

## e33 CONSTRUCTION DETAILS

**T**he e33 is designed to meet or exceed American Bureau of Shipping construction standards. All parts are laid up by hand in open molds.

**HULL:** The hull laminate is of non-woven e-glass with a pure vinylester resin. The core is ¾-inch, triple-cut A500 Core Cell. Keel sump, centerline seam, and through-hull locations all receive additional glass laminate; the core is bedded with core-bond putty.

**DECK:** The deck is laminated with the same non-woven e-glass materials and has a Divinycell core.

**GRID AND LINER:** A grid laminated with unidirectional material and biaxial reinforcement is bonded to the hull and takes the loads of the keel and integrates the engine bed. There is a centerline vertical keel laminated from the back side of the aft bulkhead to the rudder post, This adds longitudinal stiffness to the hull and reinforces the rudder post. The interior liner, which incorporates the chainplate bulkheads, is molded in one piece and bonded to the hull along the perimeter as well as throughout the inside lockers. Two partial bulkheads and a forepeak bulkhead are glassed in for athwartship stiffness. The forward bulkhead forms the anchor locker where the headstay tang is located. The headstay tang and the shroud chainplates are all 316 stainless steel.

**HULL/DECK JOINT:** The deck is laid on an internal flange and affixed with bolts (at 6-inch centers) and toerail through fastenings. Sikaflex is used as an adhesive/ sealant between the two flanges.

**RUDDER AND TILLER:** The upper and lower rudder bearings are self-aligning for easy maintenance or removal. The rudder stock is machined aluminum and tapered for weight savings. The high-aspect ratio blade is e-glass. The custom tiller is laminated wood. Exterior wood is limited to tiller, toerails, companionway slider retainer, and aft deck grate. Other teak wood options are available.

**KEEL AND RUDDER:** The solid lead, bulbed keel is 2,525 pounds. The top of the keel is glassed to the keel stub with a biaxial material after the keel is installed and the nuts are torqued. The glass/ keel joint is then filled, faired, and painted. The entire bottom of the boat gets a coating of epoxy primer prior to a final coat of bottom paint. The lead keel is through-bolted with 316 stainless bolts, nuts, and washers. Two of the bolts are oversized for attaching lifting eyes and straps. The boat has a single point for hauling or launching at a typical boat crane facility.

**Mast/Boom:** Spars are carbon tubes made by Composite Engineering of Concord, Mass.