

EG-96 HP

General Purpose, Three-Part, High Strength, Flowable Epoxy Grout

DESCRIPTION

EG-96 HP is a three component, 100 % solids, VOC and BGE¹ free, epoxy resin system designed specifically for pours from 1/2" (12.7 mm) to 8" (203.2 mm). EG-96 HP offers rapid strength development and excellent flow characteristics. EG-96 HP flows into spaces under machines and fills completely before hardening. EG-96 HP shows good resistance to impact and vibratory loading equal to reinforced rubber materials and will not delaminate under the most severe shock loads.

USES

EG-96 HP is designed for deep grouting of large machine bases, setting level wedges, and sole plates requiring precision alignment under dynamic and vibratory load conditions. EG-96 HP is suitable for crane rail and wind turbine base plate grouting. EG-96 HP is suitable for aggressive chemical environments where cement-based, non-shrink grouts may not offer the necessary chemical resistance in case of a spill or leak from grouted equipment/pump system. The product may be used for the installation of anchors and dowels². EG-96 HP may be used for the support of chemical tanks, vessels, and rotating equipment. The product may be used as a vibratory dampening filler for rotating equipment.

FEATURES/BENEFITS

- High early strength.
- Excellent creep resistance.
- Thermal stability during application.
- Excellent adhesion to concrete and steel.
- High degree of chemical resistance.
- Economical for large volume applications.
- Adjustable flow to meet various onsite conditions.

PACKAGING

2 cu. ft. kit (0.0560 m³)
2 cu. ft. kit: Part A Epoxy Resin: 27.1 lb. (12.3 kg)
packaged 5 gal. (18.9 L) plastic pail
Part B Hardener: 5.9 lb. (2.7 kg) packaged 1 gal.
(3.8 L) metal can
Part C Aggregate: 5-48 lb. (21.8 kg) bags [240 lb.
(109.0 kg)]

COLOR

Gray to light grayish. Minor color variations from different batches and mix ratios are normal.

YIELD

2 cu. ft. (0.0560 m³). Yield is based on a mix ratio of 5-48 lb. (21.8 kg) bags per kit. Decrease yield by 0.40 cu. ft. (0.007 m³) for every bag [48 lb. (21.8 kg)] of aggregate removed from mix design.

SHELF LIFE

Store on pallets in a cool, dry location. Do not store product outdoors. Shelf life of properly stored product is two years from date of manufacture in unopened, original packaging.

CONTINUED ON REVERSE SIDE...

TECHNICAL DATA

The following physical properties were determined at 72° F (22° C) & mix ratio A/B/C:100/21.7/885 pbw.

Working Time, Min	50
Gel Time, Min., (ASTM D 2471)	100
Peak Exotherm (1 lb. or 454 g), °F (°C), ASTM D 3418	84 (29)
Maximum Depth of Pour, in. (cm)	8 (20)
Specific Weight, g/cm ³ , ASTM D 792	2.30
Compressive Strength, psi (MPa), ASTM C 579B	
1 Day	14,400 (99)
2 Days	15,100 (104)
7 Days	16,500 (114)
28 Days	17,600 (121)
Tensile Strength ³ , psi (MPa), ASTM D 638	1,536 (11)
Flexural Strength ³ , psi (MPa), ASTM D 790	4,600 (32)
Flexural Modulus ³ , psi (MPa), ASTM D 790	2,150,000 (14,824)
Coefficient of Thermal Expansion, 10 ⁻⁵ /°C, ASTM D 696	1.74
Hardness, Shore D, ASTM D 2240	88
Heat Distortion Temperature ³ , °F (°C), ASTM D 648	136 (58)
Water Resistance (30 day immersion),%, ASTM D 570	0.41
Creep (@ 600 psi or 4 MPa and 150° F or 65.5° C), in./in. or cm/cm, ASTM C 1181	3.48 x 10 ⁻³
Effective Bearing Area %, ASTM C 1339	≥ 95

All technical data is typical information and will vary due to testing methods, conditions, procedures, batching, and raw material variances.

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.

² All anchorages & doweling configurations, designs, suitability and such are the sole responsibility of a professional engineer.

³ Tested at mix ratio A/B/C:100/21.6/708 pbw; 4 48 lb. (21.8 kg) bags of aggregate per kit.

