

Isle of Man Ship Registry Manx Shipping Notice



Load Lines Convention

Ref. MSN 073
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Introduction

The latest version of the Isle of Man Ship Registry's Load Lines Regulations entered into force on 18th December 2020 and gives effect to the International Convention on Load Lines 1966 (Load Lines Convention).

The principal aim of the Load Lines Convention is to reduce the risk of ships sinking due to overloading, instability and breach of watertight integrity. There are also provisions for the survey, certification and inspection of ships for the purpose of ascertaining compliance with the Convention. The original Load Lines Convention entered into force on 21st July 1968, and was modified by the 1988 Protocol. The 1988 Protocol harmonised the survey requirements with the surveys carried out under the SOLAS and MARPOL Conventions. The Load Lines Convention has been amended several times since; a full list of the amendments is stated in Section 6 of this MSN.

The Load Lines Convention comprises of Articles and Annexes. The Articles are the principles and rules of the Convention, whereas the Annexes contain the regulations for determining load lines, state the zones, areas and seasonal periods and specify the format of the certification. The Articles and Annexes are explained further in Sections 1 & 2 of this MSN.

The Load Lines Convention requires the ship's Flag Administration to determine how certain requirements must be implemented. These areas have been highlighted in Section 5 of this MSN. Most of the highlighted areas are determined prior to or during the ship's construction and this work has been delegated to an IoM Recognised Organisation (refer to [MSN 020](#)).

The Load Lines Convention only applies to ships of either 24m or above or 150gt or above depending on the ship's keel laying date on international voyages. For IoM registered vessels to which the Convention does not apply, the requirements for load lines are set out in Section 3 of MSN. These requirements do not apply to; fishing vessels, pleasure vessels and vessels registered with the IoM Harbours Authorities.



Section 1

Load Lines Convention - Articles

The Load Lines Convention contains a series of Articles which form the underlying requirements of the Convention. The Articles explain which ships the Convention applies to and includes the main requirements, such as exceptions, equivalents and the survey and certification regime.

The Articles contain the requirements for ships and there are also specific requirements for the Contracting Government (either flag or port State responsibilities).

The Articles are applied as follows:

- Articles 1, 3, 4, 5, 6, 8, 9, 10, 13, 18, 21 and 23 - further information has been provided in the text below;
- Articles 2, 7, 11, 12, 14, 15 and 22 - the Convention text applies, as applicable to the individual ship; and
- Articles 16, 17, 19, 20, 24 to 34 are specific requirements for the Contracting Government.

Some of the Articles require further clarification on how the IoM intends to implement the Article, this has been provided below; please be aware the full text of the Article has not been produced in this MSN.

Article 1 General obligation under the Convention

Company's responsibility and definition of 'Company' are stated in the IoM's Merchant Shipping (Load Lines) Regulations 2020.

Article 3 General provisions

A ship must not proceed to sea on an international voyage unless it has been surveyed, marked and provided with an International Load Line Certificate, or where appropriate, an International Load Line Exemption Certificate.

The IoM Ship Registry or a Recognised Organisation authorised by the Ship Registry may assign a greater freeboard to a ship than the minimum freeboard determined in accordance with Annex I of the Load Lines Convention.

Articles 4 & 5 Application and exceptions

The IoM Regulations apply the Load Lines Convention as modified by the 1988 Protocol up to and including the most recent amendment (see Section 7). This applies to all IoM registered ships engaged on international voyages, which:

- if constructed on or after 21 July 1968, is 24 metres or more in length; or
- if constructed before 21 July 1968, is 150gt or more.

The Regulations do not apply to a Manx or foreign ships which are:

- Pleasure vessels;
- Fishing vessels;
- Ship of wars; or
- Ships solely navigating the:



- the Great Lakes of North America and the River St. Lawrence as far east, as a rhumb line drawn from Cap des Rosiers to West Point, Anticosti Island, and, on the north side of Anticosti Island, the meridian of longitude 63°W;
- the Caspian Sea;
- the Plate, Parana and Uruguay Rivers as far east as a rhumb line drawn between Punta Rasa (Cabo San Antonio), Argentina, and Punta del Este, Uruguay

Commercial yachts which comply with the Large Commercial Yacht Code will not have to comply with the requirements of the Regulations. This is because the Large Commercial Yacht Code is an equivalent to the Load Lines Convention.

