

DELTA DELIVERS *ANDREA*, THE FIRST LLOYD'S CLASSED COMPOSITE MEGA-YACHT BUILT IN NORTH AMERICA

Seattle, June 2003—Delta, a leader in designing and building custom luxury yachts, announced the recent delivery of *Andrea*, a 126-foot composite expedition yacht built for a client in Europe. This project marks a first both for Delta and Lloyd's Register. It is the "first Lloyd's Register classed composite mega-yacht to be built in North America," says Ante Biskupovic, West Coast area manager for Lloyd's Register in North America. In addition to the usual regulation stability standards, *Andrea* meets the "international severe wind and roll criterion**", something few yachts can do. Significant beam as well as generous draft and displacement enabled the Delta Design Group to meet this rigorous standard. Her formal classification is Lloyd's Register Maltese Cross 100 A1 SSC G 6 Yacht LMC & MCA.

Andrea, fabricated in solid fiberglass with large tank volumes and storage capacities, is built on Delta's proven expedition hull. Delta has built more than 800 vessels for the demanding waters of Alaska's Bering Sea, *Andrea* is yet another in a series that combines luxury, safety and comfort with excellence making her the ideal yacht for world-wide cruising. Powered by Twin CAT 3508 engines, *Andrea* will have a range of 6,000 nautical miles at 12 knots.

Andrea's interior is stylish and spacious, with comfortable accommodations for extended cruising. She has a full-width owner's stateroom forward on the main deck and four guest staterooms below. For family gatherings and entertaining guests, *Andrea* offers a choice of the main salon, the formal dining salon or the bright and functional skylounge. The windows in the main salon open, giving an airy feeling to the salon while still meeting all the requirements of Lloyd's and MCA. Michael Kirschstein, of Henley upon Thames, England, designed the contemporary interior with light veneers and art deco details.

For outdoor activities, the expansive flybridge measuring 48-feet includes an aluminum framed bimini top providing covered entertainment areas, plenty of open-air lounging space and raised sun beds. For expeditions to shore, the boat deck holds two tenders up to 21 feet in length plus a crew tender.

About Delta

Luxury. Elegance. Perfection. Delta creates luxury yachts for those who recognize and expect the very finest the world has to offer. Complete with a team of naval architects, marine engineers and skilled workers with years of experience in specialized fields, Delta expertly combines old-world craftsmanship and the latest technology. For more information visit our web site at www.deltamarine.com.

DESCRIPTION OF IMO SEVERE WIND AND ROLLING CRITERION

The International Maritime Organization's (IMO) Resolution A.749(18) Code on Intact Stability includes a requirement based on a vessel's ability to withstand the effects of beam wind and rolling, known as the 'Severe Wind and Rolling Criterion'. The purpose of the criteria is to evaluate a vessel's ability to survive severe beam seas and wind. Such a situation may be assumed to occur should the vessel lose steering or propulsive capability in a storm, in which case it will likely end up wallowing in beam seas.

The criterion first assumes that the vessel heels to leeward due to a constant beam wind of 50 knots. The significant wave height (the average height of the 1/3 highest waves) for this wind speed would be 23', based on open ocean conditions. Due to the influence of the beam sea, the vessel is assumed to roll cyclically back to windward. The angle of this roll to windward due to beam seas has been determined by IMO through a statistical study of many vessels, and is derived from a formula based upon the vessel's hull form and center of gravity (as an example, for the *Andrea*, this roll angle is about 16°). The vessel then begins to roll back to leeward, adding its roll momentum to the roll imparted by the wind. As it does so, the wind speed is assumed to suddenly increase to a gust of 61 knots, adding yet another force to the leeward roll.

Generally speaking, if the vessel can roll freely back to leeward under the combination of all of these forces without rolling past its range of positive stability (capsize point), or taking on water through open down flooding points (such as the engine room air inlets), it passes the requirement.