DIAMITE NOVOLAC EPOXY GROUT

High-Strength, Chemical-Resistant Novolac Epoxy Grout

1. Product Description

a. Basic Use: Diamite Novolac Epoxy Grout is a three component novolac epoxy grout system designed to provide excellent chemical resistance, very high strength, exceptional bond, and tremendous toughness under load. It contains a proprietary aggregate blend that maximizes yield while minimizing thermal movement and creep. Diamite Novolac Epoxy Grout is dimensionally stable after hardening and is easily placed at a flowable consistency. This product is recommended for applications where spills and splashes of acids, chemicals, solvents, and alkalines occur.

b. Features/Benefits:

- Resists severe chemical exposure.
- Extremely high ultimate strengths.
- Non-shrink formulation.
- Minimizes shut down time with high early strength.
- Good at thicknesses from 3/4 in. (19 mm) to 10 in. (250 mm).
- Resilient and tough under impact loads.
- Low coefficient of thermal expansion.
- Excellent for use in chemically aggressive environments.

c. Typical Applications: Compressors, fans, motors, mill housings, pumps, anchor bolts, crane rails, chemical plants, secondary containment.

d. Limitations: Do not use when service temperatures are expected to be over 150°F (66°C). Ambient placing temperatures should not be under 45°F (7°C) as this will adversely affect flow.

e. Composition: Diamite Novolac Epoxy Grout is a three-part system composed of a resin, a hardener, and an aggregate / powder blend.

f. Color/Appearance: Concrete gray with a shiny surface.

2. Packaging

Diamite Novolac Epoxy Grout is available in two unit sizes. The small and the large unit have separate containers of resin, hardener and bags of aggregate blend. Shipping weights are 75 lbs. (34 kg) and 225 (102 kg), respectively.

3. Estimating/Yield

Diamite Novolac Epoxy Grout is a high-yield formulation with the following proportions and yields:

	Small Unit	*Large Unit*
Part A, resin	*0.67 gal. (2.5 liter)*	*2 gal. (7.6 liter)*
Part B, hardener	*0.33 gal. (1.3 liter)*	*1 gal. (3.8 liter)*
Part C, agg. blend	*65 lbs. (29 Kg) (1 bag)*	*195 lbs. (88 Kg)(3 bags)*
Yield	*0.56 cu. ft. (0.016 cu. m)*	*1.68 cu. ft. (0.048 cu. m)*

4. Technical Data

a. Compressive Strength: ASTM C 109, 2 in. (50 mm) cubes at 72°F (22°C).

Age	*Strength*
1 day	*9,000 psi (62 MPa)*
3 days	*11,000 psi (76 MPa)*
7 days	*12,000 psi (83 MPa)*
28 days	*13,000 psi (90 MPa)*

b. Flexural Strength: ASTM C 348, 28 days; 3,600 psi (25 MPa).

c. Bond Strength: ASTM C 882, 28 days; 2,500 psi (17 MPa).

d. Working Time: 25 - 35 minutes

e. Modulus of Elasticity: ASTM C 469, 3.1 X 10^6 psi (2.1 X 10^4 MPa).

f. Coefficient of Thermal Expansion: ASTM C 531, 12.6 X 10^{-6} in/in/°F (22.7 X 10^{-6} mm/mm/°C).

g. Chemical Resistance:

- *Sulfuric Acid, 10-70%:* *Excellent*
- *Hydrochloric Acid, 15%:* *Excellent*
- *Caustic Soda, 15%:* *Excellent*
- *MEK:* *Good*
- *Xylene:* *Excellent*
- *Acetic Acid:* *Good*
- *Hydrofluoric Acid:* *Average*
- *Sodium Hydroxide:* *Excellent*
- *HC1 10%:* *Good*
- *Methanol:* *Good*
- *Ethyl Alcohol:* *Good*
- *Nitric Acid:* *Excellent*

