

EZ-Bond

Technical Bulletin 7080 - 08/16

High-Strength Marine Bonding Epoxy

- Thickened Epoxy Glue for bonding wood and composite substrates
- Will not sag or run when used on vertical or overhead surfaces
- Cures at temperatures as low as 35°F
- High tensile and shear strength is perfect for structural bonds

Technical Information



Part Number: 7080

Mix ratio by volume resin/hardener:
100/100 (1:1)

Mix ratio by weight resin/hardener: 100/78

Color: Blue/Amber - Amber when mixed

Components: 2

Working time @ 25° C: 40-60 minutes

Tack-free time @ 25° C: 4-6 hours

Coverage: 80 ft²/gal

Maximum Service Temperature: 160°F

Curing Mechanism: Chemical Cure

Tensile Strength: 7000 psi

Tensile Elongation at break: 7.5%

Flexural Strength: 11,500 psi

Flexural Modulus: 375,000 psi

Compressive Yield Strength: 12,500 psi

Heat Deflection Temperature: 119° F

Thinner: Pettit 97 Epoxy Thinner

Cleanup: Pettit 97 Epoxy Thinner

All tests were conducted in accordance with ASTM procedures.



EZ-Bond is a two-part thickened epoxy glue designed for bonding wood, fiberglass, composites, and even metals. EZ-Bond uses a unique resin specifically engineered for maximum adhesion. For high stress bonds, the resin is also non-brittle and will resist cracking. It is thickened to prevent sagging and running, and is excellent for bonding surfaces where a gap must be filled. Cold weather is not an issue for EZ-Bond, as it will cure at temperatures as low as 35°

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EZ-Bond is designed to give superior results under adverse conditions. The adhesive may be used without modification in normally fitted joints, and will cure in any thickness without shrinkage. EZ-Bond's blue dye disappears when the product is properly mixed. It becomes virtually invisible when varnished.

EZ-Bond has exceptional adhesion to most clean surfaces including wood, fiberglass, concrete, aluminum, steel and many plastics. EZ-Bond does not bond well to tin, zinc or waxy thermoplastics such as polyethylene. When fully cured, it is unaffected by water, oil, gasoline, and virtually all chemicals. It will not stain wood and is immune to fungus and rot.

EZ-Bond is unique in that it may be applied to damp wood, provided the adhesive is worked well into the surface. Glue line thickness is not critical and clamping is not necessary if the joint is undisturbed during set-up of the adhesive. However, when bonding wood where end-grain is exposed EZ-Bond may be thickened slightly to prevent excessive absorption. Coverage in average bond joints is 100-150 sq. ft. per gal. See special instructions below for bonding oak and teak.

Mixing: EZ-Bond A and B are mixed one-to-one by volume using a graduated measuring cup. Weight ratio is 100 parts of A to 83 parts of B. Excessive Part B will degrade, rather than expedite cure and should be avoided. Care should be taken that mixing is thorough and streaks cannot be seen. Pot life of the mixed adhesive is approximately 45 minutes at 70°F. However, a coated joint may still be pulled up tight for two hours. Cap containers promptly after use. Mixing in small lots or with large surface area exposure will extend pot life. At 77°F, EZ-Bond will harden in 6-8 hours and will reach functional strength in 24 hours. EZ-Bond has been specifically formulated to cure as low as 35°F without reduction in strength; this cure will require approximately one week. At 150°F, EZ-Bond will set within 30 minutes and develop maximum bond strength and impact resistance after 2 hours. If excessive flow-out occurs, allow 2-4 hours at room temperature before heat cure.

Bonding White Oak*: White oak is a highly porous wood with a strong tendency to absorb resin and yield starved joints of substandard strength. Preferred practice is to apply a liberal coat of EZ-Bond to both surfaces, and without mating allow the separate parts to stand open for 30-45 minutes. Dull spots indicate complete absorption and should be touched up with more EZ-Bond, after which the structure should be assembled and clamped with minimal pressure -- just enough to ensure contact. Alternatively, oak can be pre-sealed with a thin coat of EZ-Bond on both mating surfaces and cured separately; then sand each surface lightly to level, apply fresh EZ-Bond and join lightly.

Bonding Teak Wood*: Teak, being an oily wood, must be freed of surface oil to achieve optimum adhesion. With a clean cotton rag liberally moistened with Pettit 120 or 120VOC Brushing Thinner, vigorously wipe area to be bonded. While surface is still moist with solvent, wipe with a dry rag and allow to dry. If necessary, repeat wiping until surface dries to a whitish color indicating extraction of surface oil. Bond within eight hours of cleaning.

Bonding Douglas Fir*: Because of its resinous nature, Douglas fir tends to exude minute amounts of material which may act as a weak interlayer when adhesive is applied. To prevent difficulties of this type, sand the wood with 60 to 120-grit paper and thoroughly remove sanding debris with Pettit 120 or 120VOC Brushing Thinner. Apply adhesive within 48 hours.

**NOTE: If bonded wood is to be subject to exterior conditions, it MUST be sealed with a marine epoxy such as West System, or System Three Silvertip first. Unsealed or poorly sealed wood will cycle moisture, alternately expanding and contracting, possibly opening up the joints.*

Degreasing all metals: Wipe the surface with clean white cotton rags moistened 120 or 120VOC Brushing Thinner. While the surface is still wet with solvent, wipe dry with a second clean dry cotton rag. This will help pick up oil residues rather than allowing them to re-deposit on the surface as solvent evaporates.

Bonding Aluminum: Degrease the surface. Sandblast to white metal. (Grinding, filing, or sanding can be substituted although sandblasting is preferred). Scour with a medium Scotch-Brite pad and 92 Bio Blue Surface Prep. Rinse thoroughly in running cold tap water followed by a distilled water rinse. Air dry or oven-dry at 500 F. maximum. Bond within 3 hours.

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Bonding Copper, Brass, Bronze, and Steel: (Other than Stainless) Degrease the surface. Sandblast to white metal. (Grinding, filing, or sanding can be substituted although sandblasting is preferred). Degrease again. Bond within 1 hour.

Cleanup: Wear disposable gloves or barrier skin creams when working with epoxy resins. Never use solvents to remove epoxies from your skin. Some solvents present hazards worse than epoxies and can actually be absorbed into the body. Use a good water- less hand soap and plenty of paper towels to remove epoxy from your skin. Then apply a good medicated skin cream to replace the natural oils removed by the hand soap. If you get gummy, half-cured material on your skin, let it cure and peel it off the next day. Cured epoxy doesn't stick well to skin or hair.

Storage: Separate resin and hardener components will have a storage life in excess of one year if containers are kept well closed and stored below 90°F. Allow cold containers to reach room temperature before opening.

Application Information

