

A METHOD OF ESTIMATING FRICTIONAL RESISTANCE OF SHIP BOTTOM
COATING FILM, AND A METHOD OF EVALUATING COATING FILM PERFORMANCE
USING SAID METHOD AND A DEVICE FOR EVALUATING COATING FILM

ABSTRACT

5 [Subject] Provided is a method of estimating a frictional
resistance increase rate of a ship bottom coating film simply and
quickly without individual differences.

[Means for solving] The method of estimating a frictional
resistance of a ship bottom coating film which method comprises
10 measuring any one of Rz (Maximum height roughness), Rc (mean height
of roughness curve elements), Ra (arithmetic mean roughness), Rq
(root mean square roughness) and RZJIS (ten-point mean roughness)
as a roughness height R at a mean length RSm of roughness curve
elements in the range of 2,000 to 10,000 μm according to JIS B
15 0601:2001 (ISO4287:1997) on a coating film obtainable applying a
ship bottom coating paint on a substrate and calculating a
frictional resistance increase rate FIR (%) from a mirror plane
by the following formula (1); $\text{FIR}(\%) = C \times R^2 / R_{\text{Sm}}$ (1) (the
coefficient C is a constant depending on the kind of the roughness
20 height R and the method of frictional resistance test, and on
plural ship bottom coating films each having a different roughness,
the roughness measurement and the frictional resistance test in
a definite evaluation length are carried out, and is determined
from the formula (1) of the relationship of the measured roughness

height R , the mean length R_{Sm} of roughness curve elements and the frictional resistance increase rate FIR (%)).

(Fig. 1)