

Fast Fix

Styles 9800 9801 9802 9803 9804

Fast Fix

All Fast Fix epoxies putties can be machined, sanded, drilled, tapped, ground filed and painted. They can be used to fill in voids, holes and repair tanks without draining. Fast Fix epoxies will repair pipe flanges and leaky pipes. Fast Fix/Steel and Fast Fix/Submersible Repair are also used in higher pressure pipe repair systems along with Pipe Seal Wrap, Style 9830. All epoxies have a wide range of chemical resistance. They can be used to bring back to better than original condition cement barrier ponds, holding ponds in deteriorated areas, then coated with Epoxy Coating, Style 9810.

All the epoxies have the ability to bond and reinforce with structural integrity. Best of all these epoxies have the operational temperature ability of 500°F/ 260°C.



PHYSICAL PROPERTIES:	
Atmosphere 75°F (24°C)	
• Work Life	5 minutes
• Hardens	15 minutes
• Cures	1 hour
Density	15.8 lb./gal. (1.9gm/cm ³)
Compression Strength	18,000 psi
Tensile Strength	6,000 psi
Modulus of Elasticity	6X10 ⁵ psi
Shear Strength	800 psi
Izod Impact	.03 fr. lb./in a notch
Hardness (Shore D)	85
Maximum Temperature	500°F
Size	4 oz.
ELECTRICAL PROPERTIES:	
Volume Resistivity	5X10 ¹⁵ ohm-cm
Dielectric Strength	400 volts/mil @ 0.12 ⁵ m

Style 9800 ←

Fast Fix/Steel - steel reinforced epoxy putty. ←

Style 9801

Fast Fix/Aluminum - aluminum reinforced epoxy putty.

Style 9802

Fast Fix/Copper - copper reinforced epoxy putty.

Style 9803

Fast Fix/Plastic - reinforced epoxy putty.

Style 9804

Fast Fix/Wood - reinforced epoxy putty.

Style 9805



Fast Fix/Pyro-Therm Weld

Fast Fix/Pyro-Therm is a single unit paste no two part mixing required. It's capable of 2400°F to +3000°F (1315°C to +1649°C). Pyro-Therm is a cold welding system that not only fills in cracks but reinforces surfaces. This product has successfully been used to seal fire bricks in boilers, to help eliminate the escape of gases, to repair exhaust manifolds (both gas and diesel), catalytic converters in automobiles, wire draws and flange repair in elevated temperatures, heat exchangers and boiler burner nozzles. This product can be machined, drilled and tapped after applied to rebuilt area.

CAUTION: This product was not intended to be used in life threatening situations.

Available

3 oz. bottles (20/case)

24 oz. cans (1/case)

Style 9806

Fast Fix/Submersible Repair

Fast Fix/Submersible Repair
Epoxy Putty

Submersible Repair is a hand kneadable epoxy putty that mixes in just one minute for repairs to damp, wet areas and underwater applications. The putty like consistency eliminates drips and runs. It can be applied under water in either fresh or salt water and will bond solidly to fiberglass, metal, wood, concrete, ceramics, glass, etc.

Submersible Repair has 100% solid content, it will not shrink and is water insoluble. The mixed epoxy turns from an aquamarine color to fiberglass white after mixing and will not yellow upon exposure to UV. After final cure Submersible Repair may be drilled, sawed, sanded, filed, tapped machined or painted.

Submersible Repair is ideal for making emergency in water repairs.

Application Properties	Results	Test Method
Work Life, Minutes Submerged Above	40 20	
Shelf Stability @ 75°F, Months (Minimum)	12	
Hardness, Shore D (Full Cure, 24 Hours)	70 - 75	ASTM D 2240
Lap Shear Tensile Strength On Steel (1"x1"x1/16"), Lbs.	950	ASTM D 1002
Temperature Limitations, °F Continuous Intermittent	260 300	
Chemical Resistance	Resistant to hydrocarbons, ketones, alcohols, esters, halocarbons, aqueous salt solutions and dilute acids and bases.	
Electrical Resistance, Megohms	30,000	ASTM D 257
Dielectric Strength, V/Mil	300	ASTM D 149
Shrinkage, %	<1	ASTM D 2566
Non-Volatile Content, %	100	
Compressive Strength, Lbs/in ²	12,000	ASTM D 695

Style 9809

Fast Fix/Epoxy Paste - Base

A two part epoxy paste, grey/concrete in color.

