

## CSU GROUT

### Product Code

TG02, packaging listed overleaf

### Description

CSU Grout is a Portland cement based product with the addition of water resistant polymers designed for placement in saturated and under water situations. CSU Grout has high strength, good flow and non-shrink properties. Placed grout gives structural support and good vibration resistance. CSU Grout is chloride free and can be safely used in contact with steel.

Placement thickness may be in the nominal range of up to 100mm above water and up to 200mm when placed under water. For thicker sections 6mm Aggregate should be added at a rate of up to one to one Aggregate to CSU Grout. Aggregated mixes should be made in a standard concrete mixer.

Grout placement may be made by pouring or pumping in tidal zones or under water without significant loss of fines and cement

**Uses include:** Quays, piles and whalings  
Water crossing bridge columns  
Docks and sea walls  
General repairs to under-water concrete structures

### Typical Grout Properties @ 20°C

#### Compressive Strength

Water addition 5.0 litres per 25kg of CSU Grout

1 Day	21N/mm <sup>2</sup>
3 Days	37N/mm <sup>2</sup>
7 Days	44N/mm <sup>2</sup>
28 Days	50N/mm <sup>2</sup>

#### Variation In Water Content

Mix water variation for particular applications will alter grout consistency and compressive strengths.

#### Mechanical Properties

Flexural Strength	10N/mm <sup>2</sup> @ 28 days
Density	2000 kg/m <sup>3</sup>
Coefficient of Thermal	11 x 10 <sup>-6</sup> /°C
Compressive Modulus	30KN/mm <sup>2</sup>
Initial Set	280 minutes
Final Set	340 minutes

### Specification Outline

Grouting shall be carried out using CSU Grout as manufactured by Parex Limited. The product must be stored, handled and placed in accordance with the manufacturer's instructions.

### Quality Assurance

Parex Limited is a firm of Assessed Capability. The Company's quality system conforms to BS EN ISO 9001:2008 and is assessed by UK CARES LTD.

### Standards

CSU Grout has been tested in accordance with the appropriate parts of the following standards:

EN 12390 EN 197

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

### Instructions For Use

#### Preparation

All loose and oily deposits should be removed to produce a clean and sound substrate. Surfaces contaminated with plant growth should be cleaned by water blasting. Where appropriate, mechanical preparation may be carried out. Formwork should be erected and made grout tight. Joints and edges should be sealed with suitable foamed rubber strips.

#### Mixing

Pour 5.0 to 5.5 litres of clean water into the mixing vessel for each complete bag of 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.

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### Instructions For Use

#### Placing

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

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.

### Precautions

#### Health and Safety

CSU Grout is alkaline when mixed with water and should not come into contact with skin or eyes. Avoid inhalation of dust during mixing and wear safety glasses, dust mask and gloves. If skin contact occurs wash thoroughly with clean water. Should eye contact occur rinse immediately with plenty of clean water and seek medical advice.

Full health and safety data are given in the Product Safety Data Sheet.

#### Fire

CSU Grout is non-flammable.

#### Yield

Each 25kg bag of CSU Grout will yield approximately 14.5 litres of mixed grout.

Each 25kg bag of CSU Grout plus 25kg of 6mm aggregate will yield approximately 24.5 litres of mixed material.

### Storage And Shelf Life

CSU Grout will have a storage life of 12 months in unopened bags when kept in dry conditions at a temperature between 5°C and 45°C. Storage at higher temperatures or high humidity may reduce shelf life.

### Packaging And Ordering

CSU Grout is supplied in 25kg bags.

25kg Bag Product Code: TG02

For further information and sales please contact your local Parex Products Office as listed below.

Parex Limited products are guaranteed against defective materials and manufacture. Products are sold subject to the Parex Limited Terms and Conditions of Sale, copies of which are forwarded on invoice and are available on request. Parex Limited endeavours to ensure that the above data and any further advice is correct, however, it cannot accept any direct or indirect liability for the use of its products as such usage is beyond its control.