Secondary Legislation

DCE - MTI 3B - 1/1

Maritime Transport (Design, Construction, and Equipment – Stability, Drainage, Freeboard, and Subdivision) Instrument [year]

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Contents

Section 1 Preliminary provisions

1.1 Title

This MTI is the Maritime Transport (Stability, Drainage, Freeboard, and Subdivision) Instrument [year].

1.2 Commencement

This MTI comes into force on [same date as Part 3B].

1.3 What this MTI does

This MTI specifies standards and requirements for the stability, drainage, freeboard, and subdivision on New Zealand ships that are commercial ships, for the purposes of Part 3B: Maritime (Design, Construction, and Equipment – Stability, Drainage, Freeboard, and Subdivision) Rules.

1.4 Application

This MTI specifies—

(a) requirements with which a ship described in rule 3B: A1.3(1) must comply; and

(b) standards that are, for the purposes of rule 3B: C1.1, the relevant design and construction standards for stability, drainage, freeboard, and subdivision.

1.5 Interpretation

(1) If a conflict exists between this MTI and material incorporated by reference in this MTI, the MTI applies.

(2) A term that is used in this MTI and defined in Part 3B has the same meaning as in Part 3B.

(3) In this MTI, unless the context otherwise requires—

GZ righting lever, or righting arm means the horizontal distance between the centre of gravity (G) and the centre of buoyancy (B)

scupper means gravity draining pipe directly overboard

weather deck means a deck exposed to the weather and sea.

(4) In this MTI, codes and official standards (such as *ISO* and *NSCV*) are referred to as standards and by the abbreviations listed in Appendix 9.

Section 2 Assessment of ship according to complexity and characteristics

2.1 Application of requirements for stability assessments

This Section specifies requirements for a ship to be assessed for stability on the basis of its level of complexity and characteristics in accordance with Part 3B: Subpart C, Section 2, and this MTI.

2.2 Ships are high or low complexity

Ships are categorised as high or low complexity in accordance with rule 3B: C2.2.

2.3 Ships are open or decked

Ship's characteristics

(1) A surveyor must categorise a ship as open or decked in accordance with subclauses (2) to (5) and the following characteristics:

(a) the residual stability in accordance with Appendix 3:

(b) the drainage and freeing arrangements in accordance with Section 9:

(c) the minimum freeboard to deck in accordance with Section 10.

Decked ship

(2) If a ship complies with subclause (1)(a), (b), and (c), it must be categorised as a decked ship and assessed in accordance with the requirements for a low complexity decked ship in Section 3 or the requirements for a high complexity decked ship in Section 4, as appropriate.

Open ship

(3) If a ship does not comply with subclause (1)(a), (b), or (c), it must be categorised as a low complexity open ship and assessed in accordance with Section 3 and the associated limitations for a low complexity open ship applied.

(4) If a ship complies with subclause (1)(a) and (b), but not (c), it must be categorised as a high complexity open ship and assessed in accordance with Section 4 and the associated limitations for a high complexity open ship applied.

(5) Despite subclauses (3) and (4), if an open ship is categorised as a high complexity ship according to C2.2, it must comply with subclause (1)(a) and (b) and be assessed in accordance with Section 4.

Section 3 Low complexity ship stability assessment

3.1 Application of requirements for low complexity ship stability assessments

This Section specifies requirements for a low complexity ship for the purposes of Part 3B: Subpart C, Section 3.

3.2 Input parameters and test conditions for low complexity ships

For the purposes of rule 3B: C1.1(2), the stability tests and assessments must be conducted in accordance with the input parameters and test conditions specified in Appendix 1 and Appendix 2.

3.3 Method for stability assessment of low complexity ships

(1) A low complexity ship must undergo the applicable stability assessment in accordance with this MTI.

Heel test

(2) A heel test must be conducted as follows:

(a) the maximum number of persons for which a ship is to be certified or, if the ship is to carry cargo, the combined weight of cargo and persons, must be crowded to 1 side:

(b) the procedure in paragraph (a) must be repeated with the persons, or persons and cargo, crowded on the other side and at each end of the ship:

(c) for the procedures in paragraphs (a) and (b)—

(i) half the number of persons crowded to the side or end of the ship must be seated on the gunwale or buoyancy tube, where the ship's configuration permits; and

(ii) the helmsperson may remain at the helm:

(d) in relation to paragraphs (a) and (b), the freeboard to the top of the gunwale, buoyancy tube, or deck must be at least—

(i) 50 percent of the assigned freeboard in the upright condition when the ship is at its lowest point above the water line in the heeled condition; and

(ii) 250 millimetres at any point for an open ship:

(e) in relation to paragraphs (a) and (b)—

(i) the maximum combined heel and trim angle must not exceed 12 degrees; and

(ii) for a decked ship with multiple decks, a wind heeling lever must be applied, in which case the heel and trim angle due to wind heeling lever and crowding heeling lever must not exceed 12 degrees.

Swamp test

(3) A ship undergoing a swamp test must meet the following criteria:

(a) two thirds of the perimeter of the gunwale or coaming must remain out of water and at least 10 percent of the total intact and unswamped buoyant displaced volume of the ship in the maximum loaded condition must remain above the equilibrium waterline:

(b) the combined trim and heel angle must not exceed 12 degrees:

(c) small wavelets must not cause instability:

(d) a 15-kilogram weight must be placed on 1 gunwale, then the test must be repeated with the weight placed on the opposite gunwale:

(e) the hull must not deform in a way that prevents drainage or causes structural failure.

(4) If the calculation method is used in the swamp test, it must be in accordance with *NSCV, Part C, Section C6, Subsection C6B, Annex C* and *Annex D*.

Person rescue and recovery test

(5) If a ship is categorised as an open ship and certified for 3 or more persons on board, a person rescue and recovery test must be conducted as follows:

(a) 2 persons on board must recover a third person from the water into the ship:

(b) the third person must pretend to be unconscious and not assist the rescuers:

(c) each person involved in the test must wear a lifejacket appropriate for the operation of the ship as specified in Part 3H: Maritime (Design, Construction, and Equipment – Life-saving Appliances) Rules.[1]

(d) the ship must—

(i) remain stable throughout the operation; and

(ii) not ship water; and

(iii) not capsize.

Section 4 High complexity ship stability assessment

4.1 Application of requirements for high complexity ship stability assessments

This Section specifies requirements for high complexity ships for the purposes of Part 3B: Subpart C, Section 4.

4.2 Input parameters and test conditions for high complexity ships

For the purposes of rule 3B: C1.1(2), the stability tests, including inclining experiments, and assessments must be conducted in accordance with the input parameters and test conditions specified in Appendix 1 and Appendix 2 for the purposes of rule 3B: C4.3(1).