Paste Effects

- Increased abrasion resistance
- Enhance chemical resistance
- Reduce friction
- Reinforce surfaces from deterioration
- Eliminates corrosion
- Seals porosity
- Restore original dimensions to worn products

Applications - Coat the following and gain:

- Pipes and elbow interior/exterior areas
- Pump impellers and pump cavities
- Boat bottoms
- Propellers
- Ship loader buckets
- Tank interiors (liners)
- Underwater products, tools and equipment



Surface Preparation

All surfaces should be dirt, oil, grease, contamination and scum free (use degreasers and cleaners).

Metal Surfaces:

1. Sand the surface using an angular abrasive such as aluminum oxide until the necessary standard of cleanliness can be achieved to a depth of 3 mil (75 microns).
2. Blast clean the metal surface until the following minimum standards of cleanliness is achieved.
 - British Standard 4232 - second quality
 - American Standard - near white finish SSPC-SP-10
 - Swedish Standard - Sa2 1/2 SIS 05 5000 1985
3. Coat the metal surfaces with Fast Fix/Epoxy Paste to 20 mil thickness before oxidation occurs.

For Patching Holes in Concrete, Ponds, Troughs and Floors:

4. Clean surfaces as stated above.
5. Fill in large cracked areas with Fast Fix/Steel Paste.

Mixing

Mix even weight amounts of base and hardener. Mix small amounts, remember this has a hardening time of 5 to 7 minutes. This paste will stick to the surfaces being applied to and to its self. Even by doing small patches at a time Style 9809 will make a continuous coating over the entire area to which it is being applied.

Application Methods

Flexible Trough
Flexible Putty Knife
Plastic Spreader

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Working Life

Working life from the beginning of mixing until the material is completely used.

50•F/10•O	59•F/15•O	68•F/20•O	77•F/25•O	86•F/30•O
2 hours	1.5 hours	1 hour	45 minutes	35 minutes

At 122 •F•(50 •O) the working time is only 12 minutes.

Coating Yield

Thickness .010" (2.54 mm)

500 grams yields 13 sq.ft.

1 gallon yields 140 sq.ft.

Full Cure Time

	Use involving no loading	Light loading	Full mech. & thermal loading & water immersion	Chemical contact
59•F/15•O	12 hours	24 hours	7 days	10 days
77•F/25•O	7 hours	24 hours	2.5 days	6 days
86•F/30•O	6 hours	12 hours	2 days	5 days

Increasing temperature of treated materials shortens cure time. When curing time is important, full cure can be achieved in 24 hours by increasing the temperature of the surface to 122 •F•(50 •O). Allow Fast Fix/Epoxy Coating to get (about 4 hours) before applying heat.

Carcinogenicity

None of the ingredients are listed as carcinogens by OSHA, NTP, ACGIH or IARC.

Availability

16 fluid ounces
32 fluid ounces
256 fluid ounces
55 gallon drum

1 set consists of: 1 can of Fast Fix/Epoxy Coating Base and 1 can of Fast Fix/Coating Hardener

Also Available

Part No. 9810B - Fast Fix/Epoxy Coating Hardener

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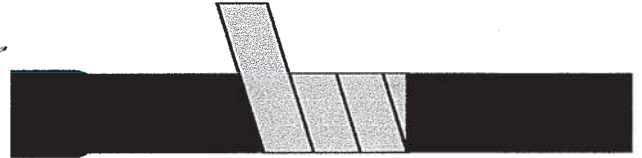
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Style 9830

Fast Fix/Pipe Seal Wrap

& Reinforcement

Pipe Seal Wrap can be used on any type of pipe: plastic, steel, aluminum, copper, clay, cement, stainless steel, as many types as can be thought of. Pipe Seal Wrap can seal water, fuels, oils, natural gas, gases, air and chemicals. This material has been tested and meets EPA for use in drinking water.



