

## 6. PROBLEM SOLVER

PROBLEM	POSSIBLE CAUSES	SOLUTION
The epoxy mixture has not cured after the recommended cure time has passed.	Off ratio – too much or too little hardener will affect the cure time and thoroughness of the cure.	<ol style="list-style-type: none"> <li>1. Remove epoxy. Do not apply additional material over non-curing epoxy. See removing epoxy on <b>page 12</b>.</li> <li>2. Check correct number of pump strokes used - equal stroke of resin and hardener. <b>DO NOT</b> add extra hardener for faster cure!</li> <li>3. Check for correct pump (5:1 or 3:1 ratio) and pump group size e.g. Group A</li> <li>4. Check pump ratio (see pump instructions). See Dispensing on <b>page 8</b>.</li> </ol>
	Low temperature-epoxy mixtures cure slower at low temperatures.	<ol style="list-style-type: none"> <li>1. Allow extra curing time in cool weather.</li> <li>2. Apply heat to maintain the chemical reaction and speed the cure. <b>NOTE!</b> Unvented kerosene or propane heaters can inhibit the cure of epoxy and contaminate epoxy surfaces.</li> <li>3. Use a faster hardener, designed to cure at lower temperatures. See understanding cure time &amp; cold temperature bonding on <b>pages 5 and 31</b>.</li> </ol>
	Insufficient mixing	<ol style="list-style-type: none"> <li>1. Remove epoxy. Do not apply additional material over non-curing epoxy. See epoxy removal note on <b>page 12</b>.</li> <li>2. Mix resin and hardener together thoroughly to avoid resin rich and hardener rich areas.</li> <li>3. Add fillers or additives <i>after</i> resin and hardener have been thoroughly mixed. See Mixing on <b>page 9</b>.</li> </ol>
	Incorrect products	<ol style="list-style-type: none"> <li>1. Remove epoxy. Do not apply additional material over non-curing epoxy. See epoxy removal note on <b>page 12</b>.</li> <li>2. Check for correct resin and hardener. Resin will not cure properly with other brands of hardeners or with polyester catalysts.</li> </ol>
Bond Failure	Insufficient cure	See above
	Resin starved joint-epoxy has wicked into porous surfaces leaving a void at the joint.	Wet out bonding surfaces before applying thickened epoxy. Re-wet very porous surfaces and end grain. See Two-step bonding on <b>page 14</b> .
	Contaminated bonding surface.	Clean and sand the surface following the preparation procedure on <b>page 11</b> . Sand wood surfaces after planing or joining.
	Bonding area too small for the load on the joint.	Increase bonding area by adding fillets, bonded fasteners or scarf joints.
	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 on <b>page 21</b> .

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Clear Coating turned cloudy.	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. Caution - avoid out gassing see <b>page 7</b> . 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 even coats. 3. Apply moderate heat to release trapped air and complete cure. Caution - avoid out gassing see <b>page 7</b> .
Waxy film appears on surface of cured epoxy.	Amine blush forms as a result of the curing process.	Blush formation is typical. Remove with water. See special preparation- cured epoxy, on <b>page 12</b> .
Runs or sags in coating.	Epoxy applied is too thick.	1. Use 800 Roller Covers and roll the coating into a thinner film. A thin film will flow out much more smoothly than a thicker film after it is tipped off with the foam roller brush. 2. Warm the epoxy to reduce viscosity or apply the coating at a warmer temperature. See Cold Temperature Bonding on <b>page 31</b> .
	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 on <b>page 6</b> .
Fairing compound (using filler/407 or 410 mixture) sags and is difficult to sand.	Fairing material not thick enough.	1. Add more filler to the mix until it reaches a “peanut butter” consistency - the more filler added, the stiffer it becomes and the easier it will be to sand. 2. Allow the wet-out coat to gel before applying the fairing material to vertical surfaces. See Fairing on <b>page 21</b> .
Paint, varnish or gelcoat will not cure over epoxy.	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 on <b>page 6</b> .
	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 and varnishes. See Final surface preparation on <b>page 28</b> .

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Epoxy became very hot and cured too quickly.	Batch too large, or left in mixing pot too long.	<ol style="list-style-type: none"> <li>1. Mix smaller batches.</li> <li>2. Transfer the mix to a container with more surface area, immediately after mixing. See Understanding cure time on <b>page 5</b>. Dispensing and mixing on <b>page 7</b>.</li> </ol>
	Temperature too warm for the hardener.	Use 206 Slow or 209 Extra Slow Hardener in very warm weather.
	Application too thick.	When filling large, deep areas, apply mix in several thin layers.
Bubbles formed in coating over porous material (bare wood or foam)	Air trapped in the material escapes through coating (out-gassing) as the temperature of the material rises	<ol style="list-style-type: none"> <li>1. Coat the wood as its temperature is dropping-after warming the wood with heaters or during the later part of the day.</li> <li>2. Apply a thinner coat, allowing air to escape more easily.</li> <li>3. Tip off the coating with a roller cover brush to break bubbles.</li> </ol> See out-gassing caution on <b>page 7</b> .
Pinholes appear in epoxy coating over abraded fibreglass or epoxy.	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.
Fish-eyeing in coating.	Contamination of the coating caused by dirty application tools and/or inadequate preparation of the surface.	<ol style="list-style-type: none"> <li>1. Ensure mixing equipment is clean. Avoid waxed mixing containers.</li> <li>2. Ensure surface is properly prepared. Use correct grit paper for the coating, e.g. 80-grit for epoxy. See paint or varnish manufacturer's instructions for precise surface preparation.</li> </ol> <p>After surface is prepared, avoid contamination-fingerprints, exhaust fumes, rags with fabric softener (silicone). Coat within hours of preparation.</p> <p>After wet sanding, rinse water should sheet without beading (beading indicates contamination). If rinse water forms droplets/beads, clean and dry and repeat operation – see Final surface preparation, on <b>page 28</b>.</p>
Contact Wessex Resin & Adhesives Ltd or your local distributor for further technical help. Technical support line +44 (0)870 770 1030		