4.3 Method for stability assessment of high complexity ships

(1) A monohull ship of less than 24 metres in LLL must undergo an intact stability assessment in accordance with the criteria specified for high complexity ships in Appendix 4.

(2) A multihull ship must undergo an intact stability assessment in accordance with the requirements specified in the *HSC Code, Annex 7.*

[1] Draft Rule Part 3H and MTI consulted on in 2024.

(3) A ship of 24 metres or more in LLL must, as a minimum, comply with the requirements of the *IS Code, Part A, Chapter 2.3*.

(4) For the purposes of rule 3B: C4.3(3), calculation of VCG must be undertaken by a weight study in accordance with the following method:

(a) the values of lightship displacement and LCG must be obtained by draft measurement or by directly weighing the ship, followed by any lightship adjustment calculations:

(b) the values referred to in paragraph (a) must be checked against the lightship displacement and LCG calculations and be within 2 percent of the displacement and 1 percent of the LCG (as a percentage of LOA) for the weight study to be accepted:

(c) VCG from the weight study must be applied to the lightship condition with a 10 percent increase of height above underside of keel added.

(5) If the weight study is comprehensive and a surveyor determines the accuracy is high, the increase height of VCG under subclause (4)(c) may be reduced but must not be less than 5 percent.

Section 5 Damage tests for ships with inflatable collars or rigid air chambers

5.1 Application of requirements for damage tests

This Section specifies requirements for damage tests for the purposes of Part 3B: Subpart C, Section 5.

5.2 Method for assessment of ships with inflatable collars or rigid air chambers

A damage test must be conducted in accordance with Appendix 5.

Section 6 Damage stability

6.1 Application of requirements for damage stability

This Section specifies requirements for the purposes of Part 3B: Subpart C, Section 6.

6.2 Method for assessment of damage stability

(1) A ship must comply with the damage stability criteria specified in Appendix 6, for the purposes of rule 3B: C6.3(a) and (b), unless subclause (2) applies.

(2) A ship's residual stability in the damaged condition must conform with the requirements of regulation 8 of *Part B* of *Chapter II-1* of *SOLAS* if the ship—

(a) is of 35 metres or more in LOA; and

(b) carries any passengers; and

(c) proceeds beyond coastal limits.

(3) For the purposes of rule 3B: C6.3(c), an offshore supply ship that is of 24 metres or more in LLL must comply with the damage stability requirements of *Part 3* of the *Guidelines for the design and construction of offshore supply vessels.*

Section 7 Stability information

7.1 Form of stability information

(1) This Section specifies requirements for the purposes of Part 3B: Subpart C, Sections 7 and 8.

(2) A ship must comply with the requirements for stability information specified in this MTI and the stability information must be in the form prescribed in Appendix 7.

(3) For the purposes of Part 3B: Subpart C, Section 8, and clause 8.2, stability information must include information, and instructions to the master, on ship safety when using a deck crane or other lifting appliance, including—

(a) the SWL and operating performance data for a crane or other lifting appliance of variable load-radius type, if appropriate; and

(b) details of all openings leading below deck that must be secured to be weathertight; and

(c) the means to control risks such as capsize or downflooding including, as appropriate, information on—

(i) mechanically, hydraulically, or electronically limiting crane loads; and

(ii) safe operating guidance, including limitations to ensure the lifting appliance complies with the requirements in clause 8.2; and

(iii) operating restrictions for multiple lifting appliances not intended for simultaneous use.

Section 8 Ships involved in specific activities or with specific arrangements

8.1 Application of requirements for ships involved in specific activities or ships with specific arrangements

This Section specifies requirements for the purposes of Part 3B: Subpart C, Section 8.

8.2 Method for assessment of ships engaged in lifting

(1) A ship engaged in lifting must be assessed in accordance with subclauses (2) to (5), for the purposes of rule 3B: C8.2.

(2) A ship engaged in lifting must be subjected to a practical test or computer simulation with the ship in its worst anticipated lifting condition to establish the angle of heel and the minimum freeboard on the low side.

(3) When an angle of heel is greater than 7 degrees but not more than 10 degrees, or if the ship's VCG is raised by more than 1 percent, a surveyor may accept the lifting condition if the following criteria are met when the crane or lifting appliance is operating at its maximum load moment:

(a) the range of stability from the angle of static equilibrium to downflooding or angle of vanishing stability, whichever is the lesser, must be equal to or greater than 20 degrees:

(b) the area under the righting lever curve up to 40 degrees from the angle of static equilibrium or the downflooding angle, if that angle is less than 40 degrees, must be equal to or greater than 0.1 metre-radians:

(c) except as provided in paragraph (d), the minimum freeboard fore and aft throughout the lifting operations must not be less than half the assigned freeboard at amidships:

(d) on a ship, other than a flush-decked barge, with less than 1000 millimetres assigned freeboard amidships, the freeboard fore or aft must be at least 500 millimetres:

(e) the freeboard to deck edge anywhere on the periphery of the ship must be at least 250 millimetres.

(4) A ship that is fitted with a stern (or bow) gantry or centreline lift may meet the following criteria, as an alternative to the criteria in subclause (3):

(a) the range of stability from the angle of static equilibrium to downflooding or angle of vanishing stability, whichever is the lesser, must be equal to or greater than 15 degrees:

(c) the area under the righting lever curve up to 40 degrees or the downflooding angle, if this is less than 40 degrees, must be equal to or greater than 0.10 metre-radians:

(c) the metacentric height must be positive and greater than or equal to 0.05 metres:

(d) the minimum freeboard anywhere on the periphery of the ship, measured throughout the lifting operations, must not be less than half the assigned freeboard, or 250 millimetres, whichever is the greater.

(5) The criteria in subclause (4) must be met when the A frame or other lifting appliance is operating at its maximum vertical, transverse, and longitudinal moments.

8.3 Method for assessment of ships engaged in fishing

(1) A fishing ship must be assessed in accordance with subclauses (2) to (6) for the purposes of rule 3B: C8.3.

(2) The righting lever curve must be produced for the following load conditions, in addition to the conditions for a high complexity ship:

(a) departure for the fishing grounds with full fuel, stores, ice, and fishing gear:

(b) departure from the fishing grounds with a full catch:

(c) arrival at home port with a full catch and 10 percent fuel and stores:

(d) arrival at home port with 10 percent fuel, stores, and a minimum catch, in the range of 20 to 40 percent of the full catch:

(e) any other actual operating conditions that a surveyor considers would produce lower values of the parameters contained in the criteria required by subclause (4), than those in paragraphs (a) to (d).

