

Problem Solver Guide

This guide is designed to help identify and prevent potential problems associated with using WEST SYSTEM Epoxy. If the solutions described here do not resolve the problem, [contact the technical staff](#).

- [The epoxy mixture has not cured after the recommended cure time has passed.](#)
 - [Bond failure.](#)
 - [Clear coating turned cloudy.](#)
 - [Waxy film appears on surface of cured epoxy.](#)
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 - [Runs or sags in coating.](#)
 - [Fairing compound \(epoxy/407 or 410 mixture\) sags and is difficult to sand.](#)
 - [Paint or varnish will not set up over epoxy.](#)
 - [Epoxy became very hot and cured too quickly.](#)
 - [Bubbles formed in coating over porous material \(bare wood or foam\).](#)
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 - [Fish-eyeing in coating.](#)
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PROBLEM: The epoxy mixture has not cured after the recommended cure time has passed.

POSSIBLE CAUSES & SOLUTIONS:

Off ratio: Too much or too little hardener will affect the cure time and thoroughness of the cure.

1. Remove epoxy. Do not apply additional material over non-curing epoxy. See [epoxy removal](#) note in User Manual.
2. Check correct number of pump strokes: Use equal strokes of resin and hardener. DO NOT add extra hardener for faster cure!
3. Check for correct pump (5:1 or 3:1 ratio) and pump group size (Group B resin and Group B hardener).
4. Check pump ratio (see pump instructions). See [Dispensing](#) in the User Manual.

Low temperature: epoxy mixtures cure slower at low temperatures.

1. Allow extra curing time in cool weather.
2. Apply heat to maintain the chemical reaction and speed the cure.
3. Use a faster hardener, designed to cure at lower temperatures. See [Understanding Cure Time](#) in the User Manual.

Insufficient mixing.

1. Remove epoxy. Do not apply additional material over non-curing epoxy. See epoxy removal note.
2. Mix resin and hardener together thoroughly to avoid resin-rich and hardener-rich areas.
3. Add fillers or additives *after* resin and hardener have been thoroughly mixed. See [Mixing](#) in the User Manual.

Incorrect products.

1. Remove epoxy. Do not apply additional material over non-curing epoxy. See epoxy removal note in the user manual.
 2. Check for proper resin and hardener. Resin will not cure properly with other brands of hardener or with polyester catalysts.
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PROBLEM: Bond failure.

POSSIBLE CAUSES & SOLUTIONS:

Insufficient cure.

See above.

Resin starved joint: epoxy has wicked into porous surfaces leaving a void at the joint.

Wet out bonding surfaces and apply thickened epoxy. Re-wet very porous surfaces and end grain. See [Two-Step Bonding](#) in the User Manual.

Contaminated bonding surface.

Clean and sand the surface following the procedure in the User Manual. Sand wood surfaces after planing or joining. See [Surface Preparation](#) in the User Manual.

Bonding area too small for the load on the joint.

Increase bonding area by adding fillets, bonded fasteners or scarf joints. See [Bonding Principles](#) in the User Manual.

Too much clamping pressure squeezed epoxy out of the joint.

Use just enough clamping pressure to squeeze a small amount of epoxy from the joint. See [Clamping](#) note in the User Manual.

PROBLEM: Clear coating turned cloudy.

POSSIBLE CAUSES & SOLUTIONS:

Moisture from condensation or very humid conditions reacts with components in uncured hardener.

1. Apply moderate heat to partially cured coating to remove moisture and complete cure. See [Out-Gassing](#) caution in User Manual.
2. Use 207 Hardener for clear coating applications and for bonding thin veneers where epoxy may bleed through to the surface.

Entrapped air from aggressive roller application.

1. Apply coating at warmer temperature--epoxy is thinner at warmer

- temperatures.
 - 2. Apply epoxy in thin coats.
 - 3. Apply moderate heat to release trapped air and complete cure. See [Out-Gassing](#) caution in User Manual.
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PROBLEM: Waxy film appears on surface of cured epoxy.

POSSIBLE CAUSES & SOLUTIONS:

Amine blush forms as a result of the curing process.

Blush formation is typical. Remove with water. See [Special Preparation-Cured Epoxy](#) in the User Manual.

PROBLEM: Hardener has turned red after several years storage.

