TECHNICAL DATA SHEET

Epoxy Steel®

Description: LePage® Epoxy Steel® is a two-part system consisting of an epoxy resin and a hardener. The convenient syringe dispenses equal amounts of each component every time. When mixed in equal volumes, resin and hardener react to produce a tough, rigid, high strength bond in 5 to 12 minutes. It is used as an adhesive for repairing, filling and rebuilding all metal and concrete surfaces. LePage Epoxy Steel does not conduct electricity and can be used for sealing electrical components. It cures to a metallic gray finish and can be easily sanded or machined. It does not shrink or expand and is resistant to water and most common solvents.

Available As:

Item #	Size	Package
1919322	25 ml	Carded Syringe
1880795	25 ml	Carded Syringe

Features & Benefits:

- 8 Minute Set Time
- Fills & Rebuilds Most Metal/Concrete
- Machinable
- Water Resistant
- Dries Grey
- Will Not Shrink or Expand

Recommended For:

LePage® Epoxy Steel® is designed for bonding metal and concrete as well as glass, ceramic and wood. Use for repairing machinery, appliances, tools, lawnmowers, automotive components, pipes, imbedding bolts and screws into metals, concrete or stone and sealing electrical components against moisture and vibration.

For Best Results:

- Not for use on polyethylene (PE), polypropylene (PP) and polytetrafluoroethylene (PTFE)/Teflon® or flexible materials
- Not suitable for applications requiring short-term heat exposure of greater than 150°C (302°F)
- Not suitable for continuously wet areas or water immersion

Typical Uncured Physical Properties:

Color:		
Hardener:	Off-White	
Resin:	Metallic Grey	
Base:	Polymercaptan Hardener / Epoxy Resin	
Odor:	Amine	
Specific Gravity:		
Hardener:	1.60	
Resin:	1.63	
Flash Point:		
Hardener:	>93°C (200°F)	
Resin:	>96°C (250°F)	
VOC Content:	0.04% by weight	CARB
Shelf Life:	18 months from date of manufacture (unopened)	
Lot Code Explanation:	For Example:	
Stamped on back of syringe label	LB**4F**AC569	
	4 = Last Digit in the Year of Manufacture 4 = 2014 (i.e. 3 = 2013, 4 = 2014, etc.)	**A –** January, **B –** February, **C –** March, **D –** April, **E –** May, **F –** June, **G –** July, **H –** August, **J –** September (there is no I), **K –** October, **L –** November, **M –** December
	F = Month produced (see chart at right) F = June	
	June 2014 is the date of manufacture	

Typical Application Properties:

Application Temperature:	Apply between 4°C (39°F) and 35°C (95°F)
Gel Time (2g : 2g):	5 to 12 minutes*
Usable Strength:	12 hours*
Cure Time:	24 hours*
	*Times are dependent on temperature, humidity and amount of adhesive used

Typical Cured Performance Properties:

Color:	Opaque, Medium Gray	
Cured Form:	Non-flammable solid	
Service Temperature:		
Long Term Exposure:	-23°C (-9°F) to 49°C (120°F)	
Short Term Exposure:	-23°C (-9°F) to 150°C (302°F)	
Water Resistant:	Yes	
Sandable:	Yes	
Paintable:	Yes	
Hardness:	80 ± 2	Shore D
Tensile Shear Strength:		
Cold Rolled Steel, Sandblasted:		
1 hour cure:	7.00 ± 0.98 N/mm² (1016 ± 142 psi)	
4 hour cure:	16.82 ± 0.05 N/mm² (2447 ± 7 psi)	
24 hour cure:	22.01 ± 0.65 N/mm² (3192 ± 94 psi)	
Aluminum, Sandblasted:		
24 hour cure:	16.51 ± 0.57 N/mm² (2395 ± 82 psi)	
7 day cure, 24 hr water immersion:	15.61 ± 0.41 N/mm² (2264 ± 59 psi)	
7 day cure, 8 day water immersion:	16.09 ± 0.90 N/mm² (2334 ± 131 psi)	
Compressive Shear Strength:		24 hour cure
Sanded Hard PVC (White):	6.28 ± 0.65 N/mm² (911 ± 94 psi)	
Sanded Acrylite FF:	11.42 ± 1.30 N/mm² (1657 ± 189 psi)	
Maple:	15.75 ± 0.62 N/mm² (2285 ± 90 psi)	

