

Description

100 Newton Grout is an ultra high strength grout specially formulated using a Portland cement powder mix. The mix design consists of a blend of fine and ultra-fine cements, high quality graded sands and a set of synergistic admixtures. The mix design includes special shrinkage compensating components, which give a non-shrink grout in both the plastic and hardened states. Powerful plasticising agents produce a highly flowing grout at low water content.

The product is supplied pre-packaged ready for onsite mixing and only requires measured water addition. The material readily mixes with water to produce the ultra high strength grout that is easily placed to give exceptional structural support and vibration resistance.

100 Newton Grout may be safely used in contact with reinforcing steel and structural steel elements due to its very low chloride content. The specialised mix design enables placement at low water content leading to good freeze-thaw stability, low water absorption plus resistance to oil, sea water and mild alkali attack.

Placement thickness may be in the nominal range of 10mm to 100mm. 100 Newton Grout is suitable for pumping applications, pumping trials are recommended prior to site application to ensure pumping equipment is suitable, alternatively consult our Technical Services Department for guidance on suitable plant.

Uses include:

- Ultra high strength grout and support systems for:
 - Crane rail tracks.
 - Stanchion bases.
 - Vibrating machinery bed plates.
- Ground anchors.
- Bridge bearing seats.

Technical Data

Typical Grout Properties @ 20°C

Water addition at 18% water to powder.

Strength profile in N/mm ²				
Age	1 day	3 days	7 days	28 days
Compressive	50	70	85	100
Flexural	6	7	9	10
Tensile	4	6	8	9

Typical Grout Properties @ 5°C

Water addition at 18% water to powder.

Strength profile in N/mm ²				
Age	1 day	3 days	7 days	28 days
Compressive	30	50	75	90
Flexural	4	5	8	10
Tensile	3	4	5	6

Additional Properties @ 20°C

Water addition at 18% water to powder.

Density	2250kg/m ³
Compressive Modulus	32kN/mm ²
Initial Set	220 minutes
Final Set	300 minutes

Specification Outline

Grouting shall be carried out using 100 Newton Grout as manufactured by Parex Ltd. The product must be stored, handled and placed in accordance with the manufacturer's instructions.

Accreditations

Parex Ltd has an integrated management system which is externally accredited to ISO9001:2008, ISO14001:2004 and OHSAS18001:2007. These products also conform to BES 6001.

Standards

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

- EN 12390, EN 196, EN 1015
- Corps of Engineers Specification for Non Shrink Grout CRD C621

Instructions For Use

Preparation

Formwork should be erected and made grout-tight. The formwork must be designed with sufficient hydrostatic head to ensure grout flow into and across the grouting area. Saturate the grouting area with water. Leave for 1 hour and then blow out any surplus water.

Mixing

Pour the required quantity of clean water (2.7 litres per 15kg tub, 4.5 litres per 25 kg bag or 180 litres per tonne) into the mixing vessel for each complete unit of 100 Newton 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 for small mixes, or for larger mixes forced action type mixers (High speed or colloidal mixing may cause thixotropy leading to loss of flow). **This material is not suitable for mixing by hand.** It is of utmost importance that the product is mixed thoroughly enough that a grout consistency is obtained **without** the addition of further water. Fresh grout should be allowed to stand until the air entrapped by mixing has been released.

Placing

Grout should be placed within 10 minutes of mixing or 60 minutes if kept mobile prior to placing. Continuous placing is important, pouring or pumping from one side of the form until the grout appears at the opposite side of the grouting area. Do not disturb once grouting has been completed. 100 Newton Grout may be placed at temperatures between 5°C and 35°C. For placing at temperatures outside this range contact our Technical Services Department for advice.

Curing

Placed grout, which is exposed, should be cured in accordance with good concrete practice including water spray or the spray applied curing membrane Polycure.

Precautions

Health and Safety

100 Newton 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 Product Safety Data Sheet.

Fire

100 Newton Grout is non-flammable. Fire Class A1.

Yield

1.0kg of 100 Newton Grout will yield approximately 0.5 litres of mixed grout at the recommended water addition.

1 tonne of 100 Newton Grout will yield approximately 0.52m³ of mixed grout at the recommended water addition.

The yield per 25kg of 100 Newton Grout is approximately 12.5 litres.

Storage And Shelf Life

100 Newton Grout will have a storage life of 6 months in unopened bags when kept in dry conditions at a temperature between 5°C and 45°C. Storage at higher temperatures and/or high humidity may reduce shelf life.

Packaging And Ordering

100 Newton Grout is supplied as follows:

25kg Bag	Product Code TG134
1 tonne bulk bag	Product Code TG115
15kg Tub	Product Code TG102

Ancillary products

Polycure 5 litres	Product Code ABPF03
Polycure 200 litres	Product Code ABPF05
Grout Stirrer 100mm	Product Code TM 82

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

Parex Ltd products are guaranteed against defective materials and manufacture. Products are sold subject to the Parex Ltd Terms and Conditions of Sale, copies of which are forwarded on invoice and are available on request. Parex Ltd 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.