(3) When determining the righting lever curve, the following factors must be taken into account:

(a) allowance for the weight of wet fishing nets and other fishing gear on the deck:

(b) homogeneous distribution of the catch, unless this is inconsistent with practice:

(c) catch on deck, if anticipated, in operating conditions referred to in subclause (2)(b), (c), and (e):

(d) water ballast, if carried:

(e) allowance for the free surface effect of liquids, ice slurry, and catch, if applicable.

(4) The righting lever curve for the load conditions in subclause (2) must meet the following criteria, in addition to the criteria for high complexity ships in Appendix 4:

(a) the range of positive stability must be at least 60 degrees:

(b) the angle of heel at which progressive flooding of fish holds could occur through hatches that remain open during fishing (and cannot rapidly be closed), must be at least 20 degrees, unless the stability criteria can be met with the respective fish holds partially or fully flooded.

(5) For the purposes of subclause (4)(a), the effects of enclosed deck erections with openings closed by weathertight closing appliances may be taken into account in determining the range of stability.

(6) A fishing ship that is engaged in lifting must comply with—

(a) the requirements for lifting in rule 3B: C8.2 and clause 8.2; and

(b) the heeling moment assessment for snagging of equipment specified in *NSCV, Part C, Section C6, Subsection C6A 6.7* calculated in accordance with *NSCV C6A Annex G*.

8.4 Method for assessment of ships engaged in towing

(1) A ship engaged in towing must be assessed in accordance with subclauses (2) to (5), for the purposes of rule 3B: C.8.4.

Low complexity ship

(2) For a low complexity ship that is likely to tow ships greater than twice its own displacement as part of standard operation, the ship must meet the following stability criteria:

(a) in the normal working condition, the freeboard must be such that the deck edge or top of coaming is not immersed at an angle of less than 10 degrees; and

(b) the results of the heel test specified in clause 3.3(2) must indicate that—

$$\frac{wd}{LBT\rho tan(\theta)} \geq \frac{0.076K}{f}$$

Where:

$K = 1.524 + 0.08\mathrm{L} - 0.45\mathrm{r}$

$r =$ length of radial arm of the towing hook in metres

$L =$ waterline length of the ship in metres

$LBT =$ length $\times$ breadth $\times$ draft

$f =$ freeboard in metres

$\rho =$ density of water

$\theta =$ heel angle from heel test

$w =$ weight moved for heel test

$d =$ transverse distance moved by weight for heel test

(c) the heel test must be conducted in small increments in both directions, and the average resultant heel angle noted for the average heeling moment wd.

High complexity ship

(3) A high complexity ship, that is likely to tow a ship of greater than twice its own length, must comply with the *IS Code, Part B, Chapter 2.1.4* and *2.8*.

(4) A high complexity ship, that is likely to tow a ship greater than twice its own displacement but less than twice its own length as part of standard operation, must comply with the following:

(a) the heeling lever (defined below) must not exceed 0.5 times the maximum GZ for the most critical loading conditions:

$$Heeling\ Lever = \frac{0.6(MBP \times VDHP)}{\Delta}$$

Where:

$MBP =$ maximum bollard pull

$VDHP =$ vertical distance between hawser and centre of propellor(s)

$\Delta =$ displacement in tonnes

The height of the hawser must be measured at:

- the fixed gog, or the side rails if higher, if a fixed gog is always used; or
- the top of the winch drum (with no towline deployed), or the side rails if higher, if a fixed gog is not always used.

(b) if the maximum GZ occurs at an angle greater than 30 degrees of heel, then the GZ value for 30 degrees of heel must be used instead of the angle of maximum GZ.

(5) A ship may comply with subclause (3) instead of subclause (4).

8.5 Method for assessment of barges

Note: Work on barges is ongoing and will be considered during public consultation on a subsequent package as part of the DCE reform project.
However, it is proposed that:

- barges with persons on board during a journey; or those that are 24 m or more in LLL, would need to meet the applicable 'ship' requirements in the new rules set, in addition to the watertight bulkheads' requirements (currently set out in 40C.7(2))
- barges of any size (with or without persons on board) would need to meet the lifting requirements (currently set out in in 40C Appendix 1.3) if they have a crane or other lifting appliance.

8.6 Method for assessment of dredgers and split hoppers

(1) A dredger or split hopper must be assessed in accordance with subclauses (2) to (8), for the purposes of rule 3B: C8.6.

(2) A dredger must comply with the intact stability requirements for a high complexity ship in Section 4.

(3) Loading conditions for a split hopper with open holds containing water and dredgings must account for the spillage of saturated dredgings and water that occurs as the ship heels.

(4) The minimum loading conditions specified for split hoppers in *NSCV, Part C, Section C6, Table F.4* must be applied.

(5) The values of GZ must either be determined by computer simulation or estimated using the 'spill out' method specified in the *Uniform Shipping Laws Code*, *Section 8, Subsection C*.

(6) A dredger or a split hopper that operates with its hold spaces closed by hatch covers or other permanent means must have the effects of free surface taken into account when calculating the ship's stability for various conditions of loading.

(7) A surveyor may consider, when assessing the ship's stability, that the dredgings shift as the ship rolls, rather than requiring the free surface correction if, the water content is rapidly removed during the collection.

(8) For the purposes of subclause (7), the following intact stability criteria must be met after taking account of the cargo shift:

(a) the angle of heel must not exceed 65 percent of the angle at which the deck edge becomes immersed:

(b) the residual dynamic stability measured up to 30 degrees beyond the angle of heel must be at least 0.01 metre-radians.

8.7 Method for assessment of houseboats

(1) A houseboat must be assessed in accordance with subclauses (2) to (5), for the purposes of rule 3B: C8.7.

(2) When the houseboat is fully loaded, the deck height or the top of the pontoon above water at the lowest point must be at least—

(a) 400 millimetres for a houseboat of 6 metres or less in LOA; and

(b) 600 millimetres for a houseboat of 20 metres in LOA.

(3) For a houseboat of intermediate length, the minimum freeboard must be determined by linear interpolation.

(4) When the number of persons equal to certified capacity are placed on 1 side of the uppermost deck of the houseboat at its extreme breadth from the centreline of the hull—

(a) the angle of heel must not exceed 7 degrees from the upright; and

(b) the freeboard of the hull on the heeled or the immersed side must be at least 25 percent of the freeboard in the upright condition when—

(i) fully loaded; and

(ii) measured from the inclined to the intersection of the edge of the main deck line and sheer line of the main hull at its lowest point.

(5) The hull of a houseboat must be—

(a) subdivided into watertight compartments that are arranged to provide an adequate reserve of buoyancy with any one compartment flooded; or

(b) filled with 1 cubic metre of closed cell foam buoyancy per 800 kilograms of flooded mass.