APPLICATION

Surface Preparation ... Mechanically roughen or abrasive blast concrete substrate. Remove all unsound concrete and provide a profiled, porous surface. Substrate must be structurally sound, dust-free, and free of grease, oil, dirt, curing compounds, release agents, or any other surface or penetrated contaminants, coatings, sealers, or similar that will adversely affect bond. Sanding, acid etching, cup-grinding, or wire-abrading are not approved concrete surface preparation methods. Substrate must be dry. Anchors or dowel holes must be dry and contain no water. Do not prime or seal concrete surfaces.

Abrasive blast the steel base-plates, sole-plates or any metal that will come in contact and requires bonding with EG-96 HP to a SPC-SP6, white metal specification finish. Remove all rust, oils, corrosion inhibitors, corrosion deposits, coatings, or similar that will adversely affect bond. If abrasive blasting is not possible, use SSPC-SP2 for Hand Tool Cleaning and SSPC-SP3 for Power Tool Cleaning specification to a white metal finish. Apply EG-96 HP within 24 hours of proper steel surface preparation. If not possible protect from flash rusting, the bond strength between the steel and EG-96 HP may be decreased depending on local environmental conditions. Do not allow the properly prepared steel to get wet.

Base Plates ... Level and align the base plates per the recommendation of a professional engineer and/or equipment manufacturer. Minimum application depth is related to temperature, length of base plate, and amount of aggregate (Part C) added per unit. Typically, 2” (50.8 mm) grout depth is required to facilitate placement. Provide an additional 1” (25.4 mm) of clearance for each additional 3’ (0.91 m) of base plate width (longest point of grouting distance). Maximum application depth is 8” (203.2 mm). For grouting deeper than 8” (203.2 mm) in depth, place the grout in lifts, 24 hours apart at 75⁰ F (23.9⁰ C), maximum 72 hours. Ensure proper air release through air relief holes [minimum ¼” (6.35 mm) in diameter] are installed if form is tight, skirted, if stiffening members are used, and/or if there is any concern with air release.

Forming ... Standard hard wood, exterior grade 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 must be designed to provide a hydraulic head. The use of a suitable grout head box will facilitate the application of EG-96 HP. Typically, the grout head box height should be 1/3 to 1/2 the distance the grout must flow.

When placing forms for grouting, it is absolutely necessary that the top of the forms be at least half way up the sides of the base plate thickness or machine base. Placing the grout just to the bottom of the base plate will result in an improper grout job. If the forms cannot be placed half way up the side of the machine base, the minimum distance is 3/4" (19 mm) above the bottom of the machine base.

The forms should be placed between 2 - 6" (50.8 - 152.4 mm) away from the perimeter of the machine base to allow for air to escape and to provide for a grout shoulder around the base plate. Exterior applications or placement in an environment which experiences temperature variations, the shoulder should not be greater than 2" (50.8 mm) from the perimeter due to thermal coefficient differences. If a shoulder greater than 2" (50.8 mm) is required, consult a professional engineer for design recommendations and/or approval.

Mixing ... Condition all components of EG-96 HP to 75°F (23.9°C) for 24 hours prior to use. Only mix full kits of the resin/hardener. Colder temperatures will decrease flow and require the use of 4 or 4.5 bags of aggregate to help facilitate placement. At elevated temperature and/or at a reduced aggregate loading, the grout flows faster. The depth of pour is another factor which affects the flow rate: the greater the depth of pour, the better EG-96 HP grout will flow. Aggregate loading may vary based on jobsite conditions and therefore adjustments may be required. Please reference Chart Aggregate C Mix Ratio Guideline. Do not exceed reduced aggregate loading per chart. Care should be taken to ensure that the entire kit is poured before the working time elapses.

**Aggregate (Part C) Mix Ratio Guideline
Appropriate Aggregate Reduction per Unit**

Temperature	Thin Pours <2" (50.8 mm) or Long Distances	Standard Pours
>90° F (>32° C)	--	--
70-90° F (21 - 32° C)	Up to 1/2 Bag	--
50-70° F (10-21° C)	Up to 1 Bag	Up to 1/2 Bag

This is only an approximate guideline. Actual aggregate reduction will be based on field parameters. The temperature relates to the aggregate, resin, hardener, air, and substrate at time of pour.