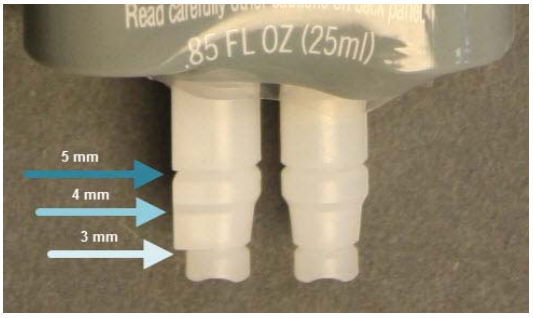
Solvent Resistance:		Tensile Shear Strength
Gasoline:	21.77 ± 1.12 N/mm² (3158 ± 162 psi)	Aluminum, 7 day cure
10W30 Oil:	22.46 ± 0.79 N/mm² (3257 ± 115 psi)	24 hour solvent immersion
Anti-Freeze:	22.43 ± 0.98 N/mm² (3253 ± 142 psi)	
Side Impact Resistance:	3.3 Joules	1" x 1" Cold Rolled Steel 7 day cure

Directions:

Tools Typically Required:
Utility knife, mixing tool/applicator (e.g. small flat plastic or wooden stick), disposable surface (e.g. foil, paper).

Safety Precautions:
Apply and cure in a well-ventilated area. Wear gloves and wash hands after use

Preparation:
Surfaces must be clean, dry and free from oil, wax, paint, rust, etc. Roughen smooth surfaces for better adhesion by sandblasting or sanding with an emery cloth. Wash glass and ceramic surfaces with soap and water then rinse and let dry. Pre-fit parts to be joined. Remove the plug from between the piston. Cut off the end tips of the syringe at one of the three cut-off points as illustrated below. For easier extrusion, cut at the 4 mm or 5mm opening. For more precise application, cut at 3 mm opening.



Turn syringe end up and pull plunger back slightly allowing air bubbles to rise to top. Press the plunger to expel air. Depress the double piston to dispense equal parts of the two materials on a disposable surface. Mix resin and hardener thoroughly until uniform in colour (approximately 1 minute). Wipe syringe tips clean, retract piston slightly and close with the plug. Ensure that the plug is always placed in the same orientation on the tips.

Application:
Apply a small amount of mixed adhesive to both surfaces, join and press together. Remove any excess glue immediately by wiping with acetone. Support until bond sets in 5 to 12 minutes at room temperature. For best results, clamp or secure as required for 1 hour. Usable strength in 12 hours. Full cure and strength in 24 hours. Moderate heat will speed hardening while cooler temperatures will require a longer set time.

Clean-up:
Clean excess glue immediately with acetone before adhesive sets. Cured adhesive may be cut away with caution using a sharp blade. Prolonged immersion in paint stripper will soften the cured adhesive to aid removal. Note: Acetone is highly flammable and not compatible with all surfaces. Follow manufacturer's instructions and test on small area before applying.

Storage & Disposal:

Not damaged by freezing. If frozen, warm to room temperature until the resin and hardener become liquid enough to mix. Use an approved hazardous waste facility for disposal.

Label Precautions:

CAUTION. IRRITANT. MAY IRRITATE EYES AND SKIN. Do not get in eyes or on skin. May cause allergic skin reaction. **KEEP OUT OF REACH OF CHILDREN. FIRST AID TREATMENT:** Hardener contains quartz silica, polymercaptan, phenol and amine curing agents. Resin contains epoxy resins, aluminum and quartz silica. If swallowed, call Poison Control Centre or doctor immediately. Do not induce vomiting. If in eyes rinse well with water for at least 15 minutes. If on skin, rinse well with water.

Refer to Material Safety Data Sheet (MSDS) for further information.

Disclaimer:

The information and recommendations contained herein are based on our research and are believed to be accurate, but no warranty, express or implied, is made or should be inferred. Purchasers should test the products to determine acceptable quality and suitability for their own intended use. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

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