

Paddle Sports Rapid Repair Kit

by North Sea Resins

Expedition paddlers need to carry a comprehensive repair kit—one capable of handling any contingency, from a broken foot brace to a holed kayak. For fiberglass and Kevlar kayaks, this kit will usually contain polyester resin and glass cloth. Unfortunately, polyester has some drawbacks. It must be applied to a dry boat, it takes time to cure, and it will not adhere to polyethylene kayaks.

The Paddle Sports Rapid Repair Kit from North Sea Resins (NSR) offers an alternative to polyester resin for emergency repairs. NSR products employ a solvent-free, light-activated acrylic resin. The resin included in the Paddle Sports Kit (NSR 150) is formulated to cure at temperatures ranging from 28°F to 104°F in 30 seconds. Curing takes place when the resin is exposed to blue light from the flashlight that's included in the kit. The blue light is in the visible spectrum, not UV, and is not harmful to the eyes. Bright sunlight will also effect a cure of the resin. The resin will even bond to wet polyethylene and, for what it's worth, will cure under water.

The kit includes five milliliters of NSR 150 resin, one applicator tab, sandpaper for prepping your kayak's surface and six inches of two-inch fiberglass tape. This is enough material to repair several small holes. The resin tube can be resealed after use and used multiple times. Exposure to natural light will begin the curing process, so closing the container tightly is a must. The shelf life is listed as two years at room temperature.

NSR markets the repair kit as an emergency field repair system, and it looks to perform well in this application. I was impressed with the ability of the NSR 150 to fill small holes in both fiberglass and polyethylene. I used the resin, along with a small piece of the included fiberglass cloth, to patch quarter-inch holes in both materials. It bonded securely,

The greatest challenge to making field repairs is often getting the damaged area warm and dry. With NSR's light-cured resin, that's not necessary.



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even to wet surfaces, and provided a leak-free repair.

Larger repairs are possible but require careful activation of the entire area of resin, shining the blue light systematically onto the patch one area at a time. I was able to use the Rapid Repair Kit to patch a one-inch hole that I drilled in a plastic hatch cover. The finished repair was well bonded to the plastic and did not leak. To test the repair's resistance to impact, I put the hatch cover on the ground and gave it a good stomp. The repair held. It took two jumps on the cover to cause the repair to break loose from one half of the hole. This level of toughness seems good enough to handle normal paddling and beach landings. However, a hard, direct impact could cause a large patch to fail.

I had to practice a bit with the NSR system before I got consistent results. It helps to time yourself as you're shining the light on the patch to ensure that you expose the resin for the 30 seconds required for a full cure. It's also important to apply enough resin to the surface you're repairing. Simply saturating the fiberglass mesh with resin did not

effectively adhere it to the hull. To get a good bond, apply a thin layer to the area to be repaired before you add the mesh to it. Adhesion to polyethylene relies largely on the mechanical bonding to a prepared surface rather than on a chemical bond. The rougher the surface is before you apply the patch, the better it will hold.

The Rapid Repair Kit can be used for fixes on numerous rigid plastic items, including waterproof boxes and protective cases. Even if your case isn't damaged, you could use NSR resin to customize the box with D-rings for tie-down points.

I don't know of many good alternatives to repair a polyethylene hull in the field. The NSR system is the best I've seen and would be a useful addition to an expedition repair kit. The system is compact and effective and works in wet conditions. I'll still carry polyester resin and fiberglass to fix major damage to composite kayaks, but the NSR system works well for making quick field repairs on both polyethylene and composite kayaks. (The kit includes resin, high-intensity submersible flashlight, applicator, fiberglass and prep pads.) **SK**

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