

# CIPADITE® E-500 GROUT

*High Performance Epoxy Structural Grout*

## DESCRIPTION

CIPADITE® E-500 GROUT is a self-leveling, 100% solids epoxy grout with excellent strength and chemical resistant properties. It is a three component system consisting of epoxy resin, hardener and specially graded aggregate.

## WHERE TO USE

Applications include grouting of bed plates for large compressors, power plant machinery, pulp and paper machinery, stamping machines, rock crushers, ball mills, scale breakers, engines, refinery equipment, rail-on-concrete, applications where high resistance to corrosion and chemical attack is imperative and applications where high impact and dynamic loads are service conditions. CIPADITE® E-500 GROUT is also suitable for grouting of structural column bases, bridge seats, steel floor grids, boiler setting, cranes, tanks and pressure vessels.

## BENEFITS

### High Mechanical Strength:

CIPADITE® E-500 GROUT is characterized by its rapid early strength development with high ultimate compressive strength. It is formulated to resist extreme vibration and high dynamic torque associated with such installations. Its outstanding adhesion properties allow CIPADITE® E-500 GROUT to adhere strongly to properly prepared concrete and steel surfaces.

### Excellent Flow:

CIPADITE® E-500 GROUT has excellent flow and self-leveling properties for ease of application. This characteristic permits the grout to be placed in areas with poor access and minimizes the need for strapping during placement.

### Non Shrink

CIPADITE® E-500 GROUT produces low exotherm and thermal stress when cured. This allows for a deep monolithic pour to be made without stress cracking often associated with other high heat generating epoxy grout systems. Furthermore, CIPADITE® E-500 GROUT was formulated to stabilize the air within the matrix, thereby minimizing the formation of air

bubbles beneath the base-plate. This unique property along with the dimensional stability assures a good grout bed to base-plate contact

### Chemical Resistance

CIPADITE® E-500 GROUT is resistant to oil, synthetic lubricants, water and most common chemicals including diluted acids and alkalis.

## PROPERTIES

Compressive Strengths (ASTM C579B modified) at 4°C (39.2°F)	
3 days .....	39.6 MPa (5,750psi)
7 days .....	75.0 MPa (10,875 psi)
28 days.....	89.0 MPa (12,915 psi)
Compressive Strengths (ASTM C579B modified) at 10°C (50°F)	
1 day.....	12.3 MPa (1,785 psi)
3 days .....	71.3 MPa (10,340 psi)
7 days .....	87.5 MPa (12,685 psi)
28 days.....	95.4 MPa (13,835 psi)
Compressive Strengths (ASTM C579B modified) at 21°C (69.8°F)	
1 day.....	79.2 MPa (11,490 psi)
3 days .....	91.5 MPa (13,275 psi)
7 days .....	95.9 MPa (13,900 psi)
28 days.....	99.6 MPa (14,440 psi)
Compressive Strengths (ASTM C579B modified) at 40°C (104°F)	
1 day.....	100.2 MPa (14,535 psi)
3 days .....	102.1 MPa (14,815 psi)
7 days .....	103.9 MPa (15,065 psi)
28 days.....	109.6 MPa (15,895 psi)
Compressive Strengths (ASTM C579B modified)	
21°C at 12 hours .....	36.6 MPa (5,310 psi)
40°C at 12 hours .....	81.5 MPa (11,825 psi)
60°C at 7 days .....	109.8 MPa (15,920 psi)
Linear Coefficient of Thermal Expansion (ASTM C531) 0.000018 in/in/°F	

Flexural Strength .....	29.4 MPa (4,265 psi)
(ASTM C580) 7 days	
Modulus of Elasticity .....	14,520 MPa (2,110,000 psi)
(ASTM C580) 7 days	
Shear Bond Strength .....	35.0 MPa (5,070 psi)
(ASTM C882) 7 days	
Tensile Strength.....	15.6 MPa (2,262 psi)
(ASTM C307) 7 days	
Effective Bearing Area (EBA)	
24 hours.....	Greater than 95%

The above information is representative of actual production runs. Independent test results may vary from the above by approximately ±10%.

