EPIREZ

TECHNICAL DATA

Super Strength Grout

High Strength Non-Shrink Cement Based Grout

Description

Epirez® Super Strength Grout is a new version of the leading cement-based, non-metallic, non-shrink grouts available in the market place. It is a higher performing, multi use, general purpose, precision, construction grout specifically designed to offer extended working time for all critical and general purpose grouting requirements, particularly in Australian climatic conditions.

This product should be specified for construction site applications demanding higher performance over conventional construction grouts. **Epirez® Super Strength Grout** is supplied ready-to-use as a dry powdered product requiring only the addition of water to be used for a wide range of construction applications.

Epirez® Super Strength Grout is a plastic stage expansion, Class C grout meeting the requirements of the U.S. Corps of Engineers CRD-C-621-83 for non-shrink grouts.

Areas of application

- Structural columns
- Anchors or fixings
- Compressor grouting
- Large heavy operating equipment
- Rail grouting
- Precast and prestressed concrete

Features

- Precision non-shrink
- High early strength
- Wide range of applications
- Long working time
- No chlorides
- Dimensionally stable
- Most Versatile
- Can be used in a range of consistencies from dry pack to flowable

Last Modified July 2006

General properties

Shelf Life	12 months, unopened, dry
Work Time	60 mins @ 25ºc (with 3.6L water)
25 mins @ 35ºc	
Yield	9.7 to 10.8 / 20 kg bag
Initial Set	3 hours minimum @ 25ºC
Final Set	5 hours minimum @ 25ºC
Thickness Range	20 mm to 75 mm

Compressive Strength	2.4 ltrs water/20 kg	3.6 ltrs water/20 kg
	(AS 2073 at 25°C)	
1 day	35 MPa	25 MPa
7 days	60 MPa	53 MPa
28 days	80 MPa	70 MPa

Flow Retention at 25ºC		% of Initial Flow
(flow trough method)		
After 15 minutes	:	85%
After 30 minutes	:	80%
After 60 minutes	:	70%

Estimating data

Consistency	Water Ratio	Yield	Yield
	Litres / 20 kg bag	Litres / 20 kg bag	Bags / m^3
Dry pack	2.0	9.68	104
Trowellable	2.4	9.76	103
Pumpable	3.2	10.48	96
Flowable / Pourable	3.6	10.8	93

Application directions

Foundation Preparation

All surfaces should be free from oil, grease, laitance or loose material. If the concrete surface is loose, defective or has laitance, it should be cleaned to a sound base. Bolt holes or fixing pockets should be blown clean of any dirt or debris.

Several hours prior to grouting, the prepared foundation should be flooded for pre-soaking with fresh water, immediately prior to grouting, any standing water should be removed, inspect pockets and bolt holes for water removal.

Base plates should be clean and free of all oil, grease and scale. Where necessary air vents should be provided at high spots or shear keys.

Surface preparation guidelines cannot cover all site or field contingencies and it is always recommended that an on the spot adhesion test be performed as part of the Standard Quality Assurance audit for the project.

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Formwork

To ensure quick and easy placement of grout, formwork should be placed around baseplate. Formwork should be higher than the underside of the baseplate, and should be well fixed, watertight and treated with a concrete release agent.

Placement

To ensure continuous grout flow any bolt holes should be pre-grouted level with the substrate. Sufficient grout must be available prior to commencement and the time taken to pour a mix balanced with the time taken to prepare the next one. Pour from one side only to eliminate the creation of voids by entrapment of air or any surplus pre-soaking water. A grout head must be maintained at all times so that a continuous grout front is achieved.

Make certain that the mixed grout is placed promptly (within 30 minutes of mixing) and continuously, before expansion commences. Grout bed should be finished level with the underside of the baseplate.

General mix design and mixing

Use a high shear mechanical mixer or power tool (400 rpm) and appropriate mixing paddle. Refer to ITW Polymer & Fluids Technical Department for suitable choices. Ensure that machine capacity and manpower is adequate to enable grouting to be carried out as a continuous operation. Observe the accurate gauging of water addition and the mixing time. When using a mechanical mixer to prepare pump and flow consistency grouts, add approximately 90% of the recommended water requirement to the mixer first and then add the dry powder. Mix for 2 minutes before adjusting the consistency with the remainder of the water. Mix until homogeneous for at least another 3 minutes. Do not REMIX. For best recommendations contact ITW Polymer & Fluids Technical Department.

Curing

On completion of grouting, cover all exposed grout with wet burlap and plastic to prevent moisture loss. Maintain until grout has hardened. After cutting back or finishing, continue curing, for a minimum of 3 days with wet burlap followed by the application of a curing compound to ensure long term curing. Failure to prevent early moisture loss can result in plastic cracking, drying shrinkage, cracks in grout shoulders and a possible reduction in ultimate strength development.

Special Considerations

Hot Weather Grouting: Special precautions should be taken when **Epirez® Super Strength Grout** is used under extreme hot and windy conditions. In very hot conditions grout and water should be stored at or below 25°C and if required, substrate should be water cooled in advance.

Cold Weather Grouting: The temperature of the grout and surroundings during application should be above the lower application limit of 5°C. Below this, precondition grout, water and substrate to raise the temperature (ideally to approximately 20°C) before applying the grout. Please contact your local ITW Polymers & Fluids office for full technical assistance and recommendation for special applications.

Cleaning

Epirez® Super Strength Grout should be removed from tools and equipment immediately after use with clean water.

Limitations

Epirez® Super Strength Grout should not be applied at temperatures below 5ºC

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Storage and Shelf life

When stored in original sealed packaging under dry conditions shelf life is 12 months.

Packaging

Epirez® Super Strength Grout is available in 20 kg moisture resistant, multi-ply bags.

Ordering Information:

20 kg bags #E991621

Safety Precautions

Epirez® Super Strength Grout is non-toxic, but is alkaline in nature. Gloves should be worn. Splashes to the skin or eyes should be washed off with clean water. In the event of prolonged irritation, seek medical advice. Keep contents away from children**.**

TDG Code: Not Classified

Note

The figures quoted for work time, set time, yield and strength development are not definitive. They are dependent on job site conditions and will vary accordingly. In all cases we endeavour to provide typical figures for use as a guide.

Health & Safety Information

The product is hazardous. A Material Safety Data Sheet is available from the ITW Polymers & Fluids Technical Department upon request or available on our website www.epirez.com.au .

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