Article 6 & 8 Exemptions & equivalents

Exemptions and equivalents will only be issued by the IoM Ship Registry in accordance with Article 6 and Article 8 of the Convention.

An exemption or equivalent is only valid if it is in writing and if any conditions stated in it are complied with.

Article 9 Approvals for experimental purposes

The IoM Ship Registry may make specific approvals for experimental purposes for a ship to which the Convention applies.

Article 10 Repairs, alterations and modifications

Repairs, alterations and modifications of a major character and outfitting must meet the requirements for a new ship in so far as the IoM Ship Registry, or Recognised Organisation deems reasonable and practicable.

Article 13 Survey, inspection and marking

The IoM Ship Registry has delegated the surveys and markings required by the Convention to Recognised Organisations stated in [MSN 020](#).

Article 16 Issue of certificates

The IoM Ship Registry has delegated the issue of the International Load Line Certificate to Recognised Organisations stated in [MSN 020](#).

An International Load Line Exemption Certificate will only be issued by the Ship Registry.

Article 18 Form of certificates

The certificates shall be drawn up in the form corresponding to the models given in Annex III to the Convention. The language used on the certificates must be in English.

Article 21 Control

Refer to Section 6 Foreign ships

Article 23 Casualties

The Convention requires the IoM Ship Registry to undertake an investigation into any casualty occurring to an IoM registered ship. This requirement is already included in the Isle of Man's Merchant Shipping (Accident Reporting and Investigation) Regulations 2001.



Section 2
Load Lines Convention Annex I
Regulations for determining load lines

Application to IoM registered ships

Annex I of the Load Lines Convention contains the Convention's technical requirements. This Annex is divided into four Chapters:

- Chapter I – General;
- Chapter II – Conditions of assignment of freeboard;
- Chapter III – Freeboards; and
- Chapter IV – Special requirements for ships assigned timber freeboards.

The requirements stated in Annex I vary depending on when the ship's keel was laid. There are several significant keel laying dates stated in the Convention which are highlighted in the table below.

Please be aware the table is only a summary and the text of the Load Lines Convention should be referred to for the full requirement.

Table of ship's keel laid dates as applicable to Annex I of the Load Lines Convention

pre 21/07/1968	≥21/07/1968	≥01/07/2005	≥01/07/2010
Ships of 150GT or over with a keel laid prior to 21 July 1968.	Ships of 24metres or over with a keel laid on/after 21 July 1968.	Ships of 24metres or over with a keel laid on or after 01 January 2005.	Ships of 24metres or over constructed on or after 01 July 2010.
Must either fully comply with Annex I of the Load Lines Convention. Or, the requirements applicable to ships engaged on International voyages prior to 21st July 1968, for IoM ships this is the MS Loadline Act 1935. If a ship requires a reduction in freeboard they must comply with Annex I.	Must comply with the requirements of Annex I of the Load Lines 1966 Convention up to and including Resolution A.784(19), in relation to a ship of its description.	Must comply with the revised version of Annex I of the Load Lines Convention which was adopted by MSC.143(77).	Must comply with the revised version of Annex I of the Load Lines Convention which was adopted by MSC.143(77). Must also comply with Part A of the Intact Stability Code which was adopted by MSC.270(85), as amended by Resolution MSC.444(99).

Refer to Section 5 for a list of Isle of Man interpretations on Annex I of the Load Lines Convention.



Section 3

Load Lines requirements for non-Convention Manx ships

The Load Lines Convention only applies to larger ships (of either 24m or above or 150gt or above depending on the ship's keel laying date) on international voyages. However in order to provide a regulatory regime for commercial vessels to which the Load Lines Convention does not apply, the IoM's Regulations require these ships to comply with the Load lines Convention as if the Convention did apply to them. In order to apply the Convention practically, an exemption clause has been included in the Regulations, so a ship may be exempt from any or all of the requirements of the Convention under certain conditions.

A non-Convention Manx ship is a commercial vessel is:

- Constructed on or after 21 July 1986 and
 - i. under 24m on any voyage; or
 - ii. 24m or over on a domestic voyage.

Or

- Constructed before 21 July 1968, and
 - i. under 150gt on any voyage; or
 - ii. 150gt or over on a domestic voyage.

The following ships are excluded from the Regulations; fishing vessels, pleasure vessels and commercial craft registered with the IoM Ports Division.

