EPIREZ®

TECHNICAL DATA

Hot Weather Class C Grout

Epirez® 380C Grout

Description

Hot Weather Class C Grout (380C) is a cement based, non-shrink, non-ferrous grout specifically designed to offer extended working time for all critical and general purpose grouting requirements, particularly in hot climates.

Hot Weather Class C Grout (380C) is supplied ready-to-use as a dry powdered product requiring only the addition of water.

Hot Weather Class C Grout (380C) is a precision grout meeting the requirements of the U.S. Corps of Engineers CRD-C-621-83 and Class 'C' according to SAA MP 20.3 for non-shrink grouts.

Areas of application

Hot Weather Grouting of:-

- Machine baseplates
- Structural columns
- Rail Grouting
- Bridge bearings
- Underpinning
- Tank Bases

Features

- Non-shrink
- Can be pumped or poured
- Wide range of applications
- Extended working time
- No chlorides
- Dimensionally stable

The information contained in this Technical Bulletin is as up to date and correct as possible as at the time of issue. The data provided should be used as a guide only as the performance of the product will vary depending on differing operating conditions and application methods.

The sale of any product described in this Technical Bulletin will be in accordance with ITW Polymers & Fluids Conditions Of Sale, a copy of which is available on request. To the extent permitted by law, ITW Polymers & Fluids excludes all other warranties in relation to this product.

Last Modified July 2006

General properties

Shelf Life	:	12 months, unopened, dry
Type	:	Class C
Thickness Range	:	20 mm to 75 mm
Work Time	:	60 mins @ 25ºc (with 3.6L water)
	:	25 mins @ 35ºc
Initial Set	:	3 hours @ 25^0C
Final Set	:	5 hours @ 25ºC
Yield	:	9.7 to 10.8 / 20 kg bag

Compressive Strength	**2.4 ltrs water/20 kg**	**3.6 ltrs water/20 kg**
(AS 2073 at 25ºC)		
1 day	35 MPa	25 MPa
7 days	60 MPa	53 MPa
28 days	75 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 a ‘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

Hot Weather Class C Grout (380C) should be cured for a minimum of 24 hours with wet cloths covered with plastic sheeting. Failure to prevent early moisture loss and ensure long term curing, particularly in hot climates, can result in plastic cracking, drying shrinkage cracks in grout shoulders and a reduction in ultimate strength.

Do not remove forms or cut back grout before sufficient hardness has been achieved to resist penetration from a pointed masonry trowel.

Following wet curing and removal of forms, all exposed surfaces should be coated with a concrete curing compound to ensure long term curing. In-service operation may begin immediately after minimum required grout strengths have been reached.

Special Considerations

Hot Weather Grouting: Special precautions should be taken when **Hot Weather Class C Grout (380C)** is used under extreme hot and windy conditions. In very hot conditions grout and water should be stored at or below 25ºC 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 5ºC. Below this, precondition grout, water and substrate to raise the temperature (ideally to approximately 20ºC) before applying the grout. Please contact your local ITW Polymers & Fluids office for full technical assistance and recommendation for special applications.

Cleaning

Hot Weather Class C Grout (380C) should be removed from tools and equipment immediately after use with clean water.

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Limitations

Hot Weather Class C Grout (380C) should not be applied at temperatures below 5^0C

Storage and Shelf life

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

Packaging

Hot Weather Class C Grout (380C) is available in 20 kg moisture resistant, multi-ply bags.

Ordering Information:

20 kg bags, 50 per pallet #E991618

Safety Precautions

Hot Weather Class C Grout (380C) 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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