BUILDING TRUST

PRODUCT DATA SHEET

Parex LA Repair Concrete

R4 CEMENTITIUOS MICRO CONCRETE

PRODUCT DESCRIPTION

Parex LA Repair Concrete is a cement based, low alkali, one component micro concrete with non shrink properties. The mixed mortar produces a flowable repair mortar suitable for pouring applications meeting the requirements of Class R4 of BS EN 1504-3.

USES

- Motorway bridge repairs
- Repairs to large styructural concrete elements
- Protection of corroded and damaged reinforced concrete
- Refurbishment of soffits to bridge beams and crossheads
- Grouting under baseplates

CHARACTERISTICS / ADVANTAGES

- One component, ready to use
- Non-shrink
- Repair depths upto 500mm in one application
- self compacting
- Suitable for use in conjunction with cathodic protection

APPROVALS / STANDARDS

Conforms to the requirements of BS EN 1504-3 R4 classification
DTp BD27/86 Clause 4 and "specification for highways works" Clause 1704.6.

PRODUCT INFORMATION

Chemical Base	Portland cement, selected aggregates and additives.		
Packaging	25kg bag		
Shelf Life	6 Months		
Storage Conditions	Store properly in original unopened, sealed and undamaged packaging in dry and cool conditions.		
Appearance / Colour	Grey powder		
Maximum Grain Size	Dmax: 4.0 mm		
Density	Cured mortar density 2250-2300 kg/m³		(12390-7)
Soluble Chloride Ion Content	<0.003%		
Compressive Strength	1 day	20 N/mm²	(EN 12190)
	3 days	30 N/mm²	
	7 days	55 N/mm²	
	28 days	65 N/mm²	
Modulus of Elasticity in Compression	28 GPa		(EN 13412)

Flexural Strength	8 N/mm²	(EN 1015-11)
Tensile Strength	2.3 N/mm²	(EN 1542)
Coefficient of Thermal Expansion	~10 – 12x10-6 /°C	(BS EN 1770)
Electrical Resistivity	~11 (kohm.cm)	

APPLICATION INFORMATION

Mixing Ratio	3.25 litres (13% by mass) per 25kg bag	
Yield	This depends on the substrate roughness and thickness of layer applied. As a guide, 1 25kg bag yields approximately 12.5 litres of mortar.	
Layer Thickness	20mm min. / 500mm max.	
Flowability	750mm in 10s	(EN 13395-3)
Consistency	Flowing concrete	
Ambient Air Temperature	+5°C min. / +30°C max.	
Substrate Temperature	+5°C min. / +30°C max.	
Initial set time	5 hours	(EN 197-1)
Final set time	8 hours	(EN 197-1)

VALUE BASE

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LIMITATIONS

- Refer to recommendations provided in BS EN 1504-10.
- Avoid application in direct sun and/or strong wind and/or rain.
- Pour from one side only when using shutters / formwork
- Do not use vibrating pokers
- Do not add water over recommended dosage.
- Apply only to sound, prepared substrates.
- Do not add additional water during the surface finishing as this will cause discoloration and cracking.
- Protect freshly applied material from freezing
- Not suitable for pumping

ECOLOGY, HEALTH AND SAFETY

Local safety regulations must be observed and it advisable to wear PPI when working with this product with particular attention paid to cutting and handling. Transportation Class: The product is not classified as hazardous good for transport. Disposal: The material is recyclable. Disposal must be according to local regulations. Please contact your local Sika sales organisation for more information.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete:
The concrete shall be free from dust, loose material, surface contamination and materials which reduce bond or prevent suction or wetting by repair materials.
Steel reinforcement:
Rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond or contributes to corrosion shall be removed to a minimum standard of SA2½.
Reference should also be made to BS EN1504-10:2003 for specific requirements.
Shutter/formwork:
Where formwork is to be used, all formwork should be of adequate strength, treated with release agent and sealed to prevent leakage. Ensure formwork includes outlets for extraction of the pre-soaking water. A header box/hopper should be constructed on one side of the formwork so that a head of 150-200 mm can be maintained during the pouring operation.
Substrate Preparation
Concrete:
Delaminated, weak, damaged and deteriorated concrete and where necessary sound concrete shall be removed by suitable mechanical or very high pressure waterblasting [up to 110 mPa (16500 psi)] techniques. Tying wire fragments, nails and other metal debris embedded in the concrete should be removed where possible.
The edges where concrete is removed should be cut at a minimum angle of 90° to avoid undercutting and a maximum angle of 135° to reduce the possibility of debonding with the top surface of the adjacent sound

concrete and should be roughened sufficiently to provide a mechanical key between the original material and Parex LA Repair Concrete repair mortar.
Ensure sufficient concrete is removed from around reinforcement to allow coating and compaction of the repair material.
The concrete substrate should be pre-soaked with clean potable water continuously for 2 - 6 hours prior to repair mortar application.
Immediately before pouring repair mortar, remove all excess or standing water from within repair area, any formwork, cavities or pockets.

Steel reinforcement:

Surfaces should be prepared using abrasive blast cleaning techniques or high pressure waterblasting [up to 60 mPa (9000 psi)] techniques.
Where exposed reinforcement is contaminated with chloride or other material which may cause corrosion, the reinforcement shall be cleaned by low pressure waterblasting [up to 18 mPa (2700 psi)].

Reinforcement corrosion protection coating:

Where a coating is required as a barrier, apply to the whole exposed circumference two coats of Sika® MonoTop -610 or SikaTop® Armatec-110 EpoCem®. (Refer to the relevant Product Data Sheet).
Reference should also be made to BS EN1504-10:2003 for specific requirements.

MIXING

Place the required quantity of water into a suitable forced action mixer such as a creteangle. Slowly add the powder to the water whilst continuously mixing. After all the powder is added mix for a further minute to ensure a smooth lump free consistency is achieved.

APPLICATION

Ensure sufficient Parex LA Repair Concrete has been mixed and available so the placing operation can be carried out in one continuous pour. Place from one side of the form until the area is full. When placing through a flexible tube to the bottom of the section, pour slowly and continuously to displace air upwards within the work piece.
For cold weather working consider using warm water to assist with achieving strength gain & other physical properties.

CURING TREATMENT

At temperatures between 5°C and 35°C, formwork should be left in place until the compressive strength of the LA Repair Concrete has reached at least 10N/mm2. Once the formwork has been struck any exposed concrete should be cured immediately to ensure full cement hydration and minimise cracking. Use polythene sheeting taped down at edges or other approved method. In cold ambient conditions protect recently placed concrete from freezing.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened/cured material can only be mechanically removed.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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