

Versatile epoxy compound for patching, waterproofing, and joining

Technical Bulletin # 496

Product Description

Permagile™ PG-2089 is a 100% solids, two-component, equal volume, epoxy system used in combination with thoroughly dispersed fillers and a compatible curing agent. It has the consistency of peanut butter. Due to its excellent adhesion, overall physical properties and characteristics, PG-2089 is most versatile and accepted as a general purpose mortar adhesive that can even be placed on vertical and overhead surfaces without sagging.

Uses

PG-2089 is a versatile epoxy mortar/grout designed for general repair and maintenance. It can be used as an adhesive to join concrete to concrete, masonry or dissimilar materials. The bond is strong and surpasses the strength of concrete. It is useful as an adhesive to attach tiles, mosaics, glass or other objects to wall or floor surfaces in areas where strength, waterproofing and durability are desired.

As a filler, it is ideal for effective treatment of cracks, voids, and other defects in concrete, brick or block structures. As a sealant, it's used to fill cracks prior to injection repair. Due to its excellent adhesion and non-shrinking properties, PG-2089 ensures permanent repairs of small holes, depressions, and spalled areas.

Advantages

- Pre-Blended Aggregate in Base & Reactor
- Can Be Used on Vertical & Overhead Surfaces
- Waterproof
- Non-Sagging
- Non-Shrinking
- 100% Solids

Surface Preparation

Concrete Surfaces: All surfaces must be clean, free of dirt, oil, grease, traces of asphalt, efflorescence and frost free. Substrates may be dry or damp, although best results are obtained on a dry surface. New concrete must be fully cured (28-day minimum).

Grease, wax, or oils must be removed with an industrial grade detergent or a degreasing compound. After scrubbing, follow with mechanical cleaning. (Ref. ASTM D 4258). Remove paint, sealers, curing compounds, loose concrete, mortar drippings, foreign matter, contaminated or deteriorated concrete by shot-blasting, bush-hammering, grit-blasting, scarifying or other suitable mechanical means. Follow mechanical cleaning with vacuum cleaning. (Ref. ASTM D 4259).

Acid-etching with 10% hydrochloric acid should be used only if there is no practical alternative. It must be followed by pressure washing, scrubbing and flushing with clean water. Check for removal of acid with moist pH paper. (Ref. ASTM D 4260). The prepared surface must be clean, free of dust and textured to ensure a mechanical bond. Remove the surface layer of all finished or formed concrete.

Steel Surfaces: Remove dirt, grease and oil with a suitable, industrial grade, cleaning and degreasing compound. (SSPC-SP-1). Remove rust and mill scale by grit-blasting. Blast steel to white metal. Follow grit-blasting with vacuuming or oil-free, dry-air blast. (SSPC-SP-10)(NACE-2).

Mixing and Application Instructions**MIXING:**

Mix only the amount of material that can be used within the pot life. Measure (ratio) each component carefully and then add Part B (Hardener) to Part A (Resin). Mix 1 parts A to 1 Part B by volume. Mixing can be manually with a stout wood stick for small applications or by placing both components on a hawk or flat tray and mixing by trowel. Best mixing is performed using a low-speed drill (600 rpm) and mixing paddle (i.e. a Jiffy Mixer). Carefully scrape the sides and bottom of the container while mixing. Keep the paddle below the surface of the material to avoid entrapping air. Mix thoroughly 3-5 minutes until a uniform color is achieved.

APPLICATION:**Adhesive Use:**

Although this product will adhere to a damp surface, the best results are obtained when bonded to a dry surface. Remove free standing water by air blast or squeegee. Apply with trowel, spatula or caulking gun to both surfaces to be bonded. Place surfaces in direct contact; secure firmly in position until cured. The air and surface temperatures must be above 50°F and rising.

Filler, Mortar or Surfacing:

Fill entire void, opening or defect. Mortar should be pressed firmly to avoid "bridging". On deep void or crevices, PG-2089 can be injected with conventional caulking gun equipment. PG-2089 is easily smoothed by keeping application tools clean and lightly wetted with mineral spirits. Do not add any solvents of any type to the PG-2089. Tools and equipment should be cleaned promptly while the mortar remains uncured.

