

LOCTITE®

Fixmaster® Epoxies

Anti-Seize

Cleaners

Fixmaster Epoxies

Flooring

Hand Cleaners

Urethanes

Wearing Compounds

- Repair
- Rebuild
- Restore



Metal-Filled Epoxies

Fixmaster® filled epoxies repair, rebuild and restore damaged parts to quickly return equipment to service. Different fillers provide a range of performance characteristics, making each Fixmaster® epoxy suitable for specific applications. Each product is 100% solids, non-shrinking and capable of bonding to metal, ceramic, wood, glass, and some plastics. Cured epoxies can be drilled, tapped, and machined – just like the original metal.

ALUMINUM PUTTY –

This non-sagging, two-part epoxy is heavily reinforced with aluminum powder. It is ideal for repairing aluminum parts and equipment, forming a non-rusting finish.

Applications:

- repairing aluminum castings
- repairing worn aluminum parts
- making aluminum dies



ALUMINUM LIQUID –

A pourable version of Aluminum Putty, this self-leveling epoxy is recommended for casting replacement aluminum parts and for making molds and fixtures.

Applications:

- filling or leveling equipment
- pouring molds, parts and fixtures
- making aluminum forming dies
- casting aluminum parts



STEEL PUTTY –

The workhorse of the Fixmaster® line, this steel-filled, non-sagging, two-part epoxy cures to a metal-like finish. Used for making cost-saving repairs on metal parts, Steel Putty is our most recommended general-purpose epoxy.

Applications:

- sealing cracked castings, tanks, vessels, and valves
- patching non-structural defects in steel castings
- making models and jigs for holding odd shaped parts
- making metal dies
- resurfacing worn air seals
- filling cavitated areas



STEEL LIQUID –

A pourable version of Steel Putty, this self-leveling epoxy is recommended for casting into hard-to-reach areas, anchoring and leveling, and forming molds and fixtures.

Applications:

- forming molds, fixtures, and prototypes
- repairing threaded parts
- repairing pipes and tanks



FAST SET STEEL PUTTY –

A fast curing version of Steel Putty, this material reaches a functional cure in about 10 minutes. Recommended for repairing pipes and other equipment that must be back in service in just minutes.

Applications:

- fuel and gas tank holes
- stripped threads
- cracked battery cases
- leaking storage tanks
- leaks on pipes and elbows



WET SURFACE REPAIR PUTTY –

Use this unique two-component epoxy to repair damp and underwater surfaces.

Applications in habitually wet environments:

- pulp and paper mills
- wastewater treatment plants
- marine environments



WEAR RESISTANT PUTTY –

Ceramic fibers give this trowelable putty excellent wear and abrasion resistance properties. It cures to a smooth, low friction finish for equipment exposed to wear, erosion, and cavitation.

Applications:

- filling cavitation
- providing protective coatings in or on: pipes, pumps, elbows, transitions, butterfly valves, deflection plates, turbine blades, and tanks



METAL MAGIC STEEL™ –

A versatile and easy to use repair compound that's steel-filled for tough maintenance repairs. Metal Magic Steel applies like a putty and cures to a metal-like finish. It cures under water and adheres to most damp surfaces, all in just 10 minutes. Just cut off a section, knead and apply. NSF/ANSI 61 approved.

Applications:

- seal chemical tanks
- smooth welds
- stop pipe leaks
- repair holes in elbows, cracks in castings, and holes in gas and fuel tanks
- fill oversized bolt holes



SUPERIOR METAL –

Ideal for renewing or protecting surfaces subject to corrosion, abrasion, and harsh environments, this ferro-silicon filled epoxy has outstanding compressive strength. It is also extremely resistant to corrosion and chemical attack.

Applications:

- leaks on pipes, elbows
- fuel and gas tank holes
- stripped threads
- cracked battery cases
- leaking storage tanks



STAINLESS STEEL PUTTY –

This stainless steel filled epoxy repairs stainless steel parts and forms a non-rusting, very hard, durable finish on damaged surfaces.

