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**Title:** Hull Girder Strength of a Composite Patrol Boat

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**Abstract:** The longitudinal strength determination of any vessel over 30m is an important consideration but even more critical for composite vessels made with relatively low modulus materials. The effect of features such as a tender garage, topside door, portholes, discontinuous deck, and the superstructure on the hull girder strength and stiffness of a composite 140 foot (38 meter) patrol boat was investigated through finite element analysis. The results were compared to different classification societies' section modulus and moment of inertia requirements.

**Keywords:** Composite; patrol boat; hull girder; longitudinal strength, FEA