8.8 Method for assessment of fully foil-borne ships

(1) A fully foil-borne ship must be assessed in accordance with subclauses (2) or (3), for the purposes of rule 3B: C8.8.

(2) A hydrofoil ship that operates in the fully foil-borne mode must comply with the intact stability requirements of the *HSC Code, Annex 7.*

(3) Subclause (2) does not apply to a foil-assisted ship, which must comply with the stability requirements for hull-borne ships in Sections 3 or 4.

8.9 Method for assessment of sailing ships

Note: The intent for sailing ships is that, for stability, drainage, freeboard, and subdivision, sailing ships will be required to comply with the requirements currently set out in Rule Part 40E.8 to 40E.11, with the exception that there will no allowance for pre-2010 ships. That is, all sailing ships that are required to have their stability assessed as part of the new DCE rules will need to comply with the post-2010 stability requirements.

The location of these requirements for sailing ships is yet to be decided, ie whether they are included in this Rule Part or a Rule Part specifically for sailing ships.

8.10 Method for assessment of hire and drive boats

(1) A stability assessment of a hire and drive boat must comply with *ISO 12217,* for the purposes of rule 3B: C8.10.

(2) As part of the assessment under subclause (1), a surveyor must—

(a) inspect the stability information; and

(b) verify that the stability information complies with *ISO 12217*.

8.11 Method for assessment of high-speed craft

(1) A high-speed craft must be assessed in accordance with the *HSC Code,* for the purposes of rule 3B: C8.11.

(2) As part of the assessment under subclause (1), a surveyor must determine whether the design and construction of, and equipment on, the craft complies with the *HSC Code, Annexes 6* and *7.*

8.12 Method for assessment of inflatable boats

An inflatable boat must be assessed in accordance with *ISO 6185,* for the purposes of rule 3B: C8.12.

Section 9 Drainage requirements

9.1 Application of requirements for rapid drainage and water-freeing arrangements

This Section specifies requirements for rapid drainage and water-freeing arrangements, for the purposes of Part 3B: Subpart C, Section 9.

9.2 Rapid drainage and water-freeing arrangements

(1) For the purposes of rule 3B: C9.3, the drainage of a recess or deck must be demonstrated by, as applicable,—

(a) if a recess has a volume greater than the product of LOA, multiplied by maximum beam, multiplied by minimum freeboard, divided by 40 cubic metres, the rapid drainage requirements in subclauses (2) to (7); or

(b) the freeing arrangements requirements in subclause (8).

Rapid drainage

(2) The combined cross-sectional area of all scuppers must be at least 700 square millimetres per square metre of recess sole.

(3) The recess must self-drain from a swamped condition with the ship upright and at its deepest draft within—

(a) 2 minutes for a ship of less than 12 metres in LOA; or

(b) 3 minutes for a ship of 12 metres to less than 24 metres in LLL.

(4) All recesses to which subclause (3) applies must drain within the time specified, with no greater than 100 millimetres of residual water remaining.

(5) At least 2 drains must be fitted to the recess, with a minimum diameter of 25 millimetres (1 port and 1 starboard).

(6) A drain with other cross-sectional shapes must have an internal cross-sectional area of at least 500 square millimetres and an internal minimum dimension of 20 millimetres.

(7) For the purposes of rule 3B: C9.2, as an alternative to self-drainage, a high complexity open ship may comply with subclauses (2) to (6) using—

(a) bilge pumps able to withstand a swamp event; or

(b) gravity and forward motion; or

(c) a combination of paragraphs (a) and (b).

Freeing arrangements

(8) Freeing arrangements must be calculated as follows:

(a) for a ship of less than 12 metres in LOA, the minimum freeing port area must comply with paragraph (b) or—

(i) the total minimum freeing port area must be at least 100 square centimetres for every cubic metre of water that may be entrapped within bulwarks or wells; and

(ii) there must be at least 2 ports fitted (1 port and 1 starboard) and the ports may only be fitted in the transom (1 port and 1 starboard) where, under all foreseeable conditions, water will drain when the ship is at rest; or

(b) for a ship of 12 metres or more in LOA—

(i) the minimum freeing port area on each side of the ship must not be less than the area (A) determined under the following equation: and

(ii) the area (A) may include openings cut in the transom; and

$$A = \frac{(1 + 3.5h) \times mh}{100}$$

Where:

$A =$ minimum freeing port area on each side of the ship in square metres

$m =$ length of well in metres

$h =$ height of bulwark in metres

(iii) freeing ports must be situated in the lower third of the bulwark height, as close to the deck as practicable:

(c) a freeing port greater than 230 millimetres in depth must be fitted with bars spaced no more than 230 millimetres apart:

(d) the minimum freeing port area for each well on an open weather deck above the freeboard deck must be not less than one half of the area (A):

(e) if a ship has only a small side deck area in which water can be trapped, it may have a smaller freeing port area, provided that the volume of water that may become trapped in the side deck areas will not adversely affect the ship's stability:

(f) the total freeing port area can be up to 10 percent of the total bulwark area:

(g) a means for back flooding protection must be provided by way of freeing ports where water on deck would adversely impact stability or where sea water and sea spray on deck could create a hazard to persons on board:

(h) when a shutter or flap is fitted to a freeing port, any hinges must have corrosion-resistant pins or bearings of materials and flaps must open outward to at least 90 degrees to the vertical plane of the bulwark.

Section 10 Freeboard Assignment

10.1 Application of requirements for freeboard

This Section specifies requirements for freeboard on a ship for the purposes of Part 3B: Subpart C, Section 10.

10.2 Freeboard

Low complexity ships

(1) For the purposes of rule 3B: C10.3(1), the minimum freeboard on a low complexity ship must be assigned in accordance with the greatest of—

(a) that derived from the stability assessment or the scantling draught; or

(b) the measurement in subclause (2).

(2) A low complexity ship must be assigned with minimum freeboard that is—

(a) measured as the distance between the maximum loaded waterline and the lowest point of the deck or gunwale; and

(b) subject to subclause (5), calculated according to the length and operating area of the ship and whether it is open or decked, as specified in Table 10.1.

Table 10.1 **Minimum freeboard for low complexity ships**

	Decked ship (operating area)		Open ship (operating area)	
	Minimum freeboard to deck, other than in enclosed water limits only	Minimum freeboard to deck in enclosed water limits	Minimum freeboard to gunwale, other than in enclosed water limits only	Minimum freeboard to gunwale in enclosed water limits
LOA <= 6 metres	150 mm	150 mm	400 mm	200 mm
12 m LOA	250 mm	150 mm	600 mm	300 mm
24 m LLL	300 mm	150 mm	800 mm	375 mm
For a ship of intermediate length, the minimum freeboard must be determined by linear interpolation. The lengths provided in the table are for calculation purposes – a ship of 24 m LLL or more is a high complexity ship.				

