B 31

High Early & Ultimate Strength, cementitious, structural precision grout

DESCRIPTION
B 31 is an advanced, cementitious, structural grout with high early & ultimate strength properties. It has a blend of Portland cement, graded aggregates and additives. B 31 is versatile and can be prepared to be of flowable or pumpable consistency by adding the required amount of clean water.

USES
B 31 is used in grouting of heavy machinery base plates, compressors, turbines, generators, bridge bearings and other equipment demanding high flow and high early strength properties.

FEATURES
- High early strength: ideal for quick turn-around of subsequent works
- Controlled expansion ensures rigid bond between base plate & concrete foundation.
- Versatile: can be prepared to be of flowable or pumpable consistency.
- Chloride free & non-corrosive
- Very high ultimate compressive strength
- Grouting up to 120mm thickness

PHYSICAL PROPERTIES

B 31	@ 27 ± 1°C
Water / Powder Ratio	
Pourable consistency	0.12
Flowable consistency	0.13
Pumpable consistency	0.14
Highly Pumpable consistency	0.15
Flow at 0.14 water/powder ratio	210 - 250 mm
Time for expansion	
Start	15 minutes
Finish	2 hours
Fresh wet density	Approximately 2325 kg/m^3 depending on actual consistency used
Expansion characteristics	An expansion of 1 - 3% overcomes plastic settlement in the unset material
Compressive strength	
Water / Powder Ratio: 0.13	
12 hours	>10 N/mm^2
16 hours	>25 N/mm^2
1 day	>40 N/mm^2
3 days	>60 N/mm^2
7 days	>70 N/mm^2
28 days	>85 N/mm^2
ASTM C 1107	

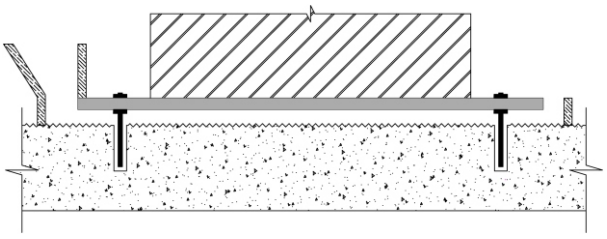
PACK SIZE
25kg

YIELD
Approx 12 litres (25kg of B 31 + 3.25 litres water)

APPLICATION INSTRUCTIONS
Substrate Preparation
The substrate must be hard, sound and free of dust, dirt and other loose material. The underside of the base plate should be free of rust, oil, grease or other contaminants that could hinder the bond. The minimum gap width of 25mm should be maintained between the base plate and the foundation. Ensure soaking of the prepared surface with clean water for a minimum of 24 hours before starting of the grouting operation. Immediately prior to grouting remove all standing water using high powered blower taking care to blow out water from the bolt holes and pockets.

Formwork
Formwork fitted around the base plate should be rigid and water-tight to prevent grout loss. The top of the formwork should be a minimum 25mm above the bottom level of the base plate. On the pouring side (which should be the shortest distance along the base plate), the formwork should be minimum 150mm high to allow a head of grout to build up. The grout head must be achieved at all times during the grouting operation to eliminate air pockets.Ensure continuous grouting operation without stoppage.

Generally, the gap width between the base plate and the formwork is maintained at 100-150mm on the pouring side and 50mm on the opposite side. Whenever possible, gap between the base plate and formwork should be avoided at the shoulders as unrestrained grouts have a tendency to crack.



Mixing
Add 90% of the pre-measured mixing water in a clean container and then slowly add B 31. Mix thoroughly for 3 minutes using a heavy duty slow speed drill (400-600 rpm). Then add the remaining 10% water and continue mixing for another 2 minutes. This will ensure a smooth even consistency of the grout. Place the grout immediately after mixing

Note: It is recommended to keep the water temperature below 25°C for long working time of the grout.
Pourable consistency @ w/p ratio of 0.12 = 3 litres
Flowable consistency @ w/p ratio of 0.13 = 3.25 litres
Pumpable consistency @ w/p ratio of 0.14 = 3.50 litres
Highly Pumpable consistency @ w/p ratio of 0.15 = 3.70 litres

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Placing of grout
Ensure that sufficient grout mix is prepared and ready for the work. The bolt pockets must be first grouted before grouting between the base plate and substrate. Continuous grout flow is essential to ensure no air pockets are formed. Ensure that the grout reaches the other end of the formwork and overflows to release any trapped air.

CURING
On completion of the grouting operation, exposed areas should be thoroughly cured either with wet hessian or with C 20 curing compound.

STORAGE AND SHELF LIFE
B 31 has a shelf life of 6 months if kept in a dry, clean store between 5°C and 30°C in the original unopened bags. The product should be protected from frost, away from direct sunlight and sources of heat.

PRECAUTIONS
Avoid contact with eyes and prolonged contact with the skin. Care should be taken to avoid inhalation or ingestion of dust and prevent contact with the eyes. In case of contact with eyes, flush with ample amount of clean water and seek medical advice if necessary.

DISPOSAL/SPILLAGE
Spillage of the product should be absorbed onto sand or other inert materials and transferred to a suitable disposable vessel. Disposal of such spillage or empty packaging should be in accordance with local waste disposal authority regulations.

For further information please refer to the Material Safety Data Sheet.

CONDITIONS OF SALE
Sold subject to the Company's conditions of sale which are available on request.

NOTE
The information supplied in this datasheet is based upon extensive experience and is given in good faith in order to help you. Our Company policy is one of continuous Research and Development; we therefore reserve the right to update this information at any time without prior notice. We also guarantee the consistent high quality of our products. However, as we have no control over site conditions or the execution of the work, we accept no liability for any loss or damage which may arise as a result thereof.

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