

Design Concept

Designed by Noah Thompson, East Cape Marine, New Zealand, and built by Wayne Jones at Streamline Catamarans in Hervey Bay, the 24m EC160 *Spirit of Hervey Bay* was specifically designed for Glen Dorn to charter as a Whale Watching Vessel.

3 stories high, the EC160 was engineered by ATL Composites to meet Australian Standard USL 1C/1, to carry 245 passengers on her 3 decks, and to cruise at 22 knots.

"This is the way of the future," declared Noah. "In a world where fuel economy is now king, this boat proves that composite construction is becoming the alternative to aluminium. The combination of an efficient design, the use of ATL Composites materials and engineering services, and a superb build, has led to the creation of a commercial vessel that has exceeded all expectations."

Construction

Spirit of Hervey Bay took only 15 months to build. The hulls were strip planked in DuraKore over male frames while the remainder of the vessel was manufactured and supplied by ATL as a DuFLEX Component Pack, including hull topsides, tunnel, transom, bulkheads, soles, decks and superstructure. ATL Composites also manufactured and supplied lightweight non-structural Featherlight panels for the ceilings and supplied the fibreglass reinforcements throughout. Their high performance KINETIX Professional Epoxies were used for additional laminating applications and WEST SYSTEM resins/hardeners and powder modifiers were used for structural bonding, filleting and fairing on the project.

"Compared to traditional boat-building where you so often see a major cost over-run, this ATL product proved to be exceptional with the ease of assembly; the CNC routed DuFLEX has every part numbered, so when it arrived at the Streamline factory, each piece could be easily identified and fitted into place during the assembly process."

DuFLEX structural panels require fewer frames and ring frames to form the structure of the composite vessel, in comparison to a similar size aluminium vessel. The reduction in frames and also the light weight properties of the Duflex Panels, adds up to a significant weight savings overall. This allows the vessel to run with smaller engines and less fuel capacity, to also help with weight reduction.



PROJECT DATA FILE 4-01-1 Thompson EC160 24m Commercial Ferry

The design specification for *Spirit of Hervey Bay* required a service speed of between 18 and 20 knots with 245 passengers on board. Currently she is achieving 21 knots at 1800rpm, and there is ample evidence of a massive saving in fuel costs compared to other similar sized boats. Incredibly, the vessel is performing equally well at light-ship as it does at full displacement, with only a slight change in speed or rpm.

In endorsing the DuFLEX system, Noah Thompson said: *'My personal view is that ATL Composites creates a superior boatbuilding product.'*

What has been most encouraging is that Spirit of Hervey Bay clearly shows there is no limit when it comes to the size of the Component Packs that ATL can produce. Bigger projects are now on my drawing board using DuraKore and DuFLEX routed packages.

Yes, there is a lot more design time involved in the creation of a complex 3D program, but this is outweighed by the fact that the Component Packages that are created from the program save a massive amount of construction time, primarily through a significant reduction in the number of man-hours.

Compared to traditional boatbuilding where you so often see a major cost over-run, this ATL product proved to be exceptional with the ease of assembly. The CNC-routed pack had every component numbered, so when it arrived at the Streamline factory each piece could be easily identified and put into place in the assembly process, just like a huge Meccano set.'

Length	24 m
Beam	10.0 m
Draft	1.5 m
Fuel	4000 litres
Water	1000 litres
PAX	245
Engine	900 HP
East Cape Marine	www.eastcapemarine.com
Streamline Catamarans	www.streamline-catamarans.com