High complexity ships

(3) For the purposes of rule 3B: C10.3(2), the minimum freeboard on a high complexity ship must be assigned in accordance with the greatest of—

(a) that derived from the stability assessment, or scantling draught; or

(b) the measurement in subclause (4); or

(c) the measurement in subclause (5) if it is a collared ship.

(4) In all cases, freeboard to the deck or gunwale for a high complexity ship must be at least 250 millimetres, and the ship must have a reserve buoyancy greater than 10 percent below the freeboard deck or gunwale.

Collared Ships

(5) For a collared ship, the minimum freeboard must be at least—

(a) 300 millimetres, or half the tube diameter if less, measured from the upper surface of the buoyancy tubes; and

(b) 250 millimetres at the lowest part of the transom.

(6) When operating within enclosed water limits only, if a collared ship does not comply with subclause (5)(b), it must—

(a) be self-draining when moving ahead; and

(b) have a substantial buoyancy reserve greater than 10 percent.

(7) A collared ship that proceeds beyond restricted limits must have decking and a cabin or other rigid cover that—

(a) is weathertight and designed to shed water overboard; and

(b) extends more than a third of the length of the hull from the bow.

Section 11 Freeboard marks and draught marks

11.1 Application of requirements for freeboard mark and draught mark

This Section specifies requirements for the freeboard mark and draught mark on a high complexity ship for the purposes of Part 3B: Subpart C, Section 11.

11.2 Freeboard marks

A high complexity ship must have—

(a) the assigned minimum freeboard clearly marked on each side of the ship in accordance with Part 3B: Subpart C, Section 11 and Appendix 8; or

(b) a diagram, picture, photo, or written placard displayed prominently in the operating compartment of the ship, if marking is not practical or is not visible on the hull.

11.3 Draught marks

The draught marks on a ship must comply with the following specifications:

(a) the marks must be in Arabic numerals at least 100 millimetres high and spaced 200 millimetres vertically:

(b) the lower line of the numerals must coincide with the draught shown:

(c) all numerals must be welded, cut in, or otherwise permanently affixed and painted in a contrasting colour to the background:

(d) an appropriate reference datum for the draught marks must be recorded in the stability booklet required in Section 7.

Section 12 Subdivision

12.1 Application of requirements for subdivision

This Section specifies requirements for subdivision on ships for the purposes of rule 3B: Subpart C, Section 12.

12.2 Method for assessment of subdivision

(1) An offshore supply ship of 24 metres or more in LLL must comply with the subdivision requirements specified in the *Guidelines for the design and construction of offshore supply vessels.*

(2) A ship that proceeds beyond the coastal limits and is of 35 metres or more in LOA must have the watertight bulkheads arranged so that the ship complies with the subdivision requirements specified in *Part B of Chapter II-1 of SOLAS*.

(3) A ship that proceeds beyond the coastal limits and is of less than 35 metres in LOA, or is certified to carry more than 50 passengers, must have its water bulkheads arranged in such a manner that, in the event of hull damage resulting in the free-flooding of any one compartment, the ship will not float at a waterline less than 75 millimetres below the freeboard deck at any point.

(4) For the purposes of the calculation required in subclause (3), the damage stability conditions and damage stability assessment referred to in Appendix 6 must be met.

Appendix 1

Stability assessment input parameters

The parameters below must be applied to all assessment methods.

A. Standard weights and deck loadings

(a) A surveyor must verify in every case that the standard weights below are applicable to the ship's use: Person = 80 kg crowding condition 4 person/m^2, position 1m above sole or 0.3m above seat. (This includes allowance of 7 kg for personal effects and clothing.)

(a) Diver = 80 kg + 35 kg (single dive tank) + 17 kg (second dive tank), crowding condition 3 person/m^2 (spare tank not included for crowding).

(b) Overnight personal effects = 15 kg/person overnight. (This is in addition to the personal effects allowance in the standard person weight.)

Greater loads must be applied where actual application requires it. Application of lesser loads may only be made if the specific operating scenario is documented and applied as a condition of the Certificate of Survey.

B. Person crowding moment

The person crowding moment must use the appropriate weights and deck loadings outlined in A. above.

C. Wind heeling moment

The wind heeling moment must be derived from the following equation:

$$M = 0.000102PAH\ (tonne\ metres)$$

Where:

$P =$ the gusting wind pressure in Pascals determined from Table C. 1 below

$A =$ is the projected area of ship above waterline in square metres

$H =$ is the vertical distance between centroid of A and that of lateral underwater area in metres

Table C.1 Wind gusts by operating area

Operating Limits	Wind Pressure
Offshore/Coastal	500 Pa
Restricted Coastal	450 Pa
Restricted Limits	350 Pa

D. Turning moment

1. The heeling moment due to turning must be derived from the formula below when V/√L is less than 4, subject to clause (2).

$$\frac{0.0053V^2\Delta d}{L}\ \text{(tonnes metres)}$$

Where:

$V =$ the service speed in knots

$L =$ the waterline length of the ship in metres

$\Delta =$ displacement in tonnes

$d =$ the vertical distance between the centre of gravity of the ship and centroid of lateral underwater area of the ship in metres

2. For a ship with a planing hull, the speed must reflect the ship speed when operating in displacement mode only.

E. Permanent solid ballast

When a ship is fitted with permanent solid ballast in order to comply with this Part—

(a) the ballast must be placed and secured to the satisfaction of a surveyor; and

(b) the ballast must not be made of a material that may adversely affect the adjacent ship structure; and

(c) a record of the ballast's weight, location, and nature must be documented in the ship's stability information as required by Section 7.

F. Flotation material requirements

A surveyor may allow the use of low-density foam or another medium to provide buoyancy in void spaces, provided it is—

(a) impervious to water absorption; and

(b) structurally stable under service conditions; and

(c) chemically inert in relation to the structural materials and other mediums with which it may be in contact; and

(d) properly secured in place; and

(e) easily removable for inspection of the void space.

