

Abstract

A SOLAS vessel must undergo two outer hull/ bottom inspections within a period of 5 years to maintain her classification. This survey can take place in a dry dock or, provided the ship meets some conditions, a dry dock inspection can be replaced by an in-water survey. Another reason to perform an in-water inspection, is to get a general idea of the condition of the hull, irrespective of class, or when damage is suspected. This thesis is a combination of my personal experience, a literature study and interviews. To determine the efficiency of an in-water survey, it is important to understand what an in-water survey entails. Similar to a dry dock survey it determines: the quality of the coating, whether corrosion is an issue, the condition of the rudder, the propeller and anodes, if present, and whether there is damage or not. It is possible to perform some non-destructive tests upon an in-water survey such as measuring the thickness of a vessels hull plating using ultrasonic thickness measurements. Furthermore, it is important to understand the education that divers need to achieve the right certification. The diver has a very important task; the survey can only be as good as the knowledge of the diver. The case study of the vessel Atlantis shows that an in-water survey is sometimes not efficient to indicate all damages present. This thesis discusses what could be the reason of this inefficiency. Some additional case studies are discussed to signal the capabilities as well as the restrictions of an in-water survey.