More importantly, Pipe Seal Wrap systems not only seals weakened, corroded and leaky pipes, it also reinforces the pipe. This is achieved in such a way that the pipe will be as strong or stronger than it was originally.

Pipe Seal Wrap is a moisture (water) sensitive polymer compound coated on a special fiberglass tape that cures on average in 30 minutes. Put the elastic gloves on supplied in the kit; dip the tape for 30 seconds in fresh or salt water using a bucket or other and wrap around the effected pipe. Pull Pipe Seal Wrap tight and snug the product up while in the curing stage. This material will also cure when exposed to moisture in the air.

The cured polymer and fiberglass becomes one solid mass and has sealed pressures of 300 psi, (3/16" diameter hole) and higher. In a test lasting 60 minutes, a vacuum of 29" of mercury have been generated with no leaks. Pipe sealing has been achieved with Pipe Seal Wrap alone or used in conjunction with various kits containing Fast Fix/Steel, semi-cured elastomer and patches.

Pipe Seal Wrap will cure underwater and can be placed on pilings to prevent erosion as well as the repair of underwater pipes. This makes Pipe Seal Wrap a perfect match with Fast Fix/Steel (Style FF/S 9800) or Fast Fix/Submersible (Style FF/SUB 9806), because all these products can cure underwater. Which product is used along with Pipe Seal Wrap depends on how large of an area is being repaired. If the repair is accessible immediately off pier side or there must be a dive which a lengthy additional time is required.

Technical Information

Color	Grey (UV Resistant)
Form	Impregnated Fiberglass Cloth
Fabrication Method	Wet Lay-Up
Cure Cycle @ 70°F/21°C	30 Minutes (Wet)
Hardness - Cured Laminate (Shore D)	85
Tensile Strength (ASTM D 638, Type 1)	24,000 psi
Compression Strength (ASTM D 695-77)	26,600 psi
Flexural Strength (ASDN D 709-71)	16,100 psi
Temperature Working	500°F
Number of Wraps Required	8 (Min) for High Pressure
Line Pressures (High)	600 psi (1 Inch Pipe)
Shelf Life	Unlimited When Properly Stored

Test Data

Preparation
One inch diameter plastic pipe test. Pipe had capped ends, pressure gauge supplied for pressure test, vacuum gauge supplied for vacuum test. Both gauges were calibrated before test. A 3/16" diameter hole was drilled as a leak path in the pipe. A 2" x 5 ft. kit was used (9830A 2" x 5 ft.).

Test	Media	Total Test Time	Results
Pressure, 300 PSI	Helium	60 minutes	No leaks
Vacuum, 29"	Air	60 minutes	No leaks

Test Data (Continued)

Preparation
 Three inch plastic pipe test. Pipe had capped ends, a calibrated pressure gauge supplied, 3/4" hole was drilled as a leak path in the pipe. A 4" x 15 foot with an elastomeric patch, kit was used. A Wheeler Rex Hydrostatic pump was used to supply the pressure (9830B 4" x 15 ft.).

Test	Media	Total Test Time	Results
Pressure, 400 PSI	Water	*60 minutes	No leaks

*This was after the same repair had sustained a 200 pound test at 60 minutes and a 300 psi test at 60 minutes consecutively.

Kit	Use	Repair Kit Contains
*A.	Straight Pipe	Pipe Seal Wrap, Gloves and Instructions
*B.	Straight Pipe	Pipe Seal Wrap, Elastomeric Patch, Gloves and Instructions
C.	Straight Pipe, Couplings, "T's", Joints and Corrosion	Pipe Seal Wrap, Support Screen, Fast Fix/Steel Epoxy, Anti-Stick Sheet, Gloves and Instructions
D.	Underwater Straight Pipe, Couplings, "T's", Joints and Corrosion	Pipe Seal Wrap, Support Screen, Fast Fix/ Submersible Repair, Anti-Stick Sheet Gloves and Instructions
E.	Covers all repairs A through D	Pipe Seal Wrap, Support Screen, Fast Fix/Steel, Fast Fix/Submersible Repair, Anti-Stick Sheet, Gloves and Instructions

*Can also be used underwater.

