



Chockfast RED[®]

TECHNICAL DATA

Deep Pour Epoxy Grouting Compound

Description

Chockfast[®] Red is a three-component, high strength, 100% solids, epoxy grouting compound, which is used to grout large machinery and to support soleplates in all types of foundation designs.

Chockfast[®] Red has extremely high compressive strength and negligible shrinkage, making it ideal for the final positioning of critically aligned machinery within close tolerances.

Chockfast[®] Red has the following advantages when compared to conventional cement grouts:

- Impervious to oil
- Cures at least three times as quickly
- No mixing ratios to measure
- Grouts machinery in final aligned position
- Higher physical strength
- High impact strength
- Resistance to many more chemicals
- Strong bond to metal and concrete
- Unaffected by weathering and freeze/thaw cycling
- Stated physical properties assured
- Superior resistance to fatigue

Chockfast[®] Red contains no non-reactive diluents which could interfere with the curing mechanism or which could cause material loss during or after cure. Machinery may be positioned at its final elevation before pouring because the shrinkage is negligible. Critical alignments are maintained during machinery operation due to its high dimensional stability and resistance to creep and vibration.

Chockfast[®] Red may be mixed with a contractor's hoe and wheelbarrow or in a small portable mortar mixer. Precondition resin, hardener and aggregate to 18°-27°C for 48 hrs, before mixing. Thoroughly mix hardener with resin first before mixing in aggregate. Where a very flowable mix is required, the aggregate content may be reduced accordingly. However, in load bearing areas a maximum reduction to 3-1/2 bags is recommended. Please contact ITW Polymers & Fluids Technical Department if less than 3-1/2 bags are being considered.

Only when **Chockfast[®] Red** is pumped the aggregate may be maximally reduced to 3 bags

Chockfast[®] Red is quick curing, relative to cement grouts, but the cure is thermally gentle. This allows thick pours to be made without causing the stress cracks often associated with a hot-curing epoxy grout. **Chockfast[®] Red** may be used in thicknesses greater than 30mm, however, individual pours should generally not exceed 460mm in thickness and 2.2m in length. When grouting highly critically aligned machinery, which is coupled to another machine, it is advisable to limit the final levelling pour.

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.

Physical Properties(4 bag mix):

Coefficient of Linear Thermal Expansion: Temperature Range 0°to 60°C	20.1 x 10 ⁻⁶ /C°	ASTM D-696	
Compressive Modulus of Elasticity:	13,812 MPa	ASTM C-579	(Modified)
Compressive Strength:	105.3 MPa	ASTM C-579	(Modified)
Fire Resistance:	Self-extinguishing	ASTM D-635	
Flexural Strength:	27.8 MPa	ASTM C-580	
Flexural Modulus Of Elasticity:	13,812 MPa	ASTM C-580	
Izod Impact Strength:	0.02 N.m/mm	ASTM D-256	
Linear Shrinkage:	Not measurable	ASTM D-2566	
Pot Life:	Approximately 3 hours @ 21°C		
Specific Gravity:	2.06		
Tensile Strength:	133 kg/cm ²	ASTM D-638	
Packaging:	Resin: 6.1 litres Hardener: 3.4 litres Aggregate: 4 x 21 kg bags		
Packaging for pumping:	Resin: 6.1 litres Hardener: 3.4 litres Aggregate: 3 x 21 kg bags		
Shelf Life:	2 years in dry storage		

Estimating Data

94 kg kit Chockfast® Red = 45.3 liters
73 kg kit Chockfast® Red = 34 liters

Application Directions

Introduction

The following CHOCKFAST® surface preparation, mixing, pouring and storage procedures have been written as an aid for contractors and end users applying CHOCKFAST® on a job site.

If the application procedures are not adhered to it is recommended that the user contact ITW Polymers & Fluids Technical Department for alternate methods. All procedures in this technical data sheet apply to Chockfast® Red, unless stated otherwise.

