UNISORB®
INSTALLATION TECHNOLOGIES

PRODUCT DATA

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BULLETIN NO.
GB-0178-1.1 Rev. 5

UNISORB BULK POUR V-100 EPOXY GROUT

DESCRIPTION:

Unisorb Bulk Pour V-100 Epoxy Grout is a three component, 100 % solids, VOC and BGE[1] free, epoxy resin system designed specifically for pours up to 8" (20.3 cm). Bulk Pour Grout offers rapid strength development, flows easily into spaces under equipment, fills completely before solidifying and is self-leveling. It will survive impact and vibration equal to reinforced rubber materials and will not delaminate under the most severe shock loads. Bulk Pour can be made more flowable by using a four bag mix of aggregate.

PACKAGING/YIELD:

Five Bag Mix: 2.0 Cu. Ft.
Four Bag Mix: 1.7 Cu. Ft.

Physical Properties @ 72˚F (22˚C)	Standard (5 Bag)	High Flow (4 Bag)
Compressive Strength, ASTM C 579: @8 hours	3,600psi (24.8 MPa)	3,800psi (26.2 MPa)
@16 hours	9,000psi (62.0 MPa)	9,150psi (63.0 MPa)
@24 hours	14,510psi (100.0 MPa)	14,570psi (100.4 MPa)
@3 days	15,290psi (105.4 MPa)	16,530psi (113.9 MPa)
@7 days	15,870psi (109.4 MPa)	16,865psi (116.2 MPa)
@28 days	16,220psi (111.8 MPa)	17,340psi (119.5 MPa)
Compressive Modulus: ASTM D 695	590,800psi (4074 MPa)	589,600psi (4066 MPa)
Tensile Strength: ASTM D 638	2,900psi (20.0 MPa)	2,950psi (20.0 MPa)
Elongation at Break: ASTM 638	0.66%	0.72%
Flexural Strength: ASTM D 790	6,300psi (43.0MPa)	6,600psi (46.0 MPa)
Heat Distortion Temperature: ASTM D 648	136˚F (58.0˚C)	136˚F (58.0˚C)
Maximum Continuous Service Temperature	250˚F (121˚C)	250˚F (121˚C)
Coefficient of Thermal Expansion: ASTM C 531	16.6 in/in/˚F x 10^{-6} (29.9 mm/mm/˚C x 10^{-6})	16.1 in/in/˚F x 10^{-6} (29.0 mm/mm/˚C x 10^{-6})
Linear Shrinkage: ASTM C 531	0.009%	0.018%
Effective Bearing Area: ASTM C 1339	≥95%	≥95%
Bond to Concrete (Concrete Failure): ASTM C 882	4,020psi (27.7 MPa)	3,600psi (24.8 MPa)
Adhesion to Steel (Clean, Sandblasted)	2,500psi (17.2 MPa)	2,500psi (17.2 MPa)
Hardness, Shore D: ASTM D 2240	92	93
Creep: ASTM C 1181 (in/in or cm/cm) (@400 psi or 2.75 MPa, @70˚F or 21.1˚C) (@400 psi or 2.75 MPa, @140˚F or 60.0˚C)	 0.7x10^{-3} 4.8x10^{-3}	 0.5x10^{-3} 3.6x10^{-3}
Peak Exotherm: ASTM D 2471 (1 lb or 454g mass)	82.0˚F (28.0˚C)	88.0˚F (31.0˚C)
Specific Weight, g/cm^3: ASTM D 792	2.19	2.14
Early Height Change: ASTM D 827	1.02%	3.66%

1 BUTYL GLYCIDYL ETHER. The EPA (SARA Title III, section 312) lists BGE as "Toxic" (per ANSI Z129.1) by skin absorption and an immediate health hazard.

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Handling Properties		Value
Maximum Depth of Pour, in. (cm)		8” (20.3cm)
Working Time, min.		45
Gel Time ASTM D 2471	@ 50˚F (10˚C)	8-10 hours
	@ 72˚F (22˚C)	90 min.
	@ 90˚F (32˚C)	60 min.

APPLICATION INSTRUCTIONS

CONCRETE PREPARATION Remove all oil, grease, or contaminated concrete. Chip the surface down to sound aggregate. The concrete must be dry and have no standing water. Light acid etching surface preparation procedures may result in poor bond and should be avoided. Do not prime or seal concrete surfaces.

