BUILDING TRUST

PRODUCT DATA SHEET

Parex CSU Grout

High strength grout suitable for saturated and under water situations.

DESCRIPTION

Parex CSU Grout is a one component, high strength, cementitious grout with addition of water resistant polymers designed for placement in saturated and under water situations.

USES

- Quays, piles and whalings
- Water crossing bridge columns
- Marine Installations
- Sea Defences
- Tunnels
- Culverts
- General repairs to under-water concrete structures

CHARACTERISTICS / ADVANTAGES

- High strength
- Good flowability
- Good vibration resistance
- Chloride free

APPROVALS / CERTIFICATES

CSU Grout complies with the requirements of Corps of Engineers Specification for Non Shrink Grout CRD C621.

PRODUCT INFORMATION

Composition	Cement, selected fillers and aggregates, special additives
Packaging	25kg bags
Appearance / Colour	Grey powder
Shelf life	6 months
Storage conditions	Store properly in dry conditions in undamaged and unopened original sealed packaging
Density	~2000kg/m³

TECHNICAL INFORMATION

Compressive strength	1 day	~21 N/mm²	(EN 12190)
	3 days	~37 N/mm²	
	7 days	~44 N/mm²	
	28 days	~50 N/mm²	
	Typical values @ 20 ºC		
Modulus of elasticity in compression	~30 KN/mm²		

Tensile strength in flexure	~10 N/mm² @ 28 days
Shrinkage	Less than 1% linear
Coefficient of thermal expansion	11 x 10^{-6}/ºC

APPLICATION INFORMATION

Mixing ratio	~5.0 - 5.5 L water for 25 kg powder
Yield	25 kg yields approximately 14.5 litres of grout.
Layer thickness	10mm min / 100mm max (up to 200mm when placed under water)
Initial set time	~280 mins @ 20ºC
Setting time	

BASIS OF PRODUCT DATA

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

IMPORTANT CONSIDERATIONS

- Do not exceed water addition
- Not to be used for patch repair works
- Do not use vibrating pokers
- Use only on clean, sound substrate
- Do not apply when there is a risk of frost
- Pour or pump from one side only
- Keep exposed surfaces to a minimum

ECOLOGY, HEALTH AND SAFETY

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Surfaces must be sound, clean, free from ice, oils, grease, standing water and any loose or friable particles and any other surface contaminants. The concrete “pull off” (tensile) strength should be > 1.0 MPa.
The substrate should be prepared by suitable mechanical preparation techniques such as high pressure water jetting, breakers, blastcleaning, scabblers, etc. The concrete substrates should be pre-soaked with clean water continuously for 2 - 6 hours to ensure a saturated surface dry condition throughout the operation. Immediately before pouring grout, remove all excess or standing water from within any formwork, cavities or pockets.
All formwork should be of adequate strength, treated with release agent and sealed to prevent leakage. Sealing can be achieved by using Sikaflex® -11FC+ sealant beneath or around formwork and between joints. 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 grout head of 150-200 mm can be maintained during the grouting operation.

MIXING

Pour 5.0 to 5.5 litres of clean water into a clean mixing vessel for each complete bag of Parex CSU Grout to be used. Slowly add the powder to the water whilst continually mixing. Mechanical mixing should be carried out using either a high torque slow speed drill with a Grout Stirrer or a grout mixer set on slow speed. High speed or colloidal mixing will cause thixotropy leading to loss of flow.

APPLICATION

Grout should be placed within 30 minutes of mixing. Continuous placing is important. Pour grout through a suitable tremmie pipe, formwork inlet or pump grout through a flexible tube of at least 50mm diameter to one side and the bottom of the formwork. The outlet of the tube may be raised to relieve back pressure but should not be allowed to clear the top of the grout being placed. Grout should not be allowed to free fall through water.

CURING TREATMENT

Grout which is placed in permanently or intermittently submerged situations will not require curing. Grout which is exposed above water should be cured in accordance with good concrete practice.

CLEANING OF EQUIPMENT

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

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

LEGAL NOTES

The information, and, in particular, the recommenda-

tions 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.