



TECHNICAL CIRCULAR No. 666 of 6th January 2021

To	All Surveyors/Auditors. All flags
Title	Stability and strength
Reference	SOLAS Consolidated Edition 2014, as amended

Intact Stability, Damage Stability, and Strength of Vessels

This circular clarifies the requirements for intact stability, damage stability, longitudinal strength, and damaged structural strength. It also summarizes the related recommendations that contain the details necessary for compliance.

This circular applies to:

1. All vessels of 24 meters in length and over, as identified in the 2008 IS Code, including:
 - a. Commercial Yachts, including Yachts Engaged in Trade (YETs), which fall into the category of cargo ships; and
 - b. Passenger Yachts, which fall into the category of passenger ships.
2. Private Yachts Limited Charter which must be provided with a stability booklet.
3. Vessels less than 24 meters in length will be required to comply with the IS Code criteria.

1.0 Stability Booklet

1.1 All ships' master's must be supplied with information to enable them to accurately assess the stability of the ship under varying conditions of service. See International Convention for the Safety of Life at Sea (SOLAS) II-1/5-1.

1.2 Each ship must be provided with a Stability Booklet which:

- .1 contains sufficient information to enable the Master to obtain, by rapid and simple processes, accurate knowledge of the ship's stability under varying conditions of service. (Refer to the 2008 IS Code1); and
- .2 is approved on behalf of the Administrator by the Classification Society with which the ship is classed.

2.0 Stability Instrument

2.1 A stability instrument comprises hardware and software and when installed on board provides the means by which it can be confirmed that the stability requirements specified for the ship in the Stability Booklet are met in any operational loading condition.

2.2 A stability instrument is not a substitute for the approved Stability Booklet but is intended to provide supplementary information to facilitate stability calculations. (See

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IS Code, Chapter 2, §2.1.5.)

2.3 The stability instrument must be approved by an Administrator-approved Recognized Organization (RO).

3.0 Damage Stability

3.1 All ships 80 meters in length or more and all passenger ships, regardless of length, must comply with the SOLAS Regulation II-1/4 damage stability requirements.

3.2 Yachts must comply with the relevant sections on damage stability of the Administration.

3.3 Oil tankers, chemical tankers, and gas carriers must take into account IMO Circular MSC.1/Circ.1461. This provides guidelines for the verification of damage stability for tankers and sets education and training requirements for staff engaged in verifying damage stability.

4.0 Passenger Ship Stability

4.1 Due consideration must be given to IMO Circulars MSC.1/Circ.1400 and MSC.1/1532/Rev.1 which strongly recommend that all passenger ships should have at least two independent stability computers available at all times. They should be capable of receiving and processing the data necessary to provide operational information to the Master.

4.2 As required by SOLAS II-1/8-1.3, passenger ships constructed on or after 01 January 2014 must have an onboard stability computer or shore-based support to ensure that after a flooding casualty, operational information on residual damage stability is provided to the Master. Guidance for passenger ships constructed before 01 January 2014 is in IMO Circular MSC.1/Circ.1589.

4.3 Beginning 1 January 2020, passenger ships must conduct damage control drills at least every three months. The entire crew need not participate in every drill, but only those crew members with damage control responsibilities. Drill records must be maintained.

The muster list must include duties for damage control for flooding emergencies. See IMO Resolution MSC.421(98).

4.4 SOLAS II-2/21 establishes design criteria for the safe return to port under its own propulsion after a passenger ship casualty.

5.0 Longitudinal Strength

5.1 All Ships

Every Master must be supplied with information for loading and ballasting to avoid creating unacceptable stresses in the ship's structure. This requirement need not be applied to a particular length, design, or class of ship, where the Administrator considers it to be unnecessary. See the International Convention on Load Lines (LL), Annex I, Ch. II, Reg. 10.

6.0 Shipboard Oil Pollution or Noxious Liquid Substances Emergency Plans

6.1 Every oil tanker of 150 gross tons (GT) and above, and every ship of 400 GT and above, must carry a shipboard oil pollution emergency plan (the SOPEP) approved by the Administrator. (See International Convention for the Prevention of Pollution from Ships (MARPOL) Regulation I/37). The SOPEP is intended to provide external support for the Master so that competent, informed

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decisions can be made, and proper action taken in situations involving structural damage to the ship.

6.2 The SOPEP must address stability and strength based on IMO Resolution MEPC.54(32), as amended or IMO Resolution MEPC.85(44), as amended. MEPC.85(44) has been amended by MEPC.137(53).

7.0 Ballast Water Exchange

7.1 The Master must have continuous access to the necessary information to ensure that the vessel's stability and strength are not adversely affected during ballast water exchange operations.

7.2 See IMO Circular MSC.1/Circ.1108 for guidance on assessing the longitudinal strength of bulk carriers during ballast water exchange operations.

REFERENCES:

- (a) SOLAS, International Convention for the Safety of Life at Sea, Consolidated Edition 2014, as amended
- (b) MARPOL, International Convention for the Prevention of Pollution from Ships, Consolidated Edition 2017, as amended
- (c) LL, International Convention on Load Lines, 2005 Edition, Part 3, Consolidated Text
- (d) 2008 IS Code, International Code on Intact Stability, 2008, 2020 Edition, as amended

- ATTACHMENTS: No

Kindest Regards,

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