

2017 Finnish-Swedish Ice Class Rules (Machinery)

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part I
Guidance for the Survey and Construction of Steel Ships Part I

Reason for Amendment

Requirements for ships intended to be registered as ice class vessels for navigation of the Northern Baltic complying with the Finnish-Swedish Ice Class Rules (FSICR) are specified in Chapter 8, Part I of Rules for the Survey and Construction of Steel Ships.

The Finnish Transport Safety Agency regularly reviews the FSICR, and it released a new version of the FSICR in November 2017. This new version called the “2017 FSICR” contains revised provisions related to the design of azimuthing thrusters, etc.

Accordingly, relevant requirements were amended in accordance with the “2017 FSICR”.

Outline of Amendment

The main contents of the amendments are as follows:

- (1) Clarified the detail of requirement regarding engine output in cases where additional power sources are attached.
- (2) Deleted the defined ranges of ship parameter values used in engine output calculations.
- (3) Amended the propeller location factor used to calculate the number of load cycles per propeller blade in the load spectrum.
- (4) Amended requirements regarding design torque along the propeller shaft line so that a simple calculation method can be used in cases where there is no predominant torsional resonance in the operational speed range or in the range 20% above and 20% below the maximum operating speed (bollard condition). In addition, specified that dynamic analysis is required to be performed when there is first blade order torsional resonance in the operational speed range or in the range 20% above and 20% below the maximum operating speed (bollard condition).
- (5) Specified that stress analysis may be used to calculate blade failure load and amends requirements related to point where blade failure load acts upon the blade.
- (6) Specified that safety factors of shafts and shafting components are to be at least 1.3 against yielding for extreme operational loads, 1.5 for fatigue loads and 1.0 against yielding for the blade failure load.
- (7) Amended additional requirements related to azimuthing thrusters.

Amended Requirements

Rules for the Survey and Construction of Steel Ships
Part I: 1.1.1, 1.2.2, 8.1.1, 8.4, 8.5.1, 8.5.2, 8.5.5, 8.5.7, 8.5.8, 8.5.9, 8.5.10, 8.6.2, 8.6.4, 8.6.5, 8.6.6(deleted), 8.9.2
Guidance for the Survey and Construction of Steel Ships
Part I: I1.2.2, I8.7.1