FORMING The method of forming must provide for rapid continuous placement of grout. Standard wood or metal forming may be used. The forms should be protected with heavy coats of paste wax, grease, or form release agent. Wrapping the forms with heavy plastic is acceptable. The forms must be caulked and sealed to a liquid-tight condition. Forms should be as tall as possible, additional head boxes may be required. Larger pours should be broken into smaller sections or control joints should be added. Placing the grout just to the bottom of the base plate will result in an improper grout job and is not recommended, continue pouring up the sides of the equipment at least 1/4”. The forms should be placed between 2 and 6 inches (5.08 and 15.24 cm) away from the perimeter of the equipment to allow for ease of placement, provide an avenue for the air to escape and to provide for a grout shoulder around the equipment.

PREPARATION OF METAL SURFACES To assure a rigid bond, base plates or sole plates should be clean and free of rust, dirt, and other surface contaminants. For a stronger bond, the metal should be sand blasted to a “white metal” condition. If it is impossible to grout within 24 hours of sand blasting, the surfaces should be primed with a high-quality primer. For the best bond, do not use porch and deck enamel or red-lead primer. If equipment needs to be removed at a future date, wax or another bond breaker should be applied prior to grouting.

WORKING/POURING/TEMPERATURE GUIDELINES Working time/pouring time will depend on grout temperature and ambient temperature. The average working time, at 72 °F (22 °C) is 45 minutes. Pouring time and viscosity decrease as temperature increases. Care should be taken to ensure that the entire kit is poured before the working time elapses. Schedule sufficient manpower and equipment to place all the grout within the working time. The storage temperature of the unmixed kits of grout will greatly affect both the ease of pouring and the cure time. For best results, grout kits should be stored in a warm room for at least 24 hours before use. During cold weather (below 60 °F or 15 °C), it is important that the foundation be enclosed and maintained above 60 °F or 15 °C. The cure time of the grout will be longer during cold weather and it is important that the grouted area be kept warm (above 60 °F or 15 °C) until the grout has cured completely. Do not pour if the grout is below 60 °F (15 °C). Conversely in hot weather, do not mix and pour in direct sunlight. Cover or “tent” operations to prevent grout from setting up too fast, which usually leads to excessive shrinkage and/or cracking.

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MIXING THREE PART EPOXY Three part formula contains resin, hardener and aggregate. When ready to mix grout, pour the hardener into the resin container and mix with a paddle in a variable speed drill until thoroughly blended. Pour mixed resin and hardener into a large container or paddle type mortar mixer (poly material preferred). Slowly add all of the aggregate until all surfaces become wet as it is mixed. Continue to mix until there are no dry streaks. Do not add water. Create a more flowable mixture by only using four bags of aggregate with the resin and hardner.

POURING Always pour from one side, allowing the grout to flow under the equipment toward the other side to eliminate entrapped air. Continue pouring until the grout is contacting the base on the other side of the equipment. The grout may need to be helped to flow under the equipment especially in colder conditions. Options to help placement include head boxes, rods and straps, etc.

WORKING TIME The working time (the time you have before it sets) of this grout will vary according to the air temperature. The average working time at 72 °F (22 °C) will be 45 minutes. In cooler weather you will have more time to pour material and in hotter weather you will have less time.

CURE TIME The cure time (the time before the grout is strong enough for use) will also depend on the air temperature and the temperature of the floor and machinery being grouted. The average cure time from the last pour to machinery start-up will be 24 hours at 72 °F (22 °C). In cool weather, the grout will cure and develop strength more slowly than in hot weather. Remember that the temperature of the foundation concrete must be taken into account along with the air temperature when assessing the cure time needed.

CLEAN UP For best results, clean equipment and surfaces immediately after the grout has been mixed and poured. Do not allow residual grout to set; it will be extremely difficult if not impossible to clean. Uncured epoxy (while still in a gelled state) can be scraped off surfaces with a scraper blade, plastic spackle knife, high pressure warm soapy water, etc.

SAFETY PRECAUTIONS Always read the SDS prior to beginning the mixing and placement process. Avoid breathing of vapors. Forced local exhaust is recommended to effectively minimize exposure. NIOSH approved, organic vapor respirators and forced exhaust are recommended in confined areas, or when conditions (such as heated polymers, sanding) may cause high vapor concentrations. DO NOT WELD ON, BURN OR TORCH ON OR NEAR, ANY EPOXY MATERIAL. HAZARDOUS VAPOR IS RELEASED WHEN AN EPOXY IS BURNED.

WARRANTY AND DISCLAIMER UNISORB Installation Technologies gives no warranty, express or implied, and all products are sold upon condition that purchasers will make their own tests to determine the quality and suitability of the product. UNISORB Installation Technologies shall be in no way responsible for the proper use and service of the product. The information given in this publication is considered to be accurate and reliable and is provided as a service only. Physical properties shown are typical. Actual properties are dependent on curing conditions and degree of cure. Any information or suggestions given are without warranty of any kind and purchasers are solely responsible for any loss arising from the use of such information or suggestions. No information or suggestions given by us shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.

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