



CHEM-POXY GROUT E999

**Three Component High Strength
Structural Epoxy Grout**

PRODUCT DESCRIPTION

CHEM-POXY GROUT E999 is solvent-free 100% solids, moisture-insensitive three component, ultra-low creep, pumpable, high flow and non-shrink epoxy grout system. It is formulated to be highly flowable for clearances down to 13mm.

FIELDS OF APPLICATION

CHEM-POXY GROUT E999 provides high strength and creep resistance combined with the highest effective bearing area in the industry. CHEM-POXY GROUT E999 is extensively used as high strength grouting and under-filling of structural elements in concrete, steel, metal stone etc. that is subject to heavy dynamic or static loads e.g.:

- High-speed turbines and centrifuges.
- Bridge bearings.
- Cranes and transport rails.
- Tie bars, holding down and fixing bolts.
- Load bearing joints between pre-fabricated elements.
- Wide cracks >10mm in horizontal concrete surfaces.
- In accessible holes and cavities in concrete.
- New and old machine base plates.

PRODUCT FEATURES

- High effective bearing area.
- Highly flowable.
- Pumpable.
- Ultra-low creep.
- High chemical and impact resistance.
- Precision non-shrink.
- Provides an early high strength.
- Heat resistant up to 97°C.
- Excellent adhesion to concrete, metal etc.
- Grouting of effective bearing area from 3 to 75mm.

PACKAGING

Packaging*	Part A- Resin (Lb/Kg)	Part B- Hardener (Lb/Kg)	Part C- Aggregate (Lb/Kg)
0.35 ft3 Kit	5.18 (2.35)	1.64 (0.74)	26.18 (11.88)
0.5 ft3 Kit	7.85 (3.56)	2.49 (1.13)	39.66 (18.0)

*These packaging are convenient kits; add part B into part A, mix thoroughly then add the mixture of A and B into Part C container and mix all parts thoroughly.

TECHNICAL DATA

Technical Data for Mixed Parts

Property	Temperature	
	25°C	35°C
Compressive Strength ASTM C-579, 1 Day Psi (MPa)	13500 (92)	15700 (107)
Compressive Strength ASTM C-579, 3 Days Psi (MPa)	14800 (101)	16170 (110)
Compressive Strength ASTM C-579, 7 Days Psi (MPa)	15800 (108)	16900 (115)
Flexural Strength ASTM C-348, 7 Days Psi (MPa)	6040 (41.1)	6480 (44.1)

Technical Data for Mixed Parts

Property	Value at 25°C	ASTM Method
Gel Time (60 grams)	65 min.	D-2471
Pot Life (10 Kg)	45 min.	-
Density, Lb/Gal (Kg/L)	16.7 (2)	D-1475
Hardness (shore)	82 D	D-2240
Bond Strength to concrete, Psi (MPa)	620 (4.2) Concrete failure	D-4541 Method A
Bond Strength to steel, Psi (MPa)	120 (0.84)	C-321
Water absorption	0.006%	D-570
Peak Exotherm, (10 Kg)	78°C	D-2471
Coefficient of thermal expansion	6.34×10 ⁻⁵ mm/mm.C	C-531
Final Cure	7 days	-

Chemical Resistance: Tests are performed according the ASTM D543 –Practice A (Immersion test for 7 days at 25°C)

The fully cured grout is resistant to:

- Water (Distilled, Tap, chlorinated, sewage, sea)
- Sulfuric acid* 50%wt
- Citric Acid, 30% wt
- Caustic Soda, 50%
- Hydrochloric acid, 15%
- Diesel
- Hydraulic Oil
- Isopropanol

Refer to manufacturer for resistance of other reagents.

APPLICATION DATA

Surface Preparation: prior to application, concrete shall be at its designed strength and dimensional stability.

Concrete Substrates: the concrete must be clean, sound, and free from oil and grease, curing compounds, mold releasing agents and loosely adhering particles.

The surface should be scrubbed to remove any laitance and expose aggregates where possible, preparation of concrete surface should be carried out before the base plate is placed and aligned. Bolt pockets, gaps, wide horizontal cracks, etc. must be blown with oil free, clean compressed air to remove any dirt, debris and loose particles.