Grouting:

The cavity must be free of water before grouting. Fill cavity with bonding agent. Tamp and strike off level with surrounding surface.

Technical Information

- COMPRESSIVE STRENGTH (ASTM D965): 7000 psi min.
- TENSILE STRENGTH (ASTM D 638): 3000 psi min.
- TENSILE ELONGATION (ASTM D 638): 3 percent
- COLOR: Cement Gray
- HARDNESS SHORE D (ASTM D2240): 70
- TENSILE SHEAR: 3 days at 77°F - 1000 psi
28 days AT 77°F - 1800 psi
- MIX RATIO: 1:1 by volume
- POT LIFE: Averages 2 to 3 hours for a one pound volume at 72°F
- CURING: Within an average of 6 to 8 hours, depending upon mass, air and surface temperatures.
- CHEMICAL RESISTANCE: Resistant to mild mineral acids, alkali, detergents, solvents, skydrol, hydraulic fluid, lubricating oils, salts, etc.
- SHELF LIFE: One year min. in unopened cans.
- CLEAN UP: Mixed epoxy is much easier to clean up before it hardens. Solvents such as acetone, methyl ethyl ketone (MEK) or xylene may be used. Commercial epoxy/paint stripper solvents are recommended for hardened epoxy. Consult solvent manufacturer's usage recommendations.
- PACKAGING: 2 gal units
- COVERAGE: 231 cubic inches per gallon
- LIMITATIONS: Application temperature range is 50° to 105°F (10° to 41°C). Heavy, large overhead applications should be applied in multiple applications to the desired thickness. Do not add solvents or water to epoxy components.

ITW Resins Technologies adhesives are two-component epoxies formulated for industrial and professional use only, and must be kept out of the reach of children. These products contain epoxy resins and amine curing agents which may be CORROSIVE and potentially HARMFUL to your health if not stored and used properly. Hazards can be significantly reduced by observing all precautions found on Material Safety Data Sheets (MSDS), product labels and technical literature. Please read this literature carefully before using these products.

Date

07/2006

<p><u>General:</u> Every reasonable effort is made to insure the technical information and recommendations on these data pages are true and accurate to the best of our knowledge at the date of issuance. However, this information is subject to change without notice. Prior versions of this publication are invalid with the release of this version. Products and information are intended for use by qualified applicators that have the required background, technical knowledge, and equipment to perform said tasks in a satisfactory manner. Consult your local distributor for product availability, additional product information, and technical support.</p> <p><u>Warranty:</u> ITW Polymer Technologies, a division of Illinois Tool Works Inc., warrants that its products meet their printed specifications. This is the sole warranty. This warranty expires one year after product shipment.</p> <p><u>Warranty Claims:</u> If any product fails to meet the above, ITW Polymer Technologies will, at its option, either replace the product or refund the purchase price. ITW Polymer Technologies will have no other liability for breach of warranty, negligence, or otherwise. All warranty claims must be made in writing within one year of the date of shipment. No other claims will be considered.</p> <p><u>Disclaimer:</u> ITW Polymer Technologies makes no other warranty, expressed or implied, and specifically disclaims any warranty of merchantability or fitness for a particular purpose.</p>	<p>Suggestions concerning the use of products are not warranties. The purchaser assumes the responsibility for determining suitability of products and appropriate use. ITW Polymer Technologies' sole liability, for breach of warranty, negligence or otherwise, shall be the replacement of product or refund of the purchase price, at ITW Polymer Technologies' election. Under no circumstances shall ITW Polymer Technologies be liable for any indirect, incidental or consequential damages.</p> <p><u>Modification of Warranty:</u> No distributor or sales representative has the authority to change the above provisions. No change in the above provisions will be valid unless in writing and signed by an officer or the Technical Director of ITW Polymer Technologies. No term of any purchase order shall serve to modify any provision of this document.</p> <p><u>Mediation and Arbitration:</u> If any dispute arises relating to products or product warranties, either the purchaser or ITW Polymer Technologies may a) initiate mediation under the then current Center for Public Resources (CPR) Model Procedure for Mediation of Business Disputes, or b) initiate a non-binding arbitration under the rules of the American Arbitration Association for the resolution of commercial disputes.</p>
--	---