

BENETEAU 46 CONSTRUCTION DETAILS

With smaller boats, like the Beneteau 10R and the recently introduced Oceanis 37, the company has used its patented “infusion” process (a combination of resin injection and infusion technology). The 46 and its semi-sisters, however, are hand-laid up in a female mold. The first coat is a thin layer of chop and vinylester resin. “That conforms well to the shape of the mold, and you don’t have unreacted salts in the skin-coat,” explains Jim Logan, construction manager at the Beneteau plant in Marion, S.C. According to Logan, the laminating process has been used since 1997, and they’ve had “virtually zero problems with blisters.”

HULL: The better part of the hull is made from 18/15 stitchmat (a matrix of 18-ounce fiberglass unidirectional cloth on the 0- and 90-degree axes stitched to 1.5 ounce/square foot mat). A heavier fabric (44/10) is used in the way of the keel. Fore and aft stringers (glass-over Omega foam) provide longitudinal strength.

Atop the stringers is a structural grid made from 44/10 and unidirectional glass. “We encircle the chainplate rods with unidirectional fibers,” says Logan. “The grid is a sort of box-beam integrated with the hull. All parts are built and joined at the same time in order to maximize molecular cross-linking.” Furniture, bulkheads, and fixtures are glued in place.

DECK: Cored with end-grain balsa blocks, it is a matrix of stitchmat and locally applied unidirectional fibers.

HULL-DECK JOINT: The deck is dropped on an inward-turning flange. Self-tapping screws (on prescribed centers) hold the



Most deck hardware is through-bolted with backing plates or oversized washers spreading the load.

parts together until a fast-drying polyurethane cement joins them in a chemical bond. The joint is covered with a wooden toerail.

SPARS AND RIGGING: The mast is aluminum, has twin spreaders, and is deck-stepped. Beneteau has been installing spars this way for years. Stepped on deck, a spar requires a heavier section to equal the strength of a keel-stepped mast. As with its cast-iron keels, the builder has opted for economy and convenience at the expense of the ideal.

KEEL AND RUDDER: Keels are cast iron primed with epoxy, fastened with stainless steel bolts. The rudder is foam-filled with a fiberglass post.