POSSIBLE CAUSES & SOLUTIONS:

Moisture in contact with hardener and metal container.

Red color is a normal condition. It will not affect epoxy handling or cured strength. Avoid using for clear coating or exposed areas where color is not desired.

PROBLEM: Runs or sags in coating.

POSSIBLE CAUSES & SOLUTIONS:

Epoxy applied too thick.

1. Use 800 Roller Covers and roll the coating out into a thinner film. A thin film will flow out much smoother than a thicker film after it is tipped off with the foam roller brush.
2. Warm the epoxy to thin it or apply the coating at a warmer temperature.

See [Barrier Coating](#) in the User Manual.

Coating curing too slowly.

1. Apply the coating at a warmer temperature.
2. Warm the resin and hardener before mixing to speed the cure in cool weather.
3. Switch to a faster hardener if possible.

See [Controlling Cure Time](#) in the User Manual.

PROBLEM: Fairing compound (epoxy/407 or 410 mixture) sags and is difficult to sand.

POSSIBLE CAUSES & SOLUTIONS:

Fairing material is not thick enough.

1. Add more filler to the mixture until it reaches a "peanut butter" consistency; the more filler added, the stiffer and easier it will be to sand.
2. Allow the wet-out coat to gel before applying the fairing material to vertical surfaces.

See [Fairing](#) in the User Manual.

PROBLEM: Paint or varnish will not set up over epoxy.

POSSIBLE CAUSES & SOLUTIONS:

Epoxy not completely cured.

Allow the final epoxy coat to cure thoroughly. Allow several days if necessary for slow hardeners at cooler temperatures. Apply moderate heat to complete the cure if necessary. See [Controlling Cure Time](#) in the User Manual.

Paint incompatible with epoxy.

1. Use a different type of paint. Some paints and varnishes may be incompatible with some hardeners. If unsure, test for compatibility on a coated piece of scrap material.
2. Use 207 Hardener. It is compatible with most paints and varnishes.

Epoxy surface not thoroughly prepared.

Remove the amine blush and sand the surface thoroughly before applying paints or varnishes. See [Final Surface Preparation](#) in the User Manual.

PROBLEM: Epoxy became very hot and cured too quickly.

POSSIBLE CAUSES & SOLUTIONS:

Batch too large.

1. Mix smaller patches.
2. Transfer the mixture to a container with more surface area immediately after mixing.

See [Understanding Cure Time](#) and [Dispensing and Mixing](#) in the User Manual.

Temperature too warm for the hardener.

Use 206 Slow or 209 Extra Slow Hardener in very warm weather.

Application too thick.

Apply thick areas of fill in several thin layers.

PROBLEM: Bubbles formed in coating over porous material (bare wood or foam).

POSSIBLE CAUSES & SOLUTIONS:

Air trapped in the material escapes through coating (out-gassing) as the material's temperature is rising.

1. Coat the wood as its temperature is dropping--after warming the wood with heaters or during the later part of the day.
2. Apply a thinner coat, allowing air to escape easier.
3. Tip off the coating with a roller cover brush to break bubbles.

See [Out-Gassing](#) caution in the User Manual.

PROBLEM: Pinholes appear in epoxy coating over abraded fiberglass or epoxy.

POSSIBLE CAUSES & SOLUTIONS:

Surface tension causes epoxy film to pull away from pinhole before it gels.

After applying epoxy with 800 Roller Cover, force epoxy into pinholes with a stiff plastic or metal spreader held at a low or nearly flat angle. Re-coat and tip off coating after all pinholes are filled.

PROBLEM: Fish-eyeing in coating.

POSSIBLE CAUSES & SOLUTIONS:

Contamination of the coating or surface or improper abrasion for the coating.

1. Be sure mixing equipment is clean. Avoid waxed mixing containers.
 2. Be sure surface is properly prepared. Use proper grit sandpaper for the coating, e.g., 80-grit for epoxy. See paint or varnish manufacturer's instructions for proper surface preparation. After surface is prepared, avoid contamination--fingerprints, exhaust fumes, rags with fabric softener (silicone). Coat within hours of preparation. After wet sanding, rinse water should sheet without beading (beading indicates contamination). Wipe with appropriate solvent and re-rinse until rinse water no longer beads.
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[Contact the Technical Staff](#) if you have additional questions.



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