Applications:

- renewing stainless steel pumps
- rebuilding stainless steel shafts
- repairing stainless steel castings
- making stainless steel molds
- resurfacing stainless steel equipment



Technical Tips for Working with Epoxies

Working time and cure time depends on temperature and mass:

- the higher the temperature, the faster the cure
- the larger the mass of material mixed, the faster the cure

To speed the cure of epoxies at low temperatures:

- store epoxy at room temperature
- pre-heat repair surface until warm to the touch

To slow the cure of epoxies at high temperatures:

- mix epoxy in small masses to prevent rapid curing
- cool resin/hardener component(s)

**FIXMASTER®
METAL-FILLED EPOXIES
PROPERTIES CHART**

| PRODUCT | Item Number | Container | Coverage, ft. ² @ 1/4" thickness | Color | Maximum operating temperature, °F | Compressive strength, psi † | Tensile strength, psi † | Hardness (Shore D) | Working time, minutes | Functional cure, hours | Mix Ratio by volume, r:h | Mix Ratio by weight, r:h |
|--------------------------|-------------------------|--------------------------------------|--|-----------|-----------------------------------|-----------------------------|-------------------------|--------------------|-----------------------|------------------------|--------------------------|--------------------------|
| Aluminum Liquid | 97453 | 1 lb. kit | 17 in. ³ | Alumin. | 200 | 17,000 | 6,000 | 85 | 20 | 6 | 5:1 | 9:1 |
| Aluminum Putty | 97463 | 1 lb. kit | 0.5 | Alumin. | 225 | 11,300 | 4,000 | 87 | 20 | 6 | 4:1 | 6.3:1 |
| Fast Set Steel Putty | 39917 | 1 lb. kit | 0.4 | Grey | 200 | 10,800 | 4,600 | 80 | 3 | 10 min. | 1:1 | 6.3:1 |
| Metal Magic Steel™ | 98853 | 4 oz. | 7 in. ² | Grey | 250 | 12,000 | 2,500 | 80 | 3 | 10 min. | N/A | N/A |
| Stainless Steel Putty | 97443 | 1 lb. kit | 0.25 | Grey | 225 | 14,000 | 4,600 | 85 | 20 | 6 | 4:1 | 9:1 |
| Steel Liquid | 97483 97484 97482 | 1 lb. kit 4 lb. kit 16 lb. kit | 13 in. ³ 52 in. ³ 208 in. ³ | Grey | 225 | 13,500 | 6,000 | 89 | 25 | 6 | 4:1 | 9.5:1 |
| Steel Putty | 99913 99914 99912 | 1 lb. kit 4 lb. kit 25 lb. kit | 0.3 1.2 7.5 | Grey | 225 | 13,000 | 4,900 | 90 | 30 | 6 | 2.5:1 | 6.25:1 |
| Superior Metal | 97473 | 1 lb. kit | 0.25 | Dark Grey | 250 | 18,000 | 5,500 | 90 | 20 | 6 | 4:1 | 7.25:1 |
| Wear Resistant Putty | 98742 98743 | 1 lb. kit 3 lb. kit | 0.36 1.1 | Grey | 225 | 11,600 | 4,900 | 86 | 30 | 6 | 4:1 | 8:1 |
| Wet Surface Repair Putty | 96583 | 1 lb. kit | 0.5 | Grey | 150 | 12,500 | 3,500 | 85 | 30 | 18 | 1:1 | 10:9 |

Properties are based on mixing one lb. mass at 77°F, 7 days cure.
†Ultimate cure.