Mix in a mechanical mixer at a slow speed (15-20 RPM). The mixer should be a fixed drum/bucket style mixer with moving paddles. A concrete mixer with stationary paddles and rotating drum is not acceptable and will not mix the product correctly, causing jobsite issues. A paddle-type mortar mixer having moving rubber-tipped paddles is acceptable.

Pre-mix Part A, Epoxy Resin and Part B, Epoxy Hardener, either by hand or slow speed drill and paint-type mixer, such as a Jiffy® mixer. Combine the Part B into the Part A, scraping the sides of the Part B to ensure complete transfer of hardener. Mix either by hand or slow speed drill and paint type mixer such as a Jiffy mixer for 2-3 minutes or until homogeneous. Scrape sides of mixing can to ensure complete dispersion of resin and hardener. Over mixing or mixing at greater than 250 RPMs will entrap air causing flow and the effective bearing area to be adversely affected.

Transfer properly mixed resin/hardener solution into an appropriate type mixer. Begin mixer and immediately begin to add Part C slowly. Only mix until all the added Part C aggregate has fully wetted out. Over-mixing or delay in adding the aggregate will entrap air, causing flow and the effective bearing area to be adversely affected. For the first unit mixed, reduced aggregate loading may be required to account for the resin/hardener solution being used to wet-out the mixer and paddles.

Placement ... The working and/or pouring time will depend on grout temperature and ambient temperature. The working time will decrease as

temperature increases. Pouring the grout through a head box increases the flow rate noticeably. To maintain adequate flow and proper placement at product, air, and/or substrate temperatures below 75°F (23.9°C), the aggregate loading has to be reduced to 4 1/2 or even 4 bags for colder temperature per kit.

Using a suitable grout head box, slowly pour the properly mixed EG-96 HP into the grout box while maintaining a fill level of 2/3 the volume of the grout box chute. Epoxy grouts flow slowly. Always pour from one side of the base toward the other to eliminate entrapped air.

During cold weather [below 50° F (10° C)], it is important that the foundation be enclosed and maintained above 50° F (10° 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 50° F (10° C)] until the grout has cured completely. 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.

PRECAUTIONS

Failure to follow all industry standard practices, such as the American Concrete Institute (ACI) will compromise the performance of the EG-96 HP and/or grouting system. EG-96 HP is not suitable for submerged or similar environments. Never dilute EG-96 HP with solvent, water, oils, or similar to change consistency. Hot ambient, product, and substrate temperatures will increase flow and decrease working time. Cold ambient, product, and substrate temperature will decrease flow and set time. Do not apply when the ambient temperature is expected to be below 50°F (10° C) or rain is expected for 72 hours.



LIMITED WARRANTY

“W. R. MEADOWS, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order.” Read complete warranty. Copy furnished upon request.

Disclaimer

The information contained herein is included for illustrative purposes only, and to the best of our knowledge, is accurate and reliable. W. R. MEADOWS, INC. cannot however under any circumstances make any guarantee of results or assume any obligation or liability in connection with the use of this information. As W. R. MEADOWS, INC. has no control over the use to which others may put its product, it is recommended that the products be tested to determine if suitable for specific application and/or our information is valid in a particular circumstance. Responsibility remains with the architect or engineer, contractor and owner for the design, application and proper installation of each product. Specifier and user shall determine the suitability of products for specific application and assume all responsibilities in connection therewith.

This data sheet does not supersede any and/or all engineering, architectural, or equipment manufacturers’ recommendations or drawings. A professional engineer must determine suitability of EG-96 HP for grouting, anchoring, or doweling. This is not a standalone engineer document. The final design configuration is the sole responsibility of the engineer of record for the project, equipment manufacturer, or installing contractor.

HEALTH AND SAFETY

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 NEAR OR ON ANY EPOXY MATERIAL. HAZARDOUS VAPOR IS RELEASED WHEN AN EPOXY IS BURNED.** Avoid skin or eye contact. Wash skin with soap and water if contact occurs. If eye contact occurs, flush with water for 15 minutes and obtain medical attention. Read and understand all cautions on can labels and material safety data sheets before using this material.

LEED INFORMATION

May help contribute to LEED credits:

- IEQ Credit 4.1: Low-Emitting Materials: Adhesives and Sealants
- MR Credit 2: Construction Waste Management
- MR Credit 5: Regional Material

For most current data sheet, further LEED information, and MSDS, visit www.wrmeadows.com.