Industrial Area.

Head Office: New Maadi - 3\288 St. from Aljazaer St.

Fax. & Tel.: 02-25200833 Mob. : 010 209 65554

www.mtcchem.com