



## CHOCKFAST PG-2089 – VERSATILE PATCHING, WATERPROOFING AND JOINING EPOXY SOLUTION

TECHNICAL DATA SHEET #496

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### PRODUCT DESCRIPTION

Chockfast 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 a versatile solution and accepted as a general-purpose mortar adhesive that can even be placed on vertical and overhead surfaces without sagging.

### USE & BENEFITS

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 is 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 PREPARATIONS

**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 the 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, followed 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 D4260). 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). Working time of mixed material is one hour at 72°F (22°C), longer at lower temperatures, shorter at higher temperatures.

## MIXING & APPLICATION INSTRUCTIONS

Please refer to the appropriate safety data sheet (SDS) prior to using this product.

### 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. The 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 for 3-5 minutes until a uniform color is achieved.

Mixing Note - Do not add solvents or water to epoxy components.

### 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 the cavity with bonding agent. Tamp and strike off level with surrounding surface.

Application Note - Heavy, large overhead applications should be applied in multiple applications to the desired thickness.

Please contact your local representative of our Worldwide Distributor Network or ITW Performance Polymers for any questions or support.

## REINFORCING BARS

Steel reinforcing bars, known as rebar, are a familiar feature of concrete structures. They are used to improve the tensile and shear strength of the structure. The coefficients of linear thermal expansion of steel and concrete are similar and compatible, but epoxy resin products have a coefficient two to five times as great and this can cause stress to build up inside the grout which can lead to cracking.

The tensile strength of PG-2089 is at least six times that of concrete, the shear strength at least five times, so horizontal rebar is not as important as it is with concrete. In fact, the use of horizontal rebar is not necessary or typically recommended when using any Chockfast epoxy grouts.

Where significant unloaded areas of PG-2089 occur, it is advisable to tie them to the concrete with short vertical pieces of rebar or "All-Thread" rod. **These should especially be installed on new concrete, at corners and edges in general to pre-vent "edge curl" or the tensile failure of the concrete.** Where possible the dowels should be arranged as follows: 6-9" on centers; 3" in from the edge of foundation and not closer than 1" from the top surface of the epoxy grout.

## STORAGE RECOMMENDATIONS

All product components should be stored in a dry, shaded area in original unopened containers and within a temperature range of 65°- 95°F (16° - 35°C). For additional information, please refer to Technical Guide 1024.

## CAUTION

ITW 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 Safety Data Sheet (SDS), product labels, and technical literature. Please read this literature carefully before using these products.

## PHYSICAL PROPERTIES

COMPRESSIVE STRENGTH	7,000 psi min. (48.3 MPa)	ASTM D695
TENSILE STRENGTH	3,000 psi min. (20.7 MPa)	ASTM D638
TENSILE ELONGATION	3 percent	ASTM D638
HARDNESS	70 Shore D	ASTM D2240
TENSILE SHEAR	1,000 psi (6.9 MPa) @ 3 days at 77°F (25°C) 1,800 psi (12.4 MPa) @ 28 days at 77°F	

*The data shown reflect typical results based on laboratory testing under controlled conditions. Variations from the above data are typical for field-prepared samples.*

## PRODUCT INFORMATION

UNIT COVERAGE	439 in <sup>3</sup> (7194 cm <sup>3</sup> )	
TYPICAL APPLICATION TEMPERATURES	50° to 105°F (10° to 41°C)	
INITIAL CURE TIME (APPROXIMATE, BASED ON CONTACT SURFACE TEMPERATURES)	Within an average of 6 to 8 hours, depending upon mass, air and surface temperatures.	
POT LIFE (APPROXIMATE)	Averages 2 to 3 hours for a one-pound volume at 72°F (22.2°C)	
MIXING RATIO	1:1 by Volume	
PACKAGING PER UNIT	RESIN (A):	0.9 gal (3.4 L) in a 1 gal can
	HARDENER (B):	1 gal (3.7 L) in a 1 gal can
COMPONENT WEIGHTS	RESIN (A):	13.1 lbs (5.9 kg)
	HARDENER (B):	14.1 lbs (6.4 kg)
UNIT SHIPPING WEIGHT	30 lbs (13.6 kg)	
COLOR	MIXED (A + B): Cement Gray	
CLEAN UP	Mixed epoxy is much easier to clean up before it hardens. Solvents such as IXT-59, acetone, methyl ethyl ketone (MEK), or xylene may be used. Commercial epoxy/paint strippers/solvents are also recommended for hardened epoxy. Consult solvent manufacturer's usage recommendations.	
SHELF LIFE	2 years in dry storage	
CHEMICAL RESISTANCE	Refer to Technical Guide 675	

## REFERENCE

For any additional recommendations or applications beyond the typical ones listed in this document, please contact your local representative of our Worldwide Distributor Network or ITW Performance Polymers for further support.

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