

자기마모형 수지기반의 마찰저항 저감형 방오도료 개발

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The need for effective antifouling (AF) paints, which prevent the settlement and growth of marine organisms on submerged structures, such as ship's hull, and increase the fuel efficiency, is recognized. The self-polishing copolymers (SPCs) have been variously applied to antifouling paints as binders, and they released biocides by the mechanism of a hydrolysis and ion exchange reaction of an acrylic polymer in seawater. The poly (ethylene glycol) (PEG) has been used as a drag-reduction additive in the pipeline and there were researches of proving the DR effect of that. In this work we synthesized SPC resins containing PEG groups and manufactured antifouling paints employing the synthesized SPC resins. The property for frictional drag-reduction (FDR) of the developed paints was examined by rotor tests and flat plate tests. In addition, we investigated the antifouling performance of the developed paints through the seawater-immersion test. (This work was supported by the Industrial Strategic Technology Development Program (No. 10038606) funded by the Ministry of Trade, Industry and Energy (MOTIE, Korea).)