

Turbochargers

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part D

Rules for High Speed Craft

Rules for the Survey and Construction of Inland Waterway Ships

Guidance for the Survey and Construction of Steel Ships Part D

Guidance for High Speed Craft

Guidance for the Survey and Construction of Inland Waterway Ships

Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

Reason for Amendment

IACS Unified Requirement (UR) M73(Corr.1) adopted in June 2016 specifies design requirements for turbochargers as well as test requirements related to type approval, the approval of manufacturers and the approval of individual turbochargers. These requirements have already been incorporated into the Rules.

The UR categorizes turbochargers into three categories (A, B and C) according to the output of the engine to which the turbocharger is connected. Since some of UR's test requirements for individual turbochargers (particularly the ones for relatively small turbochargers classified as Category A and Category B) are unclear, they were further clarified by the Society when originally incorporated into its Rules, and have remained, for the most, unchanged over the years. In some ways, however, the Society's clarification of these requirements actually made some of them more restrictive than the corresponding ones specified in the UR.

Based upon the results of hearings with relevant industries and an examination of similar requirements established by other classification societies as part of a comprehensive review of its Rules, the Society decided to amend its requirements so as to clarify their correspondence to the ones in UR M73(Corr.1).

Outline of Amendment

The main contents of this amendment are as follows:

- (1) Clarified the drawings and data that are required to be submitted for turbochargers.
- (2) Amended requirements applicable to Category A turbochargers related to the materials used for turbine discs, blades, blower impellers, rotor shafts and casings in order to accept materials that comply with standards such as ISO and JIS.
- (3) Deleted the following test requirements applicable to Category A turbochargers.
 - (a) Non-destructive tests for turbine discs, blades, blower impellers, and rotor shafts
 - (b) Hydrostatic tests
 - (c) Dynamic balancing tests
 - (d) Overspeed tests
- (4) Added requirements related to dimension inspections for Category B turbochargers.
- (5) Deleted temperature requirements related to the duration between the ends of load cycles in the 500-cycle load tests required as part of the type approval tests for Category B and Category C turbochargers.

Amended Requirements

Rules for the Survey and Construction of Steel Ships

Part D: 2.1.1, 2.1.3, Table D2.1, 2.5.1, 2.5.7, 2.6.1, Table D2.6

Rules for High Speed Craft

Part 9: 2.1.1, 2.1.3, 2.3.6

Rules for the Survey and Construction of Inland Waterway Ships

Part 7: 2.1.1, 2.1.3, 2.5.1, 2.5.7, 2.6.1, Table 7.2.1, Table 7.2.6

Guidance for the Survey and Construction of Steel Ships

Part D: D2.1.1, D2.1.3, D2.2, D2.5.1, D2.6.1

Guidance for High Speed Craft

Part 9: 2.1.1, 2.1.3

Guidance for the Survey and Construction of Inland Waterway Ships

Part 7: 2.1.1, 2.1.3, 2.5.1, 2.6.1

Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

Part 6: 11.4.2