

FEBGROUT UNIVERSAL

High Precision Flowable Grout

Description of Product

FEBGROUT UNIVERSAL is a ready to use, non-shrink construction grout. It can be used as fluid or plastic consistencies for grouting of equipment and machinery, bearing pads, rails and anchoring.

Typical Uses

FEBGROUT UNIVERSAL is recommended for:

- Grouting bearing pads and plinths.
- Grouting under machinery base plates, stanchion bases and crane rails.
- Anchoring bolts, reinforcing bars and rods.
- Underpinning.

Features and Benefits

- Non shrink for effective contact and support.
- High early strength for rapid installation and use of plant.
- Durable, uniform dense structure.
- Good workability into gap widths of down to 10mm for up to 1 hour at 20°C.

Instructions for Use

Surface Preparation

All surfaces must be clean and sound. Remove all surface laitence by acid etching or grinding, also dust and debris. All surfaces should be thoroughly wetted 2 - 6 hours before starting and be in a moist condition during placing. Any free surface water must be removed before application.

Mixing

For optimum results a high shear paddle or vane grout mixer should be used. Colloidal impeller mixers are not suitable for use with this product. Air entrainment should be avoided. For large or continuous placement ensure that adequate mixing capacity and sufficient labour is available. Add the correct amount of water for the required consistency to the mixer and then add the complete pack(s) slowly while mixing. Mix for a further 3 –4 minutes until smooth and cohesive. Allow to stand for 1 minute before use. Re-mix and use immediately.

Strength Development: The strength of the grout is often the determining factor in deciding when loads can be put on structural members or machinery. The strength of the grout is dependent on the amount of mixing water, temperature of the object grouted, curing and age of hardened grout.

Application

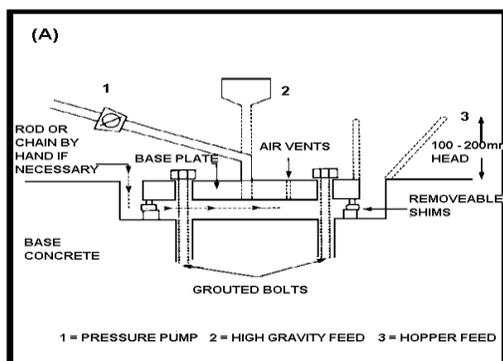
Under plates: Ensure sufficient material is available to complete the work and obtain a continuous fill. Pour from one side only to avoid air entrapment, keeping a head on the grout to promote flow. DO NOT vibrate but rods, straps and chains can be used to aid complete filling. A high gravity feed may also be used.

Grouting large volumes: FEBGROUT UNIVERSAL may be used up to 75mm thick sections. Above this the addition of clean, graded 10mm aggregates at up to one to one by weight is recommended. In this instance normal concrete mixers and pumps may be used.

Pumping: FEBGROUT UNIVERSAL may be placed using piston, ram or diaphragm type grout pumps fitted with ball valves. In all cases, ensure maximum restraint is maintained; otherwise compressive strength will be reduced.

Placing

Diagram (A) illustrates typical placements of FEBGROUT UNIVERSAL in the flowable state utilising straight pouring or pumping techniques to place a bedding mortar under bearing plates. Note that unrestrained areas around baseplates should always be kept to a minimum (<150mm).



Unrestrained areas: Even with good curing, unrestrained areas of grout, for example around baseplates, may exhibit drying shrinkage cracking some time after placement. This is not detrimental to the performance of the grout where it is restrained under the plate or bearing, but may affect the cosmetic appearance of the application.

Curing Good curing is essential on all exposed surfaces particularly in dry, sunny conditions. Failure to do so will reduce bond, strength and durability.. Alternative methods are water ponding, mist spraying and the like, but in all cases these must be maintained for at least 7 days. Keep the grout above 5°C at all times during application and cure.

Coverage

25Kg of FEBGROUT UNIVERSAL mixed with 2.3 – 3.9 litres of water produces approximately 13.4 litres (0.0134 m³) of grout. (Approximately 75 x 25Kg bags per m³), using more or less water to meet consistency requirements, will increase or decrease the yield accordingly

Storage

Store in cool dry conditions away from direct sunlight and at ambient temperatures.

Shelf Life

9 months from date of manufacture when stored as directed.

Technical Data/Typical Properties

Colour	Grey
Gap Width (minimum and max)	10mm- 100mm
Joint Depth	10mm minimum, 75mm maximum
Workability @ 20°C	approx 2 hours
Setting time (initial) @ 20°C	approx 8 hours
Final set @ 20°C (trafficable)	approx 12 hours
Coverage	approx; 2 bags/m ² @ 25mm depth
Minimum application temperature	+5°C (when mixed as directed above)
Yield per 25kg (mixed as directed)	13.25 (fluid) -13.50 ltrs (flowable)
Density (wet)	~2200kg/m ³
Early Expansion	0.25 – 0.5%
Typical strengths	
TIME AFTER PLACEMENT	COMPRESSIVE STRENGTH (N/mm²)
1 day	18 - 20
7 days	40 - 45
28 days	50 - 55