Appendix 2

Stability assessment test conditions

A. Test conditions applicable for low complexity ships

1. Tests or calculations for a low complexity ship must be conducted with all equipment, fuel, water, stores, cargo, activity-related equipment (e.g. diving equipment), and the total number of persons for which it is to be certificated, on board.
2. The engine, equipment, cargo, and persons may be replaced by an equivalent mass with a density not more favourable than the actual intended fit-out.
3. The tested configuration must correspond to the minimum freeboard assigned. Additional load must be added at rational simulated positions if the full complement of fuel, water, stores, and persons does not correspond to the assigned freeboard.
4. For these tests, cargo and persons, or equivalent alternative mass, must be with tanks full, and at the worst anticipated condition, if not full, taking into account VCG and free surface effects. If the worst-case condition is not evident, multiple scenarios must be tested. Stores, equipment, persons, and cargo must all be placed or simulated on board.
5. When a wind heeling lever must be applied, the heeling moment will be—
   (a) calculated in accordance with Appendix 1; and
   (b) applied by placing a mass on deck, at the longitudinal position of the centre of profile area, offset from the centreline to replicate the heeling moment. (To avoid artificially increasing VCG or loaded displacement, use equipment or cargo as the heeling mass, where possible.)
6. Cargo, stores, and equipment must be positioned and retained in their normal stowed position.
7. Each scenario must be recorded and reported by a surveyor.

B. Test conditions applicable for high complexity ships

1. Lightship weight and LCG must be determined by conducting freeboard measurements and a lightship survey.[2]
2. VCG must be determined by inclining experiment, except for a sister ship or series production ship that meets the applicable criteria for a sister ship and a series production ship in accordance with rule 3B: C1.2.[3]
3. Lightship weight may include a margin for growth, typically 5 percent of the lightship weight, positioned at the LCG and vertical centre of the weather deck amidships or the lightship VCG, whichever is higher. A growth margin must not be used to increase maximum cargo carrying capacity.
4. The righting lever curve must be produced for multiple operating scenarios, including at least the following:
   (a) loaded departure with 100 percent consumables:
   (b) loaded arrival with 10 percent consumables:
   (c) light condition departure with 100 percent consumables:
   (d) light condition arrival with 10 percent consumables:
   (e) any other condition considered by a surveyor to be less favourable such as the location of loaded consumables are in an unusal position due to the design of the ship.

[2] For reference, the NSCV C6C Annex A provides methods for conducting a lightship measurement.

[3] For reference, the NSCV C6C Annex A provides methods for conducting an inclining experiment, along with further guidance in Annex B, Annex C and Annex D.

5. Maximum free surface moments must be included for all conditions.

6. A fishing ship must include additional specific load cases in accordance with Section 8.

C. Test conditions applicable for the residual stability assessment

Residual stability with any recesses swamped must be assessed as follows:

(a) assume water is present on all decks and recesses that do not shed water directly overboard, including those with a maximum toe rail or low bulwark height:

(b) for determining appropriate drainage arrangements, use a minimum of 10 degrees of heel and 5 degrees of trim based on the expected operating conditions.

Appendix 3

Residual stability test

1. A ship complies with the residual stability requirements if its watertight recesses have a volume less than the product of LOA multiplied by maximum beam multiplied by minimum freeboard, divided by 40 cubic metres.

2. If a ship's watertight recesses have a volume greater than the product of LOA multiplied by maximum beam multiplied by minimum freeboard, divided by 40 cubic metres, the residual stability (with recesses swamped) must be determined in accordance with points 3 to 9.

3. The assumed quantity of water in the recesses must be calculated as follows:

$$\%\, full = 60 - (\frac{240\ F_m}{L})$$

Where

$\%full =$ percentage of total water capacity of recess

$F_m =$ minimum freeboard to top of recess in the fully loaded condition in metres

$L =$ Length overall of the ship in metres

4. Drainage must be considered ineffective for the residual stability assessment.

5. Heel must be artificially induced if heel would otherwise not naturally occur (i.e symmetrical recess about centreline).

6. For a low complexity ship, this test may be done by practical assessment or computational simulation.

7. For a high complexity ship, this test must be assessed by computational simulation, except for a ship of basic arrangement and fit-out, which may undergo practical assessment.

8. The test results must show that—

   (a) the ship's waterline is at least 75 millimetres below the weather deck or gunwale at any point, in the worst loading condition; and

   (b) the ship does not heel more than 7 degrees from upright at swamped equilibrium.

9. In addition to clause 8 of this Appendix, for a high complexity ship, the test results must show—

   (a) the maximum righting lever is at least 100 millimetres within the range of equilibrium angle to downflooding angle; and

   (b) the area under the righting lever curve is at least 0.015 metre-radians within the range of equilibrium angle to downflooding angle; and

   (c) the resulting righting lever curve has a range to the downflooding angle of at least 15 degrees beyond any angle of equilibrium.

Appendix 4

Stability criteria for high complexity ships

A high complexity ship must meet the stability criteria below.

1. The area under the righting lever curve must be at least—
   (a) 0.055 metre-radians up to 30 degree-angle of heel; and
   (b) 0.09 metre-radians up to a 40 degree-angle of heel, or the downflooding angle if this angle is less.
2. The area under the righting lever curve between the angles of heel of 30 degrees and 40 degrees, or between 30 degrees and the angle of flooding, if this angle is less than 40 degrees, must be at least 0.030 metre-radians.
3. The righting lever must have a value of at least 0.2 metres at an angle of heel of 30 degrees or more.
4. Except as provided in clause 5, the maximum GZ must occur at an angle of heel of at least 25 degrees.
5. If the ship has a hull form that results in the maximum GZ occurring at an angle of heel less than 25 degrees but not less than 15 degrees, this may be accepted by a surveyor if the area under the GZ curve up to the angle (θm) at which the maximum GZ occurs is at least 0.055 + 0.001(30 - θm) metre-radians.
6. After correcting for free surface effects, the initial metacentric height (GM0) must be at least 0.35 metres.
7. Heeling moment for person crowding, wind heeling, and heeling due to turning must be calculated as applicable in accordance with Appendix 1.
8. The angle of heel when any 1 of the heeling moments is applied must not exceed 10 degrees.
9. The angle of heel when the worst 2 heeling moments are applied must not exceed 15 degrees.
10. The righting lever (GZ), at the intersection of the righting lever curve and the heeling lever curve must not exceed 0.6GZ maximum. The heeling lever curve is to be determined from the combined effects of the passenger crowding moment and the more severe of either the wind heeling moment or the rudder heeling moment.
11. The area under the righting lever curve above the crowding heeling lever curve taken up to the downflooding angle (θd) or the second intercept with the crowding heeling lever curve, whichever is less, must be at least one-quarter of the total area under the righting lever curve (GZ curve) up to the same limiting angle.

Appendix 5

Damage tests for ships with inflatable collars or rigid air chambers

The following tests apply to a ship described in rule 3B: C5.1.

1. The tests must be conducted or directly supervised by a surveyor and performed on a ship while it is floating in still water.

