

PRODUCTS IN ACTION

First Self Righting Rescue Boat for the Taiwan Coast Guard



The Taiwan Coast Guard Department (TCGD) has recently taken delivery of the RB-01 SAR (search and rescue) craft. It is the first full size, self-righting SAR boat to be built in Taiwan and the first dedicated SAR boat to be operated by the TCGD. A further two boats have also been delivered to the TCGD. Following evaluation of these three boats on 'active duty', the plan is to produce an additional 10 vessels for the TCGD.

Their mission envelope will include rapid response to distress calls, prolonged search and rescue tasks and assistance with fire fighting operations. Operationally, these boats will cover the whole Taiwan coastline.

Designated the RB-01, the new 19 meter vessel was designed and built by Taipei-based Lung-Teh Shipbuilding Co. Ltd. It has a beam of 5.6 meters, a draught of 1.5 meters, a cruising speed of 25 knots and range of 400 nautical miles.

As the sea conditions around Taiwan can be very extreme indeed (typhoons are not uncommon), the materials for the hull, deck and superstructure (Kevlar and carbon reinforcements and Divinycell sandwich cores) had to meet a set of stringent performance requirements. For example the hull had to withstand a slamming load of 7 g at the longitudinal center of gravity. This is the equivalent of the RB-01 traveling at its full speed (27.5 knots) in a significant wave height of five meters. The stability requirements are equally rigorous as the vessel must be capable of self-righting even if the structural integrity of one of the superstructure compartments has been breached. Finally, the RB-01 must be capable of remaining afloat even when all compartments are flooded.

When the roll over test was carried out it was in accordance with the computer simulation. The main engine was running continuously and the roll over time from upside down to upright was just 4.6 seconds. Similarly, the RB-01 performed as predicted in its official sea trials, both in terms of maneuverability, acceleration and top speed.

