

DESIGN AND CONSTRUCTION OF A FIBERGLASS SHRIMP FISHING BOAT EQUIPPED WITH A REBON SHRIMP WASHING FACILITY

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ABSTRACT

The design of a fiberglass fishing vessel for catching rebon shrimp was carried out to produce a ship design that meets technical and stability requirements and is suitable for operational conditions in the waters of Bengkalis. This study aims to determine the main dimensions of the vessel using a comparative ship method, to design the hull form, and to produce a fishing vessel design that is feasible for production and operation. The determination of the main dimensions was conducted using a linear regression method based on data from comparable vessels. The calculation results obtained a breadth of 1.4 m, a height of 0.54 m, and a draft of 0.21 m. These main dimensions were then used as the basis for developing the lines plan, general arrangement, and ship stability analysis. The analysis results show that in the lightship condition, the GMt value is 1.500 m and the maximum GZ is 0.262 m at an angle of 25.5°, with a GZ curve area from 0°–30° of 4.9267 m·rad. Meanwhile, in the full load condition, the GMt value is 0.530 m and the maximum GZ is 0.252 m at an angle of 26.4°. Based on these results, the designed fiberglass fishing vessel has met the stability criteria of IMO A.749(18), indicating that the vessel has good stability and is suitable for operation as a rebon shrimp fishing vessel.

Keywords: *fiberglass, fishing vessel, linear regression, rebon shrimp, vessel stability.*