



Contribution ID: 40

Type: Paper

Surface treatments for ship hulls – present situation and trends

Friday, 22 June 2018 11:15 (15 minutes)

Targets of the surface treatments of marine hulls have always been to preserve the structural capacity of the hull envelope and to maintain a smooth and clean external surface, thus minimizing the frictional component of motion resistance.

These objectives are pursued since a couple of millennia by fighting the chemical and biological phenomena inducing various forms of degradation in the hull base material and/or in the external surface smoothness. As regards the latter aspect, in particular, a most negative effect is represented by the adhesion of biofouling, jeopardizing the resistance performance of the hull. In the past, solutions to this specific problem were found in biocide-releasing paintings, practice that is nowadays unacceptable because of its high environmental impact.

New challenges in the field are represented by the possibility of not only maintaining, but also decreasing, the frictional coefficient intrinsic of the hull surface, while preserving excellent properties against fouling adhesion, without environmental damages.

The paper, based on publicly available data, analyses recent trends in the commercially available hull coatings and depicts possible development lines for new types of treatments aimed at reducing frictional resistance.

Primary author: Dr DELUCCHI, Marina (University of Genova, DICCA)

Co-authors: Prof. RIZZUTO, Enrico (University of Naples); Prof. CERISOLA, Giacomo (University of Genoa)

Presenter: Dr DELUCCHI, Marina (University of Genova, DICCA)

Session Classification: Structures and Materials

Track Classification: Environment protection, electric system and ship energy efficiency