A non-Convention Manx ship must comply with the requirements of the Load Lines Convention and following a successful Load Lines survey, the ship will be issued with a Manx Load Lines Certificate or Manx Load Lines Exemption Certificate.

Manx Load Lines Exemption Certificate

The Ship Registry may grant an exemption from any or all of the provisions of the Load Lines Convention to a non-Convention ship. If a Manx Load Line Exemption Certificate is issued the ship must comply with any conditions stated on the certificate.

An example of when a Manx Load Lines Exemption Certificate may be issued is when a commercial vessel of less than 24 metres, which intends to operate around the IoM's coast, is unable to meet all of the conditions stated in the Convention due to her age and build. The Ship Registry may issue an exemption certificate on condition that the vessel only operates within a certain distance from shore in favourable weather conditions.

Prohibition on going to sea

A non-Convention Manx ship must not proceed to sea unless it has been surveyed, marked and provided with a Manx Load line Certificate or, where appropriate, a Manx Load Line Exemption Certificate.



Section 4

IACS interpretations and notification of draughts

1. IACS interpretations

The IoM Ship Registry will accept the series of Unified Interpretations (UIs) which have been developed in order to add clarification to the provisions of the Load Lines Convention. The UIs are available on the International Association of Classification Societies website – follow the link below:

<http://www.iacs.org.uk/publications/unified-interpretations/ui-ii/>

2. Displaying the Notification of Draughts

The Isle of Man's previous Load Lines Regulations required a notice to be posted in a conspicuous place on board the ship containing particulars relating to the depth to which the ship is loaded. This provision has not been included in the IoM's 2020 Load Lines Regulations. The reason for not including this requirement is because it has been superseded by modern stability requirements which must be calculated prior to the ship sailing. In addition the draught of water and freeboard is required to be included in the ship's Official Log Book prior to the ship departing to sea.



Section 5

Interpretations required by the Load Lines Convention

Load Lines Annex I Reg	Summary of the Load Lines Annex I Regulations	IOM Ship Registry's requirements
<p>Annex B, Annex I Regulations for determining load lines Chapter 1 General</p>		
Reg 1	<p><u>Strength and intact stability of ships</u></p> <p>(1) The Administration shall satisfy itself that the general structural strength of the ship is adequate for the draught corresponding to the freeboard assigned.</p> <p>(3)(a) Ships constructed before 1 July 2010 shall comply with an intact stability standard acceptable to the Administration.</p> <p>(b) Ships constructed on or after 1 July 2010 shall, as a minimum, comply with the requirements of part A of the 2008 IS Code.</p>	<p>(1) Determined by the Recognised Organisation (RO) (stated in MSN 020) in accordance with the SOLAS II-I requirements.</p> <p>(3)(a) The intact stability standard prior to 01 July 2010 was IMO Resolution A.749(18) entitled "Code on Intact Stability for All Types of Ships Covered by IMO Instruments", as amended by resolution MSC.75(69).</p> <p>However this is only a recommendation and is not mandatory.</p>
Reg 2	<p><u>Application</u></p> <p>(3) Ships designed to carry sail, whether as the sole means of propulsion or as a supplementary means, and tugs, shall be assigned freeboards in accordance with the provisions of regulations 1 to 40, inclusive. Additional freeboard may be required as determined by the Administration.</p> <p>(4) Ships of wood or of composite construction, or of other materials the use of which the Administration has approved, or ships whose constructional features are such as to render the application of the provisions of this Annex unreasonable or impracticable, shall be assigned freeboards as determined by the Administration.</p>	<p>(3) & (4) Determined by the RO at the design stage on a case-by-case basis to ensure an equivalent level of safety.</p>



