Gear On Test

REACTIVE RESINS SYNTAC EPOXY FROM £24.97 (1.5KG)

Above: A badly dinged daggerboard provided a suitable test bed.

Above: the filler mixed in well. Right: Creating a good key.

When this epoxy resin first arrived in the office, I wondered how we would test it. Would we have to enrage our readership by breaking a perfectly good boat, just to try to fix her again? I needn't have worried; two days after the epoxy arrived, the Production Editor slammed the daggerboard of his Laser 2 into a sewage outfall at speed. Not only was the tip of the board nicely graunched, the trailing edge had a substantial bite out of it where it had pivoted backwards against the bottom edge of the case.

Reactive Resins supplies a number of powdered filler materials suitable for their Syntac resin and Synamin hardener. Luckily the ones they sent were ideal for the job in hand. We used Millifibre white cellulose filler (£9.16 for 250g) for the initial structural filling and lighter more easily sanded Millicell (£10.10 for 250g) hollow glass micro spheres for the final fairing.

Following the removal of loose fragments around the damaged area by chisel, we used a Dremel multitool with a 2mm rotary grinder attachment to widen all the remaining cracks. This would allow the thick epoxy filler to fully enter the cracks. When filling an unsupported shape, such as the trailing edge of a foil, it's worth supporting the bottom side of the repair with some type of retainer to stop the wet repair sagging or dropping out all together. We just used an offcut of wood with parcel tape stuck on it (epoxy wont stick to parcel tape), and G-clamped in place. This epoxy mixes in a 2:1 ratio with the hardener; worth remembering if you, like me, are used to the 5:1 ratio of other commonly available brands. Unlike the other brands, Reactive Resins does not sell dispensing pumps, believing them to be overly expensive and unreliable. It's a theory that I also subscribe to, having thrown away many a blocked up pump. So, we had to use some cheap digital kitchen scales and a bit of mental arithmetic at the mixing stage, because, unlike polyester resin, with epoxy you have to be rather exact on quantities. The Milifibre was easy enough to mix in, with not too many difficult dry lumps forming in the mix, though I expect this variable has more to do with how long the filler has been settling on the shelf than anything else. It's not great that these powders come in poly bags. The similarly priced competitor products are easier to use out of their cardboard cylinders and easier to store without leaks.

The fast hardener we used is not the fastest of the products available, so I would call it about medium speed. It remained workable by spatula some half hour after mixing, which was actually ideal for the job in hand. 10 hours after application, the epoxy had cured into a hard but rubbery substance, which was highly convenient, because we were able to use scissors to trim off the main part of the excess trailing edge repair, cutting down on the sanding. We also tried sanding a bit of the epoxy repair at this stage, expecting the sandpaper to immediately clog and drag. Surprisingly, it sanded really well at this point with decent quality anti-clog 3M 80 grit paper.

Ten hours on and the repair was fully cured. Having sanded it down fully, we went over the pinholes, the bits we had missed, and completed the

fine feather edge of the repair with the epoxy mixed this time with the lighter Millicell filler. The next day we were able to conduct the final sanding with finer grade papers, followed by a new coat of paint. The sanding was predictably easier with the Millicell, which cures a pure white colour, so worth considering for white gel coat repairs.

The finished repair looks to be excellent, with a fine trailing edge with at least as much strength to it as the surrounding area. As it's a good few pounds cheaper than the main brands you can find in chandlers, we'd like to see it out there in a few more shops. Curently most of Reactive Resins' business is conducted online, although there are plans to get it into more outlets. *JF*

WE LIKE

- Cheaper than the more common brands
- Long period of mid-cure malleability

WE DON'T LIKE

- Fillers in bags
- Availability

VERDICT ★★★★☆

As you can see, the unusually long period of malleability mid-cure is both its blessing and its curse. In our case it was handy, because we weren't in a hurry and chopping off the excess with scissors can be quite useful as it saves a lot of later sanding.

Contact: Reactive Resins
Web: www.reactiveresins.com
Tel: 01208 264999

Above: 10 hours after application the soft excess was still cuttable, but 10 hours later could be sanded to a feather edge.
Below: We opted for a straightforward gloss paint finish to complete the repair.

GARMIN GHP 12 SAILPILOT
£2,898.99 (A); £3,698.99 (B)

Garmin's GHP 12 Sailpilot completes its range of cruising yacht instruments that it has been introducing to great applause over the past few years. This robust, fully-featured below-decks autopilot brings the very latest steering technology to the 20-70ft sailing and power boat market with cable or hydraulically actuated steering systems, allowing the helmsman to hand over control in virtually all types of weather, wind and sea conditions.

When interfaced with the GWS 10 network, or other compatible wind sensors, GPS and network electronics, the GHP 12 can support heading hold, wind hold, step turns, tack/gybe and much more, enabling you to attend to sailing your boat, safe in the knowledge that the autopilot will take care of the helm.

For sailing yacht applications there are two types of linear drive available that are capable of powering a wide variety of different steering systems. The Class A, electro-mechanical drive unit is for sailing boats with up to 13-tonne (28,500lb) displacement; Class B is an electro-hydraulic drive for larger boats, up to 36-tonnes (79,000lb) maximum.

When a customer buys a Garmin Sailpilot they simply have to decide which drive unit is suitable for their boat, then buy the GHP 12 corepack, which comprises a GHC 10 display, an ECU (Electronic Control Unit) and a CCU (Course Computer Unit). All required interconnecting cables, power supply and NMEA 2000 connectors will be supplied in the box.

Our test boat, a Moody 34, had a Garmin GHP 12 Sailpilot with a Class A linear electro-mechanical drive. It also had the GHC 10 autopilot wireless remote control (£269.99), so the boat could be steered remotely from anywhere on board.

What's in the box?

- GHC 10 display
- GHP 12 Electronic Control Unit (ECU)
- GHP 12 Course Computer Unit (CCU)
- CCU/ECU interconnect cable (with threaded collar)
- Buzzer
- GHC 10 cable
- 2 x 2m NMEA 2000 drop cable
- ECU power cable (with threaded collar)
- NMEA 2000 power cable
- 3 x NMEA 2000 T-connectors
- 1 x male and 1 x female terminator
- Documentation

Installation and connection

The Class A drive unit can be installed on either a purpose-built tiller arm or fixed directly to a steering quadrant. Physical end stops must be in place and the positioning of the drive arm on the quadrant is important when considering the arm's travel limits.

The GHP 12 is accessed through the NMEA 2000-certified GHC 10, a dedicated autopilot control unit with a 3.5in colour LCD and soft keys to engage and disengage the autopilot or to bring up additional functions on the menu. Installation is easy thanks to the simple cabling of the NMEA network with single, plug-in style cables carrying both power and data. NMEA 2000 compatibility also enables you to share the autopilot heading data with other devices on your network, including Garmin's own line of chartplotters and multi-function displays. »