TOP 10 **N. project:** L1-113 **category:** **Waterborne**

Members: Sabri ALKAN **University:** Bartin University

RA2 **Vehicles & Vessels - Design, Development and Production**

Key Characteristics: Decreasing cavitation effects on marine propellers • Decreasing wear problems on marine propeller • Decreasing corrosion problems on marine propeller together with shafts etc. • Increasing propeller surface roughness and thrust efficiency •

Ceramic Thin Film Coated Marine Propellers

Some material properties effect wear, corrosion and cavitation characteristics. This is a very important issue for equipment that is used in marine environments, due to the highly corrosive and dynamic conditions.

A very important ship equipment is propellers. Propellers have wear, corrosion and especially cavitation problems in sea water. Many investigations have been conducted to solve these problems, but no full solution to these problems was found altogether. In the last decades, ceramic thin film coatings have been applied in many industry areas. Marine equipment is one of these.

So that ceramic thin film coatings can be applied, especially on small marine propellers to prevent wear, corrosion and cavitation effects. There are many different methods for ceramic thin film coatings. The Physical Vapour Deposition (PVD) method has been applied in many areas and proved its success in last decades. PVD coatings are cheaper and more feasible than other methods.

Finally, the proposed idea can decrease cavitation effects, wear, corrosion problems on marine propellers together with shafts etc., and increase propeller surface roughness and thrust efficiency •