Steel Surfaces: the underside of the base plates' machinery bolts, etc. must be clean and free from oil, grease or rusting. Where possible, steel surfaces should be sandblasted to Swedish Standard SA 2 1/2 to achieve bright metal. Degreasing shall be carried out thoroughly if any contamination of oils or grease, etc.

Formwork:

- Before placing the formwork, ensure that the equipment and base plate is set and aligned. If any leveling shims are to be removed upon initial setting of the grout, apply a thin layer of release agent such as grease carefully for easy removal.

- Ensure the formwork is secure and firm as per the formwork design maintaining that the gap width between the formwork and base plate is wider on the pouring side than the opposite side.
- Formwork fixed around the base plate to contain the grout must be as water tight as is practical to prevent grout loss. Use release agents on the formwork for ease of form work release.
- Do not apply the grout when the contact surfaces temperature is less than +10°C. Artificial heating may be adopted if the ambient temperature is less than +10°C.

Limitations:

Minimum substrate temperature	+ 10°C
Maximum permissible moisture content of substrate	5 %
Minimum adhesive strength of the pre-treated substrate	1.5 N/mm ²
Minimum temperature of product for mixing	+ 15°C
Minimum temperature for Curing	+ 10°C

Pre-requisites for Mixing: prior to mixing, **CHEM-POXY GROUT E999** should be stored under cover and protected from extremes of temperatures, which may cause inconsistent workability and cure times for the mixed material. Ideally, at least 24 hours before mixing, the estimated quantity of the product should be maintained at approximately 20°C.

Mixing: stir component 'A' thoroughly prior to mixing hardener component.

Add Part 'B' hardener to Part 'A' resin completely and mix thoroughly using a low speed (max. 60 rpm) electric drill fitted with mixing paddle. While mixing, slowly add Part 'C' silica aggregate and mix from side to side and top to bottom until a fully homogeneous mixture of uniform grey color is obtained.

Mixing Time: approx. 5 minutes

Using a rubber hammer, tap the mixing pail until no air bubbles are seen to rise and the grout is level.

Placing:

- Pour the prepared mixture immediately into the prepared surface or opening in such a manner that it has the shortest distance to flow. When under filling base plates, pour grout from one side or from a corner. Grout must be poured continuously until the cavity is completely filled. Ensure the area to be grouted is not completely sealed so that any displaced air can be expelled. Ensure evacuation of entrapped air from voids.
- Where placement depth of grout exceeds approx. 75 mm application should be carried out in layers. Second layer should be applied after 6 hours at 25°C.
- Protect the freshly placed grout from rain and dew for 4-6 hours. Formwork can be carefully removed after the grout reaches its initial setting approx. after 6 hours.

- Mechanical pumping is possible (consult our technical department)

CLEANING

Use a strong detergent and water solution, ketones, lacquer thinner or similar solvent to clean surfaces, equipment and tools before grout hardens. After the minimum required grout strengths have been achieved, in-service operation may begin. Spraying a very light mist of solvent before material becomes un-workable will finish the exposed surfaces.

STORAGE

Store CHEM-POXY GROUT E999 in a dry and cool place in accordance with recommendations. Ideal temperatures are between 21-27°C. Prior to use, check all components for crystallization. Protect the material from freezing. Shelf Life: Two Years

SAFETY PRECAUTIONS

After full curing, the product is physiologically harmless. Keep the resin and hardener away from the eyes, mouth and skin. Do not inhale vapors. Uncured mixture can cause irritation of the skin. The best precaution is to wear safety protective gloves, overall, mask and goggles while working. Skin contamination should be immediately cleaned with soap and plenty of water. The use of solvents should be avoided. If resin and hardener splashes into the eyes, wash immediately with running water. A Doctor must be visited in all cases. Forced ventilation should be provided when working with solvents.

TECHNICAL ASSISTANCE

Please contact International Chem-Crete Corporation for Technical Personnel.

WARRANTY

LIMITED WARRANTY: International Chem-Crete Inc. warrants that, at the time and place we make shipment, our materials will be of good quality and will conform to our published specifications in force on the date of acceptance of the order.

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Manufactured By:



International Chem-Crete Inc., 800 Security Row, Richardson, TX 75081, U.S.A

Tel: (972) 671-6477, Fax: (972) 238-0307

contactus@chem-crete.com www.chem-crete.com