



# EpiMax 480



## Precision Epoxy Grout

### Description

EpiMax 480 Precision Epoxy Grout is a high strength non-shrink epoxy based grouting system offering ease of field use. EpiMax 480 also provides benefits to specifiers and users with superior mechanical properties. EpiMax 480 may be extended on site with graded aggregate for projects requiring deep pours or application during abnormally hot weather. The use of a high performance epoxy grout like EpiMax 480, will maximise the effective bearing area under the widest variety of applications and conditions. The system demonstrates faster strength development and higher mechanical than cement based grouts. EpiMax 480 offers far simpler curing and superior dynamic load response than cement based grouts. It is recommended where chemical spillage is a prime consideration.

EpiMax 480 is available in several grades. Specify EpiMax 480 UT where deeper pours and/or higher application temperatures are encountered. Specify EpiMax 480 Express where high early strength development is required and EpiMax 480 HTG where a high temperature range is required.

### Advantages

- Easy mixing - add aggregate if required
- Excellent flow
- Tolerates damp surfaces
- Low exotherm - good flow
- Fast & convenient - good strength gain
- High mechanical strength
- Dynamic load resistant
- Withstands a wide range of chemicals
- Non - shrink - maximises bearing area
- Creep resistant

### Typical applications

- Precision grouting of mining equipment
- Slew bearings - mining equipment
- High strength support of rotating machinery
- Structural concrete repairs
- Deep foundation grouting
- Test equipment foundations
- Grouting of high speed turbines
- Structural anchoring of bolts, inserts, rebar
- Transport and crane rail anchoring/grouting
- Water and wastewater treatment



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### **Typical properties - EpiMax 480**

- Shelf life: 2 years
- Solids content: 100%
- Work time: 30 minutes at 25°C
- Full cure: 24 hours at 25°C
- Maximum depth of pour: 50 mm
- Dielectric strength: 180 kV/cm
- Tensile adhesive strength: > 12 MPa (steel)
- Compressive strength: 100 MPa
- Compressive modulus: 4.1 GPa
- Tensile strength: 25 MPa
- Maximum operating temperature: 85°C
- Volumetric shrinkage: Nil
- Volume resistivity: 7.78E+15 ohm.cm
- Tensile adhesive strength: 2.3 to 3.8 MPa (concrete fails)

### **Typical properties - EpiMax 480 UT**

- Shelf life: 2 years
- Solids content: 100%
- Work time: 60 minutes at 25°C
- Full cure: 48 hours at 25°C
- Maximum depth of pour: 225 mm
- Dielectric strength: 180 kV/cm
- Tensile adhesive strength: > 12 MPa (steel)
- Compressive strength: 100 MPa
- Compressive modulus: 3.8 GPa
- Tensile strength: 25 MPa
- Maximum operating temperature: 85°C
- Volumetric shrinkage: Nil
- Volume resistivity: 7.78E+15 ohm.cm
- Tensile adhesive strength: 2.3 to 3.8 MPa (concrete fails)

### **Typical properties - EpiMax 480 Express**

- Shelf life: 2 years
- Solids content: 100%
- Work time: 10 minutes at 25°C
- Full cure: 12 hours at 25°C
- Maximum depth of pour: 35 mm
- Dielectric strength: 180 kV/cm
- Tensile adhesive strength: > 12 MPa (steel)
- Compressive strength: 20 MPa at 2 hours, 100 MPa ultimate
- Compressive modulus: 4.1 GPa
- Tensile strength: 25 MPa
- Maximum operating temperature: 85°C
- Volumetric shrinkage: Nil
- Volume resistivity: 7.78E+15 ohm.cm
- Tensile adhesive strength: 2.3 to 3.8 MPa (concrete fails)

### **Foundation preparation**

Concrete should be at least 28 days old. Ensure it is clean, dry and free of additives, curing agents, oils, etc. Prepare as necessary by professional diamond grinding or captive blast cleaning as applicable to expose firmly held aggregate. Allow to dry if wet. Always confirm preparation adequacy.

### **Temperature conditioning**

Precondition grout components to between 20°C and 25°C before commencing application.

Avoid high temperatures while grouting in summer. In hot weather, store in relatively cool shaded areas below 30°C.

If grout components are above 30°C, the resulting mix will have a shortened work time. Provide shade from summer sunlight for at least 24 hours before and 48 hours after grouting. In cold weather, store components indoors before use.

If aggregates are used, they also may need to be temperature-conditioned. Hot aggregate will reduce work time and cold aggregate will reduce flow. Cold aggregate can extend work time in hot weather applications. Aggregates should always be washed and kiln dried. Check the recommendations for storage temperatures, temperature conditioning and work time at temperature extremes. Check with EpiMax for aggregate type & use proportions.



## Application

Correct product selection is determined by depth of pour and rate of strength development parameters.

Exotherm is the heat generated by the system, above the cure temperature, during the reaction. The exotherm generated depends on the particular system and the thermal mass of product and the void surroundings. Pre-heated systems will generate higher exotherm.

As a general rule, faster reacting epoxy systems generate higher exotherm during the reaction.

Exotherm will accelerate the rate of strength development to a point. However, if the exothermic heat is excessive, components of the system may volatilize before cure. Additionally, the system might “gel” at an elevated temperature and shrinkage stresses will be incorporated as it cools.

The factors that influence exotherm in a structural grout include:

- the volume of the void
- the reactivity of the system being used
- the temperature of the system components themselves
- the temperature & thermal mass of the surrounding structure
- the ambient temperature conditions

Temperature influences the rate of all chemical reactions. Curing rates are accelerated at higher temperatures. Assume a halving of work time for every 15°C degree increase.

Select a slow speed (400 rpm) mechanical mixer and ensure thorough mixing. Premix EpiMax 480 Part A, then add EpiMax 480 Part B to EpiMax Part A. Mix until a uniform consistency is obtained.

Do not incorporate air into the mix.

Pour the mixed system with care into the leak proof void, from the widest side and avoid air entrapment.

## Packaging

EpiMax 480 is available in 15 litre packs (includes Part A and Part B). It is pre-packaged in correct proportions for immediate use.

## Safety precautions

Read **Safety Data Sheet** before commencing any application. Keep away from children. Avoid contact with skin and avoid breathing vapour. Always provide adequate personal protection (gloves and goggles etc) during use. Always provide adequate ventilation, especially in confined spaces. If poisoning occurs, call Doctor or Poisons Information Centre. Phone 13 11 26. If swallowed, DO NOT induce vomiting. Give plenty of water or milk. If skin contact occurs, quickly remove contaminated clothing and wash affected areas thoroughly with soap and water.

TDG Code: Part A - Not Classified, Part B - UN 1760

