Every new Hatteras Yacht is constructed using time-proven processes, high-tech equipment and advanced techniques designed to take the legendary Hatteras quality and performance to even higher levels. These technologies enable Hatteras engineers to reduce weight for increased performance, while maintaining the structural integrity for which Hatteras is renowned.

## A Solid Foundation

All Hatteras hull bottoms are hand-laid in solid fiberglass with no coring below the waterline.
Solid Hull Bottoms: Many competitors use coring, either balsa or foam, below the waterline. This practice can expose boaters to long-term problems after a significant impact. If water is left in a cored hull, it acts as a flexible splitting wedge and will continue to separate the inner and outer liner of the core structure. Hatteras hull bottoms are hand-laid in solid fiberglass with no coring below the waterline. Areas above the waterline where thru-hulls will be used are also solid fiberglass, and heavy stress areas in the hull bottom — such as rudder locations, rudder posts, shaft logs and engine beds — receive intentional overlaps to provide additional strength. In the hull sides, Divinycell foam coring provides stiffness and reduced weight.

One-Piece Parts: Like its hulls, Hatteras' superstructures are laminated by hand as one-piece parts. The approach provides integral strength, seamless construction and a clean appearance. Cockpits, bait centers and pulpits are all included in the molding process, which eliminates unsightly caulk seams that appear on many competitors’ products. Hatteras utilizes non-absorbent Divinycell foam core, as opposed to organic balsa, in its superstructures to deliver stiffness and a high strength-to-weight ratio.

Resin Infusion and Vacuum Bagging: Hatteras utilizes state-of-the-art techniques in the construction of decks, bulkheads and small parts. Many small parts are vacuum-bagged, a process in which pieces are saturated with a catalyzed polyester resin, sealed in a bag and compressed by a vacuum. Larger cored parts such as decks and bulkheads are created using a process called resin infusion. Here, the Divinycell foam core is predrilled with tiny regularly spaced holes. Once the vacuum pressure is applied, resins are drawn through these holes, providing a pathway for the resin to saturate the outer skins of the part. The result is a strong, thin, lightweight part with a smooth finish that features thermal and acoustic advantages over the plywood used by many competitors.

Engine Mounts: Engine beds are mounted with anti-corrosive zinc-plated bolts to steel plates completely encapsulated in the fiberglass stringers. By mounting the engine to the integrated fiberglass stringer network instead of exposed corrodible steel beams, force is uniformly distributed, thereby reducing the amount of engine vibration being transferred throughout the boat.

Bulkheads: At least three major bulkheads — at the anchor locker and forward and aft of the engine room — are installed while the hull is in the mold to provide stiffness until additional bulkheads and superstructure are installed on the assembly line. These are tabbed into place using fixtures to ensure precise and consistent location in the hull.

Integrated Stringers: Hatteras stringers are filled with closed-cell polyurethane foam to provide stiff longitudinal support with no fear of water intrusion or rot that can occur with the encapsulated wood used by many competitors. These stringers, many of which are integrated into the hull mold itself, work in conjunction with foam-filled athwartship stiffeners to form a structural grid unmatched in the industry.
Fiberglass Tanks: All Hatteras fuel and holding tanks are constructed of fiberglass, rather than corrosive aluminum that some competitors use. Hatteras fuel tanks are the only ones in the industry to carry the approval of Underwriters Laboratory, which requires rigorous construction techniques, consistent pressure testing and quarterly inspections by UL representatives. Fuel tanks are constructed with a fire-retardant resin, and exposed surfaces are then coated with a fire-retardant intumescent paint. Water tanks that are constructed of fiberglass feature a resin approved by the FDA for potable water and are steam-cleaned for purity prior to installation. Hatteras tanks feature a grid of fiberglass baffles every 17 inches to reduce fluid movement and add strength. These baffles are laminated and mechanically fastened to the tank, sealed with a fiberglass reinforced adhesive, and then sealed again with fiberglass and resin. All fiberglass tanks feature bronze tank plates and fittings.

Bronze Thru-Hulls: All primary thru-hull fittings are constructed of bronze in lieu of less durable plastic to provide important strength and anti-corrosion properties. Hatteras mounts these thru-hulls in solid fiberglass versus the marine plywood backing used by some competitors. Bronze sea valves are fitted to every underwater thru-hull fitting, and two stainless-steel hose clamps are used on all thru-hull connections below the waterline and on all hoses with constant flow.

Environmentally Friendly Fuel Vent: Most builders use rectangular or square box-shaped fuel vents that allow excess fuel to spill overboard, into the waterways. Hatteras has designed spherical fuel vents (patent pending, to be introduced in 2005) that allow you to catch excess fuel in a reservoir, before returning it into the tanks. The result is a more attractive hull side, and more important, cleaner waterways.

Backing Plates: All stanchions and cleats are through-bolted to aluminum backing plates that are encapsulated into solid fiberglass sections of the superstructure laminate. Bow rails connect to 1/4-inch backing plates while cleats are connected to 1/2-inch backing plates, all of which are drilled and tapped for easy removal if the owner so desires.

QA Testing: Hatteras resins and gelcoats are subjected to a 16-item test procedure upon delivery from our vendors to ensure quality. Burn tests of thru-hulls determine resin-to-glass ratios, ensuring the proper percentage as we strive for consistent strength without the addition of weight. High-tech quality-control solutions, such as AIMS, are used to document, tabulate and eliminate quality concerns.

Anchor Chutes: All Hatteras anchor chutes are constructed of heavy-gauge (3/8- and 1/2-inch) 316L stainless steel, versus the competition’s thinner “sheet metal.”

Frameless Windows: Hatteras installs frameless tempered safety glass in all models to eliminate leaks and enhance the yacht’s exterior profile. The fritted glass provides a maintenance-free and corrosion-free system that resembles a single, continuous pane for improved styling. Powder-coated exterior grab rails mirror the windows’ curvature for crew safety.