**APPLICATION**

Surface Preparation - All concrete surfaces must be sound, dry, free of all oil, dirt, grease, laitance and other contaminants. Clean surface by mechanical means, such as sandblasting or chipping. Wood or metal forms may be used. Forms must be leak free. Contact surfaces of the forms must be coated with common paste wax to prevent the grout from bonding. Isolate all anchor bolts with a non-bonding material.

Steel surfaces such as the underside of base plates or anchor bolts should be free of oil, grease and rust. To remove these contaminations, steel surfaces should be wire-brushed or blasted to a clean, bright metal finish.

**MIXING AND PLACING**

For the 0.028 m³ (1ft³) unit, add the hardener (Part ‘ B ’ ) to the base resin (Part ‘ A ’ ). Mix the combined resin and hardener using a low speed paddle mixer for a minimum of three minutes. Pour the thoroughly mixed resin and hardener into a clean mortar mixer and add the aggregate while it is in motion. When using a mortar mixer, mix 3- 1ft³ units at a time. When mixing less than this, mix 1 ft³ at a time in a galvanized flat bottom 60 L pail. After all the aggregate is added mix, an additional one to two minutes. Let the mixed product stand for 3 to 5 minutes after mixing is completed. Mixed material must be in place within 30 minutes. Certain applications may require an extended epoxy grout to reduce exotherms due to large volume placements. A 1 ft³ unit can be extended with the addition of 100% pure washed and dried 1/2”- 1/4” aggregate. This addition will reduce flowability. An

evaluation of the suitability of the extended epoxy grout for a particular project must be made prior to proceeding. The quantity of aggregate added must be determined on a job specific basis.

**LIMITATIONS**

- Do not install CIPADITE® E-500 GROUT:
- \$ if substrate and ambient temperature are below 10°C (50°F) during application.
- \$ if the surface on which it is be applied is not dry during the application..
- \$ if sudden temperature changes are expected during the curing
- \$ avoid exposure to water for 24 hours after placement
- \$ do not reduce the aggregate loading without CPD® approval

Consult your CPD® Technical Representative if the substrate and ambient temperatures are below 10°C (50°F) or above 32°C (89.6°F) and when the thickness of the grout placement exceeds 100mm (4").

**YIELD**

One unit of A & B complete with two 25 kg (55 lb) bags of aggregate will yield approximately 28L (1 ft³) or 0.028 m³ of grout.

**PACKAGING**

CIPADITE® E-500 GROUT is supplied in 1 ft³ unit.

- 6.1 L of Part A Resin                      6.70 kg net weight
- 1.3 L of Part B Hardener                1.29 kg net weight

Note: 3 ft³ units are also available.

**CLEAN UP**

Clean up tools, mixers and spills with warm soapy water while the grout is still flowable. If the grout has developed a plastic consistency use CPD® Xylol for cleaning. CAUTION: CPD® Xylol is a flammable solvent. Read M.S.D.S. prior to using.

**STORAGE**

Avoid storage at temperatures below 4.5°C (40°F). Although the resin is very resistant to freezing, it may partially crystallize if stored at low temperatures for an extended period of time. A heated dry warehouse is the recommended storage facility.

**SHELF LIFE**

Two years from date of manufacture if stored unopened in the original container under normal heated warehouse conditions.

**SAFETY PRECAUTION**

Consult Material Safety Data Sheet ( M.S.D.S.) for specific instructions. MSDS # 10, 13 and 27.

**WARRANTY**

The recommendations made and the information herein is based on our own and independent laboratory experience, and is believed to be accurate under controlled conditions. However, no warranty or guarantee of accuracy is made because we cannot cover every possible application of product nor anticipate every variation encountered in weather conditions, job-conditions, methods used and types of surfaces on which the product is applied. The users shall make their own tests to determine the suitability of such products for any particular purpose.

CPD® makes no warranties with respect to this product, expressed or implied, without limitation, the implied warranties of merchantability or fitness for a particular purpose.

CPD®'s liability shall be limited in all events to supplying sufficient product to re-treat and/or repair the specific area to which CPD® product has been applied. CPD® reserves the right to have the true cause of any difficulty determined by accepted test methods. CPD® shall have no other liability, including liability for incidental, consequential or resultant damages, however caused, whether due to breach of warranty, negligence, or strict liability.

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