

Description

(D.o.T. Highways Spec: - 2601 Compliant)

Ultima High Flow Construction Grout is a non-shrink, high strength cementitious grout comprising of low alkali high specific area Portland cements and other cementitious binders combined with high purity aggregates and a system of compatible admixtures to achieve high in service performance. This grout has high flow characteristics to achieve penetration and levelling with no bleed and zero shrinkage when placed at 0.22 water solid ratio.

Uses

Ultima High Flow Construction Grout has been specifically designed to provide a high strength fluid grout for pouring into and under stanchion plates, machine base plates, parapet rails, for supporting bridge bearings and for filling ducts in post tensioned and pre-stressed structures.

Key Properties

- Equivalent Sodium Oxide is less than 3.0kg/m³.
- High ultimate strength.
- Shrinkage compensated.
- Can be used for grouting sections up to 100mm thick.
- Chloride free.
- High fluidity – can be pumped or poured.
- Complies with U.S. Corps of Engineers Specification CRD-C 621.

Yield

The approximate yield of mixed grout per tonne of dry powder is 0.61m³. The approximate quantity of dry powder required to produce 1m³ of set grout is 1.64 tonnes. This equates to 12.2 litres per 20kg of dry powder. These figures do not allow for site wastage.

Supply

Ultima High Flow Construction Grout is supplied in 20kg sacks, with 49 bags to a pallet.

Typical Performance

Compressive Strength (N/mm ²)	
1 day	15
7 day	40
28 day	65
Flexural Strength (N/mm ²)	
1 day	3
7 day	6
28 day	8
Setting Times (Minutes)	
Initial	240
Final	360
Expansion Results (%)	
1 day	0.01
7 day	0.05
Water/Solid ratio	0.22
Application Thickness	10mm – 100mm
Pot Life	Approximately 30 mins (Can vary with temperature)
Flow Characteristics	A typical flow-channel figure would be in the range of 500mm – 700mm

Data is derived from laboratory testing at 20°C and at a water solid ratio of 0.22.

Note: The typical data shown is intended as a general guide and is based on tests carried out under controlled conditions.

Packaging and Storage

Ultima High Flow Construction Grout is available in nominal 20kg sacks, palletised and shrink wrapped.

Palletised Ultima High Flow Construction Grout should be stored in cool dry areas clear of the ground, sheeted or under cover and stacked not more than two pallets high. The product should be used on a first in – first out basis.

Shelf life is 6 months in paper bags and 12 months in plastic bags (from the date shown on the bag). Subject to correct storage conditions.

Mixing Instructions

The grout should be mixed using water that complies with BS EN 1008 (as for concrete). It should be mixed in a suitable container using either an electric (1kW) or pneumatic power tool. Larger amounts can be mixed in a forced action paddle mixer.

20kg of the grout powder should be added carefully to 4.4 litres of water, progressively mixing until a fluid grout consistency is achieved.

Small quantities can be mixed by hand, care being taken to accurately measure the water.

Once mixed, the material must not be reworked.

Application and Placing

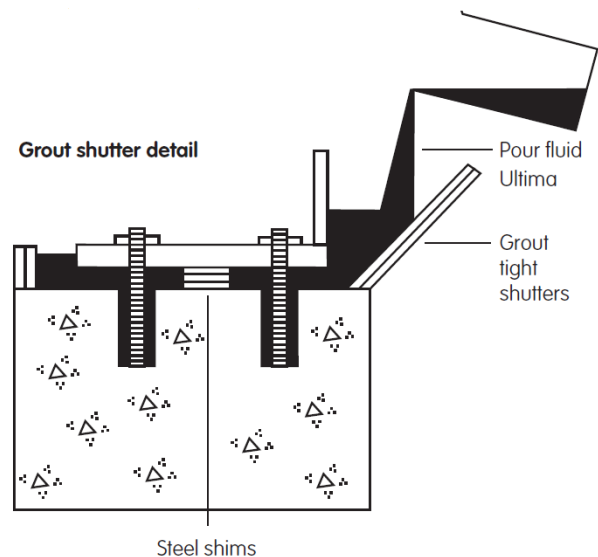
Ultima High Flow Construction Grout can either be poured or pumped into position. Due to the relatively short pot life pumped operations must be executed quickly particularly in warm weather conditions.

For best results the grout should be placed immediately on completion of mixing. Ensure all surfaces with which the grout will come into contact are clean and dust free. Ideally, concrete substrates should be thoroughly soaked for several hours prior to the grout being applied to reduce suction.

Permeable concrete should be treated with a suitable concrete primer such as Acrylic Primer. Shutters must be impermeable to the passage of water and both strong enough and sufficiently supported to contain the placed grout. When gravity placed, sufficient hydrostatic head must be given and grout volume maintained to enable the material to flow completely through the void to be filled from one side of shutter only. A minimum 50mm head is recommended. Immediately prior to placement all excess water should be removed. Any grout exposed to wind or drying conditions should be suitably protected, preferably by coating with a wax-free Curing Agent.

Any grout that is likely to be subject to low temperature immediately after placing or during its early strength development should be protected by covering with hessian or other insulative material. For concreting in cold weather reference should be made to BS8110 Pt. 1 Section 6.

Shutter detail for pouring Ultima High Flow Construction Grout



Grout should be chamfered to ensure that unrestrained shrinkage cracking does not occur.

Quality Control

Ultima Grouts are factory blended, tested and packaged to quality control procedures in accordance with BS EN ISO 9001.

Clean Up and Spillages

Dry powders should be swept up and disposed of in accordance with the Local Authority.

Health and Safety

Health and safety advice, which must be followed, can be found on the Material Safety Data Sheet. Users are advised to wear face mask, goggles, gloves and overalls when handling, mixing and applying cementitious products.

Contains Portland Cement Contains Chromium (VI), which may produce an allergic reaction. Clothing contaminated by wet cement should be removed immediately and washed before reuse. R38 – Irritating to skin. R41 - Risk to serious damage to eyes. S26 -

In case of contact with eyes, rinse immediately with water and seek medical advice. S37/39 – Wear suitable gloves and eye/face protection. S2 - Keep out of reach of children.