

Understanding epoxy

PETE LOWE TAKES A CLOSER LOOK AT THE NEW-FORMULA SPEED EPOXY II FROM DELUXE MATERIALS



1 Four minutes or 20 minutes? Depending on the ambient temperature the four minute variety is, as you would expect, designed to set in approximately four minutes. The 20 minute stuff has a longer working time and higher strength when cured.



2 For a job where maximum strength is required, such as joining a pair of wing panels, go for the 20 minute epoxy. The bonus here will be the extra working time which will be to your advantage if there's a complex arrangement of spars and braces to coat.



3 Before applying glue, have a dry run to make sure the components and holding clamps fit properly. Having to fiddle or look for items once the glue is mixed will quickly eat into your cure time, especially if you only have four minutes!



4 Use Isopropyl alcohol, surgical spirit, or methylated spirit to make sure that both surfaces are clean. If gluing wood – especially ply – give it a light sanding and, having done so, make certain it's dust free.



5 When squeezing out quantities the principle is to achieve equal parts of each. Fortunately, however, Speed Epoxy II is tolerant of minor mixing errors by up to + or – 10%.



6 The two parts need to be mixed thoroughly (ideally with a special tool rather than a screwdriver!) noting that you can't over mix. Do bear in mind, however, that the curing process begins the moment the two components meet.



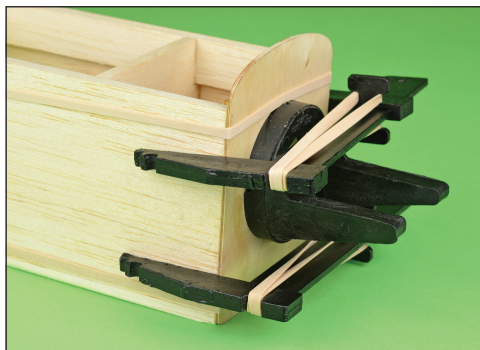
7 Apply the epoxy to one or both sides of the joint. If you've mixed up more epoxy than required, don't feel obliged to use it as all you'll be doing is adding unnecessary weight. Try to find another job that needs gluing and have it on standby.



8 If, when the components are mated together, you see a small amount of glue oozing from the length of the join, you can be reasonably confident that there are no gaps or air pockets to weaken the bond or create a channel for fuel or moisture to enter.



9 Clean away any excess glue before it sets. When dealing with the glossy covering of your latest ARTF use a suitable solvent such as methylated spirit, or surgical spirit. That said, always test any solvent to make sure it doesn't react with the materials you're using it on.



10 Check that all is square before and after you've added any clamps that might be needed. Never clamp parts together too tightly as you'll squeeze out all the glue and this in itself may weaken the joint.



11 Once the components are glued and clamped put them to one side to cure, remembering that a low room temperature can extend the drying time. Test the left over glue to see how the curing process is proceeding.



12 Clean up the tools and mixing board, put the coloured caps back on the corresponding bottles and store them in their packaging to ensure that they always remain a matched pair.

YOU WILL NEED:

1. Various clamps, elastic bands and masking tape.
2. A mixing board.
3. A mixing tool.
4. An application tool.
5. Sandpaper, cleaning fluid and a cloth.

WORTHY OF NOTE:

A one hour epoxy with a strength of 3.5 tons is also available from Deluxe Materials... Speed Epoxy II is a completely different, harder setting product to the original more rubbery setting Speed Epoxy... Speed Epoxy II sets hard and can be sanded... When working with a two part product like epoxy it's always worth hiding or switching off the phone. You can bet that the moment you start mixing, somebody will ring... We always seem to mix a greater quantity of any two part product than is actually required, so why not have one of those domestic repair jobs ready in waiting... Adding more hardener will not speed up the curing time but it will waste glue... The setting time is longer in low temperatures so warming the tubes may reduce the curing time.