Input parameters

2. As outlined in Appendix 1, as applicable.

Damage test conditions

3. The damage test conditions are as follows:

   (a) if the ship has an inflatable collar, the forward buoyancy compartment is deflated (on both sides, if appropriate):

   (b) the entire buoyancy compartment, from the centreline at the stem to the transom, on 1 side of the inflatable boat or rigid inflatable boat must be deflated:

   (c) if buoyancy is provided by rigid air chambers, the 2 largest rigid air chambers must be flooded and considered ineffective:

   (d) the test conditions in Appendix 2.

Low complexity ships

4. For a low complexity ship for each condition of simulated damage, the number of persons that the ship is certified to carry must be supported within the ship and out of the water.

High complexity ships

5. For a high complexity ship, the test outcomes must meet the following criteria:

   (a) any angle of equilibrium must not exceed 7 degrees from the upright:

   (b) the resulting righting lever curve must have a range to the downflooding angle of at least 15 degrees beyond any angle of equilibrium:

   (c) the maximum righting lever within the range must be at least 100 millimetres:

   (d) the area under the curve must be at least 0.015 metre-radians.

Appendix 6

Damage stability criteria

Note: The proposed criteria are similar to the current requirements with some additional criteria from section 11.2.2 of the MCA Workboat Code (Option 1). It is also suggested that section 11.2.3 from the MCA Workboat Code be included in the new rules as an alternative for multihulls (Option 2). It is proposed that requirements for collision bulkhead and machinery space bulkheads remain as per subdivision requirements of 40A.12 (1)-(6).

A surveyor may assess damage stability using either Option 1 or Option 2. Multihull craft may use the damage stability assessment in accordance with the requirements specified in the *HSC Code, Annex 7*.

B. Option 1

Note: This option considers minor hull damage scenarios with limited equilibrium trim and heel angles after damage. It has historically been used by monohulls and some catamarans.

Damage conditions

1. For calculating damaged equilibrium—

   (a) hull damage must be assumed to occur at any length of the ship, but not on a watertight bulkhead; and

   (a) the permeabilities specified in Table A.1 must be used in any waterline calculation.

2. The extent of assumed damage must be the following:

   (a) 90 percent of the length between watertight bulkheads:

   (b) for a monohull ship, transverse penetration of 20 percent of the ship's breadth, but not more than 5 metres:

   (c) for a multihull ship, transverse penetration up to the ship's centreline, except that a catamaran need only be considered to have damaged the full extent of 1 hull, provided the 2 hulls are totally independent and there are no cross connections that, if damaged, would flood the other hull and wet deck compartment:

   (d) for the full depth of the ship, excluding any double bottom, if fitted.

Table A.1 Permeability

Spaces	Permeability
Cargo, stores	60
Accommodation for passengers and crew	95
Machinery	85
Liquids	0 or 95 (whichever results in the more severe requirement)
Void spaces	95 (0 if clause 3(a) and 4(a) in the section related to foam buoyancy material apply)
For cargo vehicles	90

Foam buoyancy material

3. A surveyor may accept the use of low-density foam or another medium to provide buoyancy in void spaces, provided it is—

   (a) impervious to water absorption; and

   (b) structurally stable under service conditions; and

(c) chemically inert in relation to the structural materials and other mediums with which it may be in contact; and

(d) properly secured in place; and

(e) easily removable for inspection of the void space.

Damage stability assessment

4. A ship must have its watertight bulkheads arranged so that hull damage that results in the free flooding of any one compartment will not cause the ship to float at an equilibrium where—

(a) the freeboard deck at any point is less than 75 millimetres above the waterline; and

(b) the angle of deck inclination does not exceed 7 degrees from the upright for monohulls; and

(c) the angle of deck inclination does not exceed 15 degrees from the upright for multihulls; and

(d) the resulting righting lever curve has a range to the downflooding angle of at least 15 degrees beyond any angle of equilibrium; and

(e) the maximum righting lever within the range is at least 100 millimetres, and

(f) the area under the righting lever curve is at least 0.015 metre-radians.

C. Option 2

Note: This option covers damage scenarios for minimum length single compartments with more onerous residual stability, combined with increased allowable equilibrium angles after damage. This option has been developed to address particular stability issues raised by low waterplane area vessels, such as catamarans, with deep hulls which typically have large intact freeboards.

Damage conditions

1. A ship's damaged stability must be calculated with any one compartment flooded, and the extent of damage must be determined as follows:

(a) consider a damage length of 10 percent in the calculations so that—

(i) if the distance between 2 transverse watertight bulkheads is less than the damage length, 1 or more bulkheads must be disregarded in the damage stability calculations, ensuring that the compartment length considered is equal to or greater than the damage length; and

(ii) the damage length is not required to be applied within the forepeak and aft peak compartments:

(b) the transverse extent of damage must be up to and including the centreline of the ship, taking into account that—

(i) a catamaran need only be considered to have damaged the full extent of 1 hull, provided the 2 hulls are totally independent and there are not cross connections that, if damaged, would flood the other hull and wet deck compartment; and

(ii) a trimaran must be considered to have damaged wing, and centre compartments up to the centreline of the ship.

(c) the vertical extent of damage must be taken for the full vertical extent of the ship; and

(d) the shape of the damage must be assumed to be a rectangular block; and

(e) watertight compartments aft of the transom that do not form part of the hull length and do not extend below the design waterline (such as overhangs and appendages) do not need to be considered in the damaged length assessment.

2. If any damage of lesser extent than that required in clause 1 would result in a more critical condition, that damage must be assumed.

3. Any weathertight doors or openings leading from undamaged spaces that are normally occupied at sea to the weather deck must be considered downflooding points for the damage stability calculation.

4. A damage scenario that includes damage to all the forward compartments of each hull of a multihull within 5 percent of the LOA from the forward extremity of the watertight hull, measured on the ship centreline, must be assessed to ensure it does not result in a more severe damaged stability condition.

Damage Stability Assessment

5. In the damaged condition, the residual stability and damaged waterline must be such that—

   (a) the angle of equilibrium (combined heel and trim) does not exceed 15 degrees from upright, and sufficient non-slip deck surfaces and suitable holding points, including (but not limited to) rails and grab bars, are provided along escape routes and for accessing escape routes; and

   (b) the resulting righting lever curve has a range to the downflooding angle of at least 20 degrees beyond the angle of equilibrium; and

   (c) the maximum righting lever within that range is at least 200 millimetres; and

   (d) the area under the righting lever curve is at least 0.045 metre-radians; and

   (e) the final equilibrium waterline is below the lowest point of any opening not closed by a weathertight closure, including (but not limited to) air pipes, hatch covers, doors, and any other weathertight closure; and

   (f) this damage does not cause the ship to float at a waterline less than 75 millimetres from the weatherdeck, which may be reduced by a surveyor, if all of the following conditions are met:

      (i) the immersed portion of the weather deck is not a life-saving appliance storage area:

      (ii) it is not part of an assembly station, evacuation point, or evacuation route:

      (iii) no more than 10 percent of the LOA of the deck edge on the damaged side is immersed in the process, and the negative freeboard measured from the deck edge is limited to a maximum of 300 millimetres.