Grout Storage

- All grout materials should be stored in a dry, shaded area in original unopened containers. Recommended storage temperatures are 16°- 35° C.
- The materials have a shelf life in excess of 12 months.
- The grouting materials should be pre-conditioned to a minimum of 19°- 27° C for 24 to 48 hours before mixing and application.
- Construct a shelter over the foundation to protect the work area from the elements particularly during cold, wet or very hot conditions.

Foundation Preparation

- New concrete needs to be 21 to 28 days fully cured or have a compressive strength of 21 MPa and tensile strength of 2.1 MPa. In order to insure a good bond of epoxy to the concrete, check that hydration has ceased.

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- The concrete should be chipped to remove all laitance and 50% of the aggregate exposed to provide a rough bonding surface for the epoxy. Dowels should be installed on new exposed concrete to prevent edge lifting.
- The concrete foundation should be dry and oil free before the pouring of grout.
- Form as for concrete using good quality form material. Fit 30mm x 45mm chamfer pieces. Wax or grease all surfaces of forming in contact with resin. Seal all gaps with suitable mastic or putty
- Sleeve all foundation bolts in way of resin to prevent adhesion and to allow bolt stretch. *Construct header boxes if resin has to flow more than one metre.

Preparation of Baseplates or Soleplates

- All 90° angles on steelwork in contact with the epoxy should be rounded to reduce stress concentrations in the grout. Round shim stock is preferred.
- Surfaces of baseplates or soleplates in contact with grout should be sandblasted to a clean, oil free, dry surface. Epoxy primer can be applied to the clean metal surfaces to prevent rusting.

Mixing

- Pour contents of Hardener into Compound container and mix thoroughly for 3 minutes with a suitable blade fitted to a 400 rpm power mixer. Ensure all material around bottom and sides of can is incorporated.
- Chockfast® Red should be mixed in a 15 -20 rpm mortar mixer capable of holding a minimum of 90.6 litres.
- Add the pre mixed liquids to the mortar mixer and one bag of aggregate. Progressively add the remaining bags of aggregate assuring a homogeneous mix. **Mixing is complete when aggregate is wet** (for the first mix, ½ a bag of aggregate should be withheld to facilitate the "wetting out of the mixer").
- Subsequent mixes should contain 4 bags. Never reduce aggregate by more than half a bag to improve flow.
- It is important to mix the grout until the 4 bags of aggregate have been "**wetted out**". Over mixing will encourage the entrapment of air.

Mixing when applied by pump

- Pour contents of Hardener into Compound container and mix thoroughly for 3 minutes with a suitable blade fitted to a 400 rpm power mixer. Ensure all material around bottom and sides of can is incorporated.
- Chockfast® Red should be mixed in a 15 -20 rpm mortar mixer capable of holding a minimum of 90.6 litres.
- Add the pre mixed liquids to the mortar mixer and one bag of aggregate. Progressively add the remaining bags of aggregate assuring a homogeneous mix. **Mixing is complete when aggregate is wet**
- It is important to mix the grout until the 3 bags of aggregate have been "**wetted out**". Over mixing will encourage the entrapment of air.

Pouring

- Pour the **Chockfast® Red** as soon as possible after mixing.

Work Time (Pot Life)

2-3 hours @ 21°C

Cure Time

54 hours @ 16°C

36 hours @ 21°C

24 hours @ 27°C

18 hours @ 32°C

- Protect newly poured Chockfast® Red from sudden temperature changes and direct sunlight.
- Additional layers of Chockfast® can be poured providing the initial pour has returned to an ambient temperature and the surface has been roughened up to provide a mechanical bond.

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Packaging

Chockfast® Red is available in 94 kg kits. Each pack contains Hardener, Compound and Aggregate in correct proportions for use.

Chockfast® Red (Pumpable grade) is available in 73 kg kits. Each pack contains Hardener, Compound and Aggregate in correct proportions for use.

Ordering information:

94 kg #D11950

73 kg #D11953

Note: The figures quoted for work time, cure time and coverage 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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