



**HYCHEM**  
EPOXY SYSTEMS

# HY-GROUT E260

2 part rapid cure epoxy grout

HY-GROUT is designed for use as a general purpose epoxy grout wherever chemical exposure, tensile, shear, compressive or vibrational forces prevent the use of a conventional cementitious grout. HY-GROUT E260 is the entry level grout for cold to normal temperature environments. For higher temperature conditions the use of HY-GROUT 270 should be considered. HY-GROUT E260 is formulated with high flow properties, additional quartz aggregate may be added where design considerations allow the use of a heavier and more viscous grout.

## USE

- Grouting bolts, rebar, dowels and inserts in concrete, rock and brickwork
- Grouting holding down bolts for dynamic machinery
- Grouting crane and transporter rails
- Grouting of machinery baseplates
- Grouting column baseplates in corrosive environments
- Bonding new to old concrete
- As a high strength repair mortar for concrete structures
- As a replacement for cement grouts where environmental conditions prevent their use

HY-GROUT E260 is ideal for use in a wide variety of industries such as marine, power generation, mining, chemical plants, structural engineering, transportation and general manufacturing

## FEATURES AND BENEFITS

- Dust free application, no need for addition of 3rd component filler pack
- Rapid development of strength with good pot life and relatively low exotherm
- Very high mechanical strength - compressive, tensile and flexural
- Excellent vibration and dynamic load tolerance
- Excellent flow, suited to tight clearances of 5 to 15mm
- Can be further filled for clearances up to 100mm
- Resistant to a wide range of chemicals, acids, caustic and hydrocarbons
- Moisture tolerant, can be applied to damp concrete
- Wide usage range from 10°C to 25°C

## TYPICAL PERFORMANCE

Epoxy grouts have much higher physical performance capabilities than cement grouts, with 3 times the compressive strength and up to 10 times the tensile strength. They are also more impact resistant and withstand cracking due to mechanical vibrations. Individual epoxy grouts vary depending on whether they are formulated for high or low temperature use, minimal cost or specific flow and creep properties.

The following tables gives indicative values for HY-GROUT E260 Epoxy Grout.

## CHEMICAL RESISTANCE

HY-GROUT E260 has excellent resistance to dilute mineral acids, caustic solutions, mineral salt solutions and hydrocarbons. For specific information, contact the HYCHEM Technical Department.

## UNCURED PROPERTIES

Appearance	Resin, viscous heavy white paste Hardener, black liquid
Mix ratio	10:1 by wt, 5:1 by volume
Specific gravity	Resin 2.0 Hardener 1.0 Mixed product 1.83
Pot life	@ 5°C - 80 to 100 min
	@ 15°C - 30 to 40 min
	@ 25°C - 15 to 20 min
	@ 35°C - 5 to 10 min
Colour	Resin white, Hardener black, Mixed product grey

## CURED PROPERTIES

Compressive strength	(ASTM D695)	100 MPa
Compressive modulus		40000 MPa
Tensile strength	(ASTM D638)	30 MPa
Bond to concrete	Dry (concrete failure)	3 MPa
	Wet (concrete failure)	3 MPa
Shear adhesion to steel		13 MPa
Service temperature		-10 to 55°C
Linear shrinkage	(ASTM C531-81)	0.0003mm/mm
Strength development with time (23°C)	6 hours	15 MPa
	8 hours	25 MPa
	16 hours	45 MPa
	24 hours	65 MPa
	3 days	85 MPa
	7 days	95 MPa

## CURED PROPERTIES CONTINUED

### Effect of aggregate addition on volume placement

1 litre mixed HYCHEM E260	Plus	Yields
	1 kg quartz aggregate	1.4 litre of grout
	2 kg quartz aggregate	1.8 litre of grout
	3 kg quartz aggregate	2.1 litre of grout

### Effect of aggregate addition on grout compressive strength

1 litre HYCHEM E226	Plus	Yields
	0 kg quartz aggregate	90 MPa
	1 kg quartz aggregate	100 MPa
	2 kg quartz aggregate	90 MPa
	3 kg quartz aggregate	80 MPa

## APPLICATION GUIDELINES

### Surface Preparation

Sub-Base Preparation - Ensure foundation concrete is properly cured. All surfaces should be clean and free from rust, dust, oil, wax, grease and standing water. Concrete should be scabbled if necessary to remove any weak, crumbly materials. Formwork should be treated with release agent where required.

Plate and Equipment Preparation - The bonding surfaces of the base plate to be grouted should be free of coatings, wax, grease or scale. Mask all external areas likely to be affected by rising grout.

Forming - Forms must be liquid tight and ideally should have a moveable head sloped at 45°C to enhance grout placement. The top of the form must be a minimum of 18mm above the equipment being grouted; edges should be a minimum of 25mm from each base plate.

### Mixing

The resin is mixed with hardener at the designated mix ratios. Mix mechanically at 400 rpm for approximately 2 minutes then scrape down sides and continue mixing for a further 1 minute. If required, blend in additional quartz aggregate and mix until completely blended with the premixed epoxy resin component.

Temperature Conditioning - At high ambient temperatures wherever possible, cool the components before mixing. Work time varies with temperature, in general work time is halved for every 10°C temperature rise. For temperatures below 15°C, warm the components if possible.

### Applying

**Under plates,** Pour mixed materials slowly into the prepared void from one side only and fill the cavity continuously to avoid air entrapment.

### Anchoring bolts, rebar, dowels and inserts in concrete, rock and brickwork

The following guidelines are suggested.

#### Hole diameter

Should generally be 1.5 times the insert diameter. This can be reduced for large insert diameters above 100mm.

#### Depth of embedment

Concrete tensile strength and the depth of bolt embedment determines the pull-out load. The anchor depth should be designed to provide bolt failure when tested in tension.

#### Hole spacing

Hole spacing is important to avoid stress interaction caused by holes spaced too closely together or near the edge of the structure. A good guide for minimum spacing is 10 times the bolt diameter for bolt spacing and five times the bolt diameter for edge spacing.

#### Epoxy grout placement

To avoid air entrapment, the liquid grout should be filled bottom up using enough head pressure to achieve the desired flow rate and distance.

## PACKAGING

HY-GROUT E260 Resin and Hardener - 12 litre packs

HY-GROUT E260, 12 litre pack plus 20kg additional aggregate makes a 20 litre pack

## SHELF LIFE

This product has a shelf life of 12 months from date of manufacture, stored under shelter at 25°C in original un-opened container.

## COMPLIMENTARY PRODUCTS

HYCHEM E 260 is part of a range of 2 part Epoxy Grouting Materials.

Other products in this range are E210, E250 and E270 offering a range of cure times and gap filling capacity. Two further products HYCHEM PF-7 Marine Pile Encapsulation Grout and HYCHEM PF-6 High Impact Crusher Backing complete the range.

## SAFETY PRECAUTIONS

Epoxy polymer products may cause allergic reactions through skin contact. Goggles and protective gloves and clothing should be worn at all times. Ensure that there is adequate ventilation and air flow and avoid breathing the vapour. If skin contact occurs wash skin with soap and water. If eye contact occurs wash immediately with copious amount of clean water.

### Field support

*Field support where provided, does not constitute supervisory responsibility. Suggestions made by HYCHEM either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they and not HYCHEM are responsible for carrying out procedures appropriate to a specific application.*

### Customer responsibility

*The technical information and application advice given in this publication is based on the best information available at the time of print. As the information herein is of a general nature, no assumption can be made as to the product suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.*



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