Appendix 7

Format for stability statement, stability compliance report, and stability booklet

A. Stability statement

A stability statement must provide concise, practical, and easily understood advice relevant to the stability, buoyancy and drainage of a low complexity ship. This must be posted in the operating compartment of the ship for the benefit of the operator, surveyor, or other persons responsible for the safety of the ship. It must be in a form set out in *NSCV, Part C6C, Annex J3.*

B. Stability compliance report

A stability compliance report must document a low complexity ship's compliance with the relevant requirements of Part 3B and this MTI. This report is intended for reference by the operator, surveyor or other persons responsible for the ship's safety. It must be in a form set out in *NSCV, Part C6C, Annex M3* and *Annex E8,* as applicable.

C. Stability booklet

A stability booklet must be provided for a high complexity ship in a form set out in 1 of the following:

(a) the *MCA Workboat Code edition 3, Appendix 3*; or

(b) *NSCV, Part C6C, Annex F.*

Appendix 8

Freeboard Marking

Specifications of freeboard mark

The freeboard mark must be—

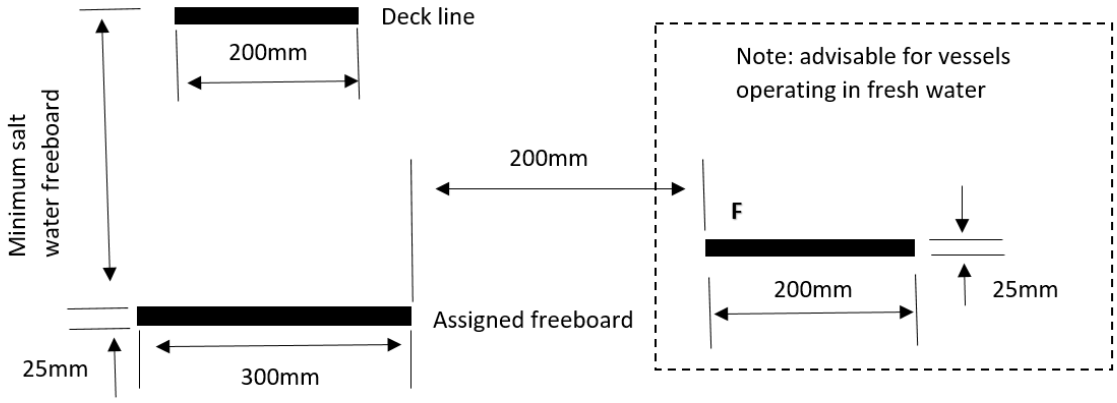
(a) in a contrasting colour to the hull; and

(b) compliant with the dimensions and other specifications of Figure 1, as applicable to the ship; and

(c) on each side of the ship at the longitudinal centre of flotation of the deepest waterline; and

(d) derived in accordance with the minimum assigned freeboard determined under Section 10.

Figure 1 Freeboard mark for ships less than 24 m in LLL



Notes to Figure 1
1. Permanent marking on steel or aluminium ships is normally by welding of pre-cut components, cutting-in or centre punching.
2. Permanent marking on wooden ships is normally by cutting-in to a depth of 2 mm or more into the planking.
3. Permanent marking on fibre-reinforced plastic ships can be achieved by permanently gluing with structural adhesive pre-glassed coremat or 2 mm thick fibre-reinforced plastic markings.
4. Marking of the deck line is optional.

Appendix 9

Codes of practice and official standards

Guidelines for the design and construction of offshore supply vessels means—

Guidelines for the design and construction of offshore supply vessels, 2006 - Part 3 adopted by the IMO (resolution MSC.235(82)).

HSC Code means *International Code of Safety for High-Speed Craft*, 2000 adopted by IMO Resolution MSC.97(73) in the following:

HSC Code - Annex 6 Stability of hydrofoil craft

HSC Code - Annex 7 Stability of multihull craft

IMO *means International Maritime Organization*

IS Code means *International Code on Intact Stability, 2008,* in the following:

IS Code Part A, Chapter 2.3 or Part B, Chapter 2.1.4 and 2.8 *(resolution MSC.267(85))*

ISO means *International Organization for Standardization*, in the following:

ISO 6185 – 1:2001 Small craft — Stability and buoyancy assessment and categorization — Part 1: Non-sailing boats of hull length greater than or equal to 6 m

ISO 6185 – 2:2001 Inflatable boats, Boats with a maximum motor power rating of 4,5 kW to 15 kW inclusive

ISO 6185 – 3:2024 Inflatable boats, Boats with a length of the hull less than 8 m with a motor power rating of 15 kW and greater

ISO 6185 – 4:2011 Inflatable boats, Boats with a hull length of between 8 m and 24 m with a motor power rating of 15 kW and greater

ISO 12217 – 1:2022 Small craft — Stability and buoyancy assessment and categorization – Part 1: Non-sailing boats of hull length greater than or equal to 6 m

ISO 12217 – 2:2022 Small craft — Stability and buoyancy assessment and categorization –

ISO 12217 – 3:2022 Small craft — Stability and buoyancy assessment and categorization – Part 3: Boats of hull length less than 6 m

NSCV means *National Standard for Commercial Vessels*, in the following:

NSCV, Part C, *Section C6*, *Subsection C6A 6.7* calculated in accordance with *NSCV C6A Annex G*

NSCV, Part C, *Section C6*, *Subsection C6B*, *Annex C* and *Annex D*

NSCV, Part C, Section C6, Table F.4

NSCV, Part C6C, Annex J3

NSCV, Part C6C, Annex M3 and *Annex E8*

NSCV, Part C6C, Annex F

Uniform Shipping Laws Code means *Australian Transport Advisory Council Uniform Shipping Laws Code in the following—*

Australian Transport Advisory Council Uniform Shipping Laws Code, *Section 8, Subsection C*

Workboat Code means *UK Maritime and Coastguard Agency (MCA) Workboat Code* in the following:

MCA Workboat Code, Edition 3, Appendix 3

SOLAS means the *International Convention for the Safety of Life at Sea, 1974* in the following:

Part B of *Chapter II-1* of *SOLAS*