Metalcrete Industries

4133 Payne Avenue • Cleveland, Ohio 44103
440-526-5600 • 800-526-5602 • FAX 440-526-5601

5. Directions for Use

a. Preparation: Most foundations and pedestals will need at least a minimum of surface preparation before setting of the baseplate. New foundations often have a layer of laitance from bleeding or are contaminated from construction activities. Others are too smooth to achieve good bond. Old foundations being prepared for regrouting may be soiled or oil soaked. Base concrete must be sound and clean. Chip, chisel, bushhammer, or shotblast surface down to sound concrete. Any oil soaked concrete must be removed. Blow surface clean with water and compressed air. The bonding surface must be free of any coatings, paints, sealers, or curing compounds.

b. Bonding: No separate bonding agent is needed. The base concrete should be dry when Diamite Novolac Epoxy Grout is placed.

c. Baseplate: Steel baseplates should be checked for cleanliness before installation over anchor bolts. Remove any oil, rust or dirt. Install plate over bolts and set to proper elevation on shim packs, leveling screws or anchor bolt nuts.

d. Ambient Conditions: Temperatures will dramatically affect the working time and cure time of Diamite Novolac Epoxy Grout. A cold environment will delay set time and extend working time. A warm environment will hasten the curing rate, but cut down on working time. Keep all materials as close to 70°F (21°C) as possible. The workability of the grout will be decreased at lower temperatures. The maximum temperature range for application is 45°F (7°C) to 90°F (32°C). Contact Metalcrete Industries for recommendations outside this range.

e. Forming: Form around baseplate to give a watertight containment. Leave at least a 1/2 in. (12.7 mm) gap between the form and the baseplate to allow for air relief. On one side, a head box should be constructed with the outside form at a 45 degree angle to facilitate pouring of the grout and to develop head pressure for gravity grouting. Wax forms or cover with polyethylene to facilitate stripping.

f. Mixing: Small units can be mixed in a pail while large units should be mixed in a mortar mixer. In either case, the resin, part A, and the hardener, part B, should be pre-blended together using a mechanical drill and Metco Jiffy mixing blade. Using an adequately sized container, pour all of part B into all of part A and blend for 2 to 3 minutes. Proper blending is critical to assure good and complete curing. Pour the blended epoxy into the mortar mixer or pail. Add the aggregate blend, part C, and mix until the aggregate is completely coated with epoxy, usually 2 minutes.

g. Placing: Transport grout to headbox side of form and fill the box. Diamite Novolac Epoxy Grout is designed to creep slowly across the foundation. Allow sufficient time for the material to fill the space and self-level around the perimeter. Straps made up of steel bands may be pre-placed under the plate and worked back and forth if quicker filling is needed. On anchor bolts, allow 1/2 in. (12.7 mm) minimum annular space.

h. Finishing/Curing: Forms may be stripped after the grout has hardened and will not slump away. No further curing procedures are needed.

i. Clean-Up: Small hand tools and equipment may be cleaned with Waterzall Concentrate and warm water or DL Solvent. Mortar mixers can be cleaned by loading the mixer with dry sand and wetting the aggregate with Waterzall Concentrate and water or DL Solvent. Clean all tools before hardening.

j. Maintenance: In extremely aggressive chemical environments, check grout for chemical attack every month.

6. Availability

Diamite Novolac Epoxy Grout is normally available immediately from your local distributor or it will be shipped within 5 working days upon receipt of order. Please contact your local Metalcrete representative or call Metalcrete directly for more information.

7. Warranty

Diamite Novolac Epoxy Grout is manufactured in strict accordance with the quality control standards of Metalcrete Industries. It is guaranteed to perform as indicated on this data sheet when applied by competent applicators.

8. Technical Service

Metalcrete technical service representatives are available to provide on-site assistance with a minimum three day notice.

METALCRETE SINCE 1908
Metalcrete Industries 4133 Payne Avenue • Cleveland, Ohio 44103
440-526-5600 • 800-526-5602 • FAX 440-526-5601