

Damage Stability

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Parts B, C, CS, and D
Rules for the Survey and Construction of Passenger Ships
Guidance for the Survey and Construction of Steel Ships Parts B, C, U, CS, D, and O
Guidance for the Survey and Construction of Passenger Ships

Reason for Amendment

The IMO has been discussing the need for a revision of its ship damage stability requirements based upon a probabilistic approach aimed at securing safety after collision and grounding for a number of years. As part of this discussion, a full review of Chapter II-1 of SOLAS was carried out taking into account the Costa Concordia casualty that occurred in 2012.

As a result of this review, the IMO adopted, at the 98th Session of the IMO Maritime Safety Committee (MSC98) held in June 2017, amendments to Chapter II-1 of SOLAS that dealt mainly with revisions to requirements regarding the evaluation criteria of attained subdivision index, the handling of the trim condition, the protection of double bottoms, etc., and these amendments were adopted as Resolution MSC.421(98).

In addition, revised explanatory notes to the damage stability requirements specified in Chapter II-1 of SOLAS were adopted as Resolution MSC.429(98).

Accordingly, relevant requirements were amended based upon IMO resolutions MSC.421(98) and MSC.429(98).

Outline of Amendment

The main contents of the amendments are as follows:

- (1) Changed the criterion for amidship, trim and centre of gravity of ships from the subdivision length (L_s) to the length for freeboard (L_f).
- (2) Amended to take into account changes in the trim at each stage of flooding in calculations for the probability of survival.
- (3) Amended requirements for wells in way of double bottoms.
- (4) Amended requirements for cargo ships so that butterfly valves may be used for the pipes penetrating collision bulkheads.
- (5) Amended the required subdivision index (R) for passenger ships.
- (6) Amended criteria for the implementation of stability experiments and re-approval of the loading manual and stability information at times of ship alteration.
- (7) Amended the method used to create the minimum required G_0M curve for stability information.

Amended Requirements

Rules for the Survey and Construction of Steel Ships

Part B: 2.3.2

Part C: 4.1.2, 4.2.1, 4.2.2, 4.2.3, 6.1.3, 13.1.1, 13.1.5, 13.4.1, 16.1.6, 17.1.2, 23.3.2, 23.5.2

Part CS: 4.1.2, 4.2.1, 4.2.2, 4.2.3, 6.1.3, 13.1.1, 13.1.5, 13.4.1, 16.1.3, 17.2.2, 21.3.2, 21.5.2

Part D: 13.2.5, 13.4.1

Rules for the Survey and Construction of Passenger Ships

Part 1 2.1.10, 2.1.13, 2.1.14, 2.1.16, 2.1.21, Part 2 4.2.1, Part 3 4.2.1, 6.2.1, 6.4.5, 6.5.1, 6.5.2, 7.2.2, 7.2.3, 7.3.1, 7.3.2, 7.4.1, 7.4.2, Part 4 2.3.4, 2.3.5, 2.3.6, 2.3.7, 4.3.1, Part 5 2.2.1, 2.3.1, 2.3.4

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Part B: B1.1.2, B2.3.2, B2.5.1

Part C: C4.2.1, C4.2.3, C6.1.1, C6.1.3, C13.3.3, C13.4, C17.1.2

Part U: Annex U1.2.1 1.3.10

Part CS: CS6.1.1, CS6.1.3, Appendix 1 Table CS

Part D: D13.2.5

Part O: O7.2.1

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Part 2 4.2.1, Part 3 4.2.1, 6.2.1, 6.4.5, Part 4 2.3.6