



Galley News You Can Use

CFD Analysis for Propellers & Rudders

Computational Fluid Dynamics (CFD) is a computer-based method to analyze fluid mechanics that solves fundamental equations of fluid flow numerically within an analysis domain. EBDG uses an advanced form of CFD that accounts for fluid viscosity effects including turbulence and flow separation.

As a powerful tool that can be applied to a vast range of fluid flow regimes, CFD analysis has a number of marine uses, including rudder and propeller studies. EBDG uses CFD to evaluate and optimize not only rudders, but propellers, struts, and other hull design features. These are vital components which, when optimized, serve to improve the propulsion performance of vessels. Our vast experience with these components enables us to also develop valuable material specifications for clients.

Using CFD software, we are able to analyze and solve problems relating to fluid flows and simulate the interaction between the hull, propellers, appendages and the water. Simulating the interaction between the propeller and rudder using CFD helps to improve fuel efficiency, performance and reduce vibration.

Our CFD Experience

**83,000 BBL ATB Propeller
Rotation Study**

Client: Harley Marine Services

**250 EDF OSV Rudder
Optimization Study**

Client: Hornbeck Offshore Services

**NORTHERN HAWK Rudder Study
Material Specification**

Client: Coastal Villages Seafoods LLC

And many more...

To learn more about how EBDG can assist you with optimizing the propulsion performance of your vessel, contact us today.