Pipe Sizes (Inches)	Sizes	Repair Kits/Case	Pipe Sizes (MM)	Metric
1/4 to 1/2	1" x 30"	24	6.35 to 12.7	25 mm x 762 mm
1/4 x 3/4	2" x 30"	24	6.35 to 19	50 mm x 762 mm
1/2 to 1	2" x 5 Ft.	24	6.35 to 25.4	50 mm x 1.524 meters
1 1/4 to 2	3" x 9 Ft.	18	31.75 to 50	75 mm x 2.74 meters
2 1/2 to 4	4" x 15 Ft.	12	63.5 to 100	100 mm x 4.57 meters
*6 to 8	4" x 30 Ft.	6	*152.4 to 203	100 mm x 9.14 meters
*10	4" x 45 Ft.	6	*254	100 mm x 13.71 meters
*	8" x 6 Ft.	12	*	200 mm x 1.828 meters
*	8" x 25 Ft.	6	*	200 mm x 7.62 meters
*	8" x 45 Ft.	6	*	200 mm x 13.71 meters

*Above are specialty applications, either for large diameter pipe or small diameter pipe with long length repairs.

To order by part see examples below:

Example: Size 3" x 9 ft. required, with elastomeric patch: **9830B3X9**

Example: Size 4" x 15 ft. required, with Submersible Repair: **9830C4X15**

Style 9812

Stop-Leak Patch 15 Minute Repair Kit

STOP-LEAK PATCH is a complete repair kit that includes a pre-coated fiberglass cloth in self-contained mixing pouch, pair of protective gloves and installation instructions. Each simple-to-use kit will set on dry surfaces, and will adhere to PVC, metal, wood, fiberglass, plastic and MORE! Perfect for flat and round surface repairs.

Features

- Unique self-contained mixing pouch
- No tools required
- Excellent adhesion to most materials

Specifications

- Heat resistant to 425° F
- Holds up to 3000 PSI

Patch Sizes:

2" x 12" 3" x 8" 4" x 12" 8" x 8"
2" x 20" 4" x 6" 6" x 8" 8" x 12"

INSTRUCTIONS - Read Carefully Before Starting!

Removing all pressure from the break will ensure the strongest possible bond.

1. Identify the broken area to determine which size **STOP-LEAK PATCH** will fit your application. The **STOP-LEAK PATCH** must extend a minimum of 1 inch beyond the broken area. Patches can be overlaid for longer cracks.
2. Remove all oil, grease, rust, scale, paint and hardware from the area to be repaired. Sanding or scuffing the surface will increase the bonding power of the **STOP-LEAK PATCH**. Use 40 grit sandpaper or equal.
3. Put on the enclosed gloves.
4. Compartment A contains the resin and fiberglass material, Compartment B contains a catalyst. Remove the plastic divider separating the two compartments.
5. Lay the package on a flat smooth surface. Using the plastic divider push all of the catalyst in compartment B into compartment A.

Vigorously knead the contents together for 1 to 2 minutes until the material begins to warm.

IMPORTANT: Once the two parts are mixed, the patch **MUST** be applied immediately since the curing process has begun.

6. Lay the package on a flat smooth surface, again use the plastic divider and push the mixed resin into one compartment. Cut the package open just above the mixed resin, unfold and apply **STOP-LEAK PATCH**.

Note: All excess resin remaining in the pouch should be applied over the area being repaired.

7. Smooth out any wrinkles and remove air bubbles. For repairs to damp surfaces, pressure should be applied until resin starts to cure.
8. Flat surface repairs allow 15 minutes cure time.

For pressurized applications allow 1 hour cure time prior to pressurizing. Pressurized applications up to 100 psi must have a minimum of 2 layers of fiberglass covering the broken area. This may require folding the **STOP-LEAK PATCH** in half. Do not exceed 1/4" diameter break on pressurized applications.



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