How to Repair gelcoat damage

How do you deal with gelcoat chips and achieve a perfect colour-matched surface? Bruce Jacobs finds out from Mark Buckett of Solent Repairs

From rope chafing on cockpit coamings to impact damage after a winch handle has been dropped, gelcoat chips are an inevitable result of any boat that has miles under its keel. And repairing them is not as hard as you might think.

With a simple but methodical approach, surfaces can be easily restored to not only improve their appearance but also help the structure of the laminate beneath.

Like any cosmetic repair, achieving the best result is more about the preparation and process than it is about specific skills.

PREPARING THE REPAIR

1 First, it's important to create a surface that will provide a good bond for the filler. Using a small burr on an electric drill, work it around the damaged area.

Next, lightly sand the area, this will provide a good key for the filler.

MIXING THE FILLER

2 Start with some white gelcoat filler and add some Cabosil, (a colloidal silica powder), to thicken up the mixture to around the consistency of peanut butter. This will allow you to use the substance as a filler and will keep it in place during the cure. Then, carefully add the catalyst and mix thoroughly again. The amount of catalyst required will vary depending on the surrounding temperature so make sure you have checked with the manufacturer's instructions.

APPLYING THE FILLER

3 Using a plastic spatula gently apply the filler over the damaged area. You will need to make a few light passes over the area to ensure that the filler is fully located and is flush with the surrounding surface. Don't put too much pressure on the spatula as this will drag the filler out of the surface hollow.

The filler will shrink slightly as it cures but when you apply the gelcoat later this should build the repair back up so it's flush again with the surrounding area.

TIP Don't leave the cup of mixed resin on the deck in case it exotherms. If it does, the heat generated may mark the deck. If the resin does exotherm, you'll no longer be able to use it for the repair so add a little water to cool it down to make it safe.

RUBBING DOWN THE FILLER

4 For typical gelcoat chips wait around 30 minutes for the filler to cure before attempting to sand the surface down. When you do, the grades to use are 120, 320 and then 800. Use a block when sanding to make sure that the surface is even and that you don't introduce a hollow.

COLOUR MATCHING

5 Taking liquid gelcoat the first stage is to match the colour. This process requires patience and a step-by-step approach to get the best results. Yellow and black are the most common pigment colours used when matching white gelcoat. Add a tiny dot of pigment – about the size of a pin head, and mix thoroughly. Then paint a small amount alongside the repaired surface and judge how close the match is. You'll likely need to go through this process a few times to get the colour right.

APPLYING GELCOAT

6 When you're there with the colour, add the catalyst, mix thoroughly and apply to the repair. You'll need to apply 3-5coats, leaving 15-20 minutes between each. Allow to cure for at least 24 hours before lightly rubbing down using a light 800-grade paper. Then use rubbing compound to bring up to a final finish. Watch the video online at **youtu.be/gIK7jmYDYt8**

Images: Matthew Sheahan