I’m writing today to compliment your staff on their helpfulness and professionalism. It is a testament to your leadership that you continue to support your fleet, regardless of age or customer profile. It has further solidified our belief in the Hatteras name.

– Hatteras 41 DCMY Owner

Hatteras Yachts
High-tech Computational Fluid Dynamic analyses and Primo Element analyses show that the rudder shelf area is among the hardest environments aboard any boat. That’s why Hatteras began constructing its rudder shelves with pultruded fiberglass in 2000. Pultruded fiberglass is an incredibly dense, strong and stiff material that will not corrode, rot, flex or break under extreme conditions. Despite the obvious shortcomings of encapsulated plywood or balsa (lack of strength and potential rot) and aluminum (costs), Hatteras retains the only builder in its category to use encapsulated fiberglass rudder shelves.

Mechanical Integrity

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Steering Gear: To maintain structural integrity of the rudder shelf, custom-designed hingeable bearing collars fit over rudder shelf bolts to eliminate movement. Standard link chains used by the competition are into the shelf material and eventually slip, allowing movement and damage of the steering gear. Rudder and shaft logs are used exclusively with stainless steel bolts, which are recessed with silicone exposure:

Crosscut Bearings: Traditional bearings use longitudinal grooves to disperse lubricating water film. But at rest, even small installation of longitudinal grooves and bearing shafts and propellers, this water can be forced out of the bearing, leading to high-frequency noise and vibration at low rpm that destroys the bearing over time. Hatteras has designed a new crosscut bearing that uses crosscutting grooves to disperse the water, much like the tread of a tire does for water. These grooves ensure a consistent film of lubricating water, giving longer life to your bearings and less noise while rolling or crossing.

Recessed Shaft Logs: Hatteras recesses and fits logs and rudder shafts to reduce drag. Hatteras uses solid fiberglass and overlays to provide maximum strength at stress locations, rudder posts, shaft logs and engine beds. Many competitors use a plywood backing.

Bronze Seals: Bronze propeller shaft and rudder seals are designed in-house and constructed of bronze for strength, safety and durability. Bronze eliminates the possibility of a housing failure which is associated with steel, and bronze can melt with the loss of cooling water. At about 2,000 rpm, the exhaust is scavenged through larger vents in the hull bottom. This system reduces fumes in the cockpit and shut off a particular engine if an overheating condition is detected.

Underwater Exhaust: The newest Hatteras products feature an underwater exhaust. At idle or low rpm, exhaust exits through small elliptical holes in the transom. Once the engines achieve approximately 1,400 rpm, the exhaust is scavenged through larger vents in the hull bottom. This system reduces fumes in the cockpit and buildup on the transom, as well as noise levels in the cockpit.

Forced Air Induction System (FAIS): While many pleasure craft builders employ induction fans to assist in the delivery of air to the engines, Hatteras became the first builder to use them exclusively for ventilation and combustion air with the introduction of the 80 Motor Yacht and 68 Convertible. New Hatteras models feature hull designs that lack the huge hull-side vents typical of traditional product designs, relying solely on forced-induction fans that draw cool air into the engine room while under way and push hot air out of the engine room once back at the dock. The 86 Evolution utilizes exhaustive induction into the engine compartment, and the lack of an air handling box in the engine room vastly increases space outboard of the engines.

Fire Suppression: The Hatteras fire suppression system is designed with automatic and manual activation, both of which trigger the system monitors’ alarms. Once the system is activated, all engines, generators and blowers are simultaneously shut down with the discharge of the fire-fighting agent.

Air Conditioning: Hatteras installs enough chilled or direct expansion air-conditioning capacity to provide comfort even in the most humid of environments. The system is designed so that each maintenance space can adjust both the climate and fan speed individually. Many competitive systems together, preserving individualized temperature settings.
Electrical Integrity

UL-Approved: Virtually every electrical component that goes aboard a Hatteras is listed and approved by Underwriters Laboratory. From the breaker to the switch to the device itself, including all the fire-retardant wiring that links the circuits, it’s all been inspected by a third-party service and certified as safe.

Finding Fault: Hatteras installs a Ground Fault Interrupter on all lighting and receptacle circuits throughout the boat. Most published standards call for GFI in head and galley receptacles only but Hatteras uses them in all switches for added safety. The GFI senses when a small current develops between the ground and the conductor and trips at approximately 5 milliamps, preventing electrocution hazards.

Bonding System: The Hatteras electrical bonding system connects all metal components which come into contact with seawater and all non-current-carrying electrical components together for increased personal safety and to reduce the effects of electrolysis and galvanic corrosion, increasing product life and ensuring retained value. Hatteras uses copper bonding straps rather than the less effective stranded wire favored by some competitors.

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Easy Maintenance: Hatteras wiring is color-coded and numbered at both terminal ends, and is well documented in the owner’s manual for quick and convenient tracing. Wiring harnesses are color-coordinated and ready for installation. The system provides dozens of critical engine measurements, alarms and diagnostic tools, as well as the ability to pump bilges and holding tanks with the push of a button. The system features double hard disk backup, as well as redundant analog gauges in case of emergency.

Smoke Detectors: Hatteras installs smoke detectors in every main living area on each of its yachts as standard equipment. While that may sound like common sense, few other builders offer smoke detectors as standard.

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All wire and cable, regardless of voltage, is UL listed to 300 volts or greater to provide greater insulating protection.

Switching Panels: Hatteras builds its shoreline/generator switching panels in-house to meet all ABYC standards. Featuring UL-listed components, these panels have digital meter displays and provide parallel and series connection options through a boost transformer, to compensate for low-dockside voltage.