| PRODUCT | Emergency metal repairs | Corrosion protection | Repairing pipes, tanks | Rebuilding shafts, keyways, bearings | Repairing threaded parts | Restoring tube sheets | Pump repair | Repairing engine blocks | Fixtures and prototypes | Rebuilding impellers, valves | Repairing aluminum parts | Repairing stainless steel parts | Forming molds, fixtures | Wet surface repairs |
|--------------------------|-------------------------|----------------------|------------------------|--------------------------------------|--------------------------|-----------------------|-------------|-------------------------|-------------------------|------------------------------|--------------------------|---------------------------------|-------------------------|---------------------|
| Aluminum Liquid | | | | | | | | ● | | | ● | ● | ● | |
| Aluminum Putty | | ● | | | | | | | | ● | ● | ● | | |
| Fast Set Steel Putty | ● | | ● | | | | | ● | | | | | | |
| Metal Magic Steel™ | ● | | ● | | | | | | | | | | | ● |
| Stainless Steel Putty | | ● | | | | | | | | ● | ● | ● | | |
| Steel Liquid | | | ● | | ● | | | | ● | | | | ● | |
| Steel Putty | | | ● | | | | | ● | | ● | | | ● | |
| Superior Metal | | ● | | ● | ● | ● | ● | ● | | ● | | | | |
| Wear Resistant Putty | | ● | | ● | | ● | ● | ● | | ● | | | | |
| Wet Surface Repair Putty | | ● | ● | | | | | | | | | | | ● |

● Preferred Choice ● Good Choice

General-Purpose Epoxies

Fixmaster® general-purpose epoxies are two-component adhesives packaged in pre-measured cartridges, syringes, and cups to eliminate the need for measuring, and with some products, even mixing. All formulations fill gaps, bond poorly-mated parts, and form structural bonds to most substrates including metal, ceramic, wood, cork, glass, concrete, and some plastics.

GENERAL PURPOSE EPOXY MIXER CUPS –

This pre-measured epoxy is similar to the fast cure version, but has a 1-hour work life.

Applications:

- production maintenance
- prototype bonding



4 MINUTE EPOXY –

This translucent, gel-like epoxy sets up in just 4-6 minutes. The fast cure time makes it ideal for emergency repairs or where reduced fixturing time is desirable.

Applications:

- emergency adhesive needs
- structural bonding



FAST CURE EPOXY MIXER CUPS –

This pre-measured epoxy comes in its own unique mixer cup - just mix and use - no waste, no mess, no clumping. It bonds almost any material in 5-15 minutes and offers excellent chemical resistance. Fast Cure Epoxy fills porosities, so it can be used to build up worn parts.

Applications:

- production maintenance
- prototype bonding



POXY PAK™ FAST CURE EPOXY –

This high strength, thick liquid reaches handling strength in 4-6 minutes. It permanently bonds almost any material to repair, fill, and seal holes, cracks and worn surfaces.

Applications:

- production maintenance
- prototype bonding



HIGH PERFORMANCE EPOXY –

Fiberglass reinforcement gives this epoxy outstanding tensile and shear strengths, as well as resistance to shock and mechanical stresses. Recommended for forming permanent, water-resistant bonds in production and maintenance applications.

Applications:

- electrical embedment
- tooling material
- gap filling
- sealing and caulking



UNDERWATER REPAIR EPOXY –

This putty-like material is ideal for plumbing, irrigation, and marine applications because it is unaffected by chlorinated or salt water. It works on both wet and dry surfaces, and sets up and cures underwater. It is hand-kneadable and fully cures in one hour.

Applications:

- plug and fill cracks, leaks and holes on pipes, fittings, tanks, valves, and pumps



FAST SET STEEL EPOXY –

This steel-filled adhesive is fast to mix and fast to apply. It reaches a functional cure in 10 minutes, which makes it an excellent material for fast, cost effective repairs to all ferrous metals. Recommended for repairing equipment that must be back in service quickly.

Applications:

- leaks on pipes, elbows, and tanks
- rebuilding stripped threads



**FIXMASTER® GENERAL-PURPOSE
EPOXIES PROPERTIES CHART**

| PRODUCT | Item Number | Container | Color (cured) | Temperature resistance, °F | Shear Strength, psi | Working time, minutes | Fixture Time† | Full Cure |
|--|-------------------------|--|---------------|----------------------------|---------------------|-----------------------|---------------|-----------|
| Fixmaster® 4-Minute Epoxy | 97434 | 50 ml cartridge | Trans-lucent | 160 | 2000 | 3-4 | 10 min. | 1 hour |
| Fixmaster® Fast Cure Poxy Pak™ Epoxy | 81120 | 1 oz. syringe | Clear | 300 | 2300 | 1 | 4-6 min. | 1 hour |
| Fixmaster® Fast Cure Epoxy Mixer Cups | 21425 21426 | 10 - .12 fl. oz. cups 10 - 1 oz. cups | Grey | 300 | 2000 | 5 | 10 min. | 12 hours |
| Fixmaster® General Purpose Epoxy Mixer Cups | 21427 | 10 - .12 oz. cups | Trans-lucent | 180 | 2000 | 60 | 1.5 hrs. | 24 hours |
| Fixmaster® High Performance Epoxy | 99393 99394 99392 | 1.4 oz. cartridge 50 ml cartridge 2 gallon kit | Tan | 180 | 3800 | 30 | 8 hrs. | 24 hours |
| Fixmaster® Underwater Repair Epoxy | 82093 | 4 oz. stick | White | 300 | 700 | 2 | 5 min. | 1 hour |
| Fixmaster® Fast Set Steel Epoxy | 96604 | 50 ml cartridge | Grey | 200 | 2600 | 3-4 | 10 min. | 1 hour |
| Fixmaster® Gun | 96030 | Required for use with 50 ml Fixmaster® Epoxies | | | | | | |
| Fixmaster® Static Mixers | 39634 | Packaged 6/bag - for mixing and dispensing epoxies in 50 ml containers | | | | | | |

Properties based on ultimate cure.
Epoxy properties based on mixing 20 g. mass at 77°F.
† Time to reach handling strength.

BONDING CHARACTERISTICS

| PRODUCT | Gap filling | Fast cure time | Ferrous metal repair | Toughened formulation | Shock resistance | Water resistance | Plastic bonding | Rubber bonding | Metal bonding | Sandable finish | Paintable finish |
|---|-------------|----------------|----------------------|-----------------------|------------------|------------------|-----------------|----------------|---------------|-----------------|------------------|
| 4-Minute Epoxy | ● | ● | ○ | | ○ | ○ | ○ | | ● | ● | ● |
| Fast Cure Poxy Pak™ Epoxy | | ● | | | | | ● | | ● | ● | ● |
| Fast Cure Epoxy Mixer Cups | ● | ● | | | | | ○ | ○ | ● | ● | ○ |
| General Purpose Epoxy Mixer Cups | ● | | | | | | ○ | ○ | ● | ● | ○ |
| High Performance Epoxy | ● | | ○ | ● | ● | ● | ● | ○ | ● | ● | ● |
| Underwater Repair Epoxy | ● | ● | | | ● | ● | ● | | ● | ● | ● |
| Fast Set Steel Epoxy | ● | ● | ● | | ○ | ○ | | | ○ | ○ | ● |

● Preferred choice ● Good choice ○ Acceptable choice

Pipe Repair Kit

A urethane-impregnated fiberglass tape, Loctite® Pipe Repair Kit is designed to make on-site repairs to metal, plastic, and composite pipes in just minutes— without the use of tools or specially-trained personnel.

Activated by water and applied by wrapping around the damaged area, Pipe Repair cures in approximately 30 minutes to a durable finish. Included in the kit is a one-use size of Fixmaster® Metal Magic Steel™ Epoxy for filling holes and cracks prior to applying the tape. Used in combination, the tape and epoxy provide a reliable and fast pipe repair system. Pipe Repair kit has superior adhesion to steel, cast iron, stainless steel, concrete, bronze, copper, and aluminum. It can be applied to wet surfaces, and will cure under water.



Pipe Repair saves time and money by minimizing lost production time due to unscheduled shutdown.

- Seal cracked castings, tanks, vessels, valves, and pipes
- Seal non-potable water and chemical tanks
- Repair pipe joints
- Reinforce tanks, vessels, valves, pipes, joints, and elbows

Easy as 1,2,3...



| Item Number | Size | Max. Operating Temperature | Color | Tensile Strength |
|-------------|-------------------|----------------------------|-------------|------------------|
| 96321 | 2" W x 6' L tape | 250°F | Neon Yellow | 6,000 psi |
| 96322 | 4" W x 12' L tape | | | |

Pipe Repair Kit should not be used on a pipeline that is carrying caustic, hazardous, or otherwise harmful materials.

LOCTITE

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