	(5) Regulations 10 to 26 inclusive shall apply to every ship to which a minimum freeboard is assigned. Relaxations from these requirements may be granted to a ship to which a greater than minimum freeboard is assigned, on condition that the Administration is satisfied with the safety conditions provided.	(5) Determined by the RO at the design stage, taking into account IACS UI LL.51 Rev 2 Freeboards greater than minimum.
Reg 03	<u>Lower deck as a freeboard deck</u> (9) At the option of the owner and subject to the approval of the Administration, a lower deck may be designated as the freeboard deck provided it is a complete and permanent deck continuous in a fore and aft direction at least between the machinery space and peak bulkheads and continuous athwartships.	(9) Determined by the RO at the design stage to ensure an equivalent level of safety. This should be clearly described on the Record of Conditions of Assignment International Load Lines Certificate.
Reg 8	This Regulation requires ships to be "permanently marked on the sides of the ships to the satisfaction of the Admin."	Refer to UI LL4 Rev.1 "Permanently marked" is considered to include welding of the marks on the sides of the ship provided the usual precautions as to material, electrodes, etc. are observed.
Chapter II Conditions of Assignment of Freeboard		
Reg 10	(2) Information shall be provided to the master in a form that is approved by the Administration or a recognised organization. Stability information, and loading information also related to ship strength when required under paragraph (1), shall be carried on board at all times together with evidence that the information has been approved by the Administration.	(2) Guidance on the format of the stability information is stated in Section 8. Note – the information stated in Section 8 has been carried over from the original IoM Load lines Regulations published in 2000.
Reg 11	<u>Superstructure end bulkheads</u> 'bulkheads at exposed ends of enclosed superstructures shall be of an acceptable length of strength.'	Determined by the RO at the design stage on a case-by-case basis.
Reg 12	<u>Doors</u> (2) Unless otherwise permitted by the Administration, doors shall open outwards to provide additional security against the impact of the sea.	(2) Determined by the RO at the design stage on a case-by-case basis to ensure an equivalent level of safety. Taking into account guidance stated in IACS UI LL.5.



Reg 13	<p><u>Position of hatchways, doorways and ventilators</u></p> <p>For the purpose of these regulations, two positions of hatchways, doorways and ventilators are defined as follows: Position 1.....</p>	<p>Further information on the definition of Position 1 & Position 2 is stated in MSC.1/Circ.1535.</p>
Reg 14	<p><u>Cargo and other hatchways</u></p> <p>(1)The construction and means for securing the weathertightness of cargo and other hatchways in position 1 and 2 shall be at least equivalent to the requirements of Reg 16, unless the application of reg 15 to such hatchways is granted by the Administration.</p> <p>(2) Coamings and hatchway covers to exposed hatchways on decks above the superstructure deck shall comply with the requirements of the Administration.</p>	<p>(1)&(2)Determined by the RO at the design stage on a case-by-case basis to ensure an equivalent level of safety.</p>
Reg 14-1	<p><u>Hatchway coamings</u></p> <p>(2) In the case of hatchways which comply with Reg 16(2) through (5) the height of these coamings may be reduced, or the coamings omitted entirely, on condition that the Administration is satisfied that the safety of the ship is not thereby impaired in any sea conditions</p>	<p>The Ship Registry accepts a reduced coaming height or for the coaming to be omitted entirely, providing the following criteria has been met:</p> <ol style="list-style-type: none"> 1. the safety of the ship will not be impaired in the worst sea and weather conditions likely to be encountered by the ship in service; 2. when any coaming is fitted it shall be of substantial construction; 3. hatchways comply in full with the constructional requirements of Regulation 16 of the Convention; 4. arrangements must always be maintained as indicated in approved drawings; and 5. operational procedures including procedures for opening hatches at sea are to be documented and included in the vessels SMS and subject to documented risk assessment. <p>Please note, as this is permitted by the Load Lines Convention, there is no requirement for an exemption certificate to be issued.</p>



Reg 15	<p><u>Hatchways closed by portable covers and secured weathertight by tarpaulins and battening devices</u></p> <p>(7) The strength and stiffness of covers made of materials other than mild steel shall be equivalent to those of mild steel to the satisfaction of the Administration.</p>	<p>(7)Determined by the RO at the design stage on a case-by-case basis to ensure an equivalent level of safety.</p>
Reg 16	<p><u>Hatchways closed by weathertight covers of steel or other equivalent materials</u></p> <p>(1) All hatchways in position 1 & 2 shall be fitted with hatch covers of steel or other equivalent material. Except as provided in regulation 14(2), such covers shall be weathertight and fitted with gaskets and clamping devices. The means for securing and maintaining weathertightness shall be to the satisfaction of the Administration.</p> <p>(6) The means for securing and maintaining weathertightness by other means than gaskets and clamping shall be to the satisfaction of the Administration.</p>	<p>(1) & (6) are determined by the RO at the design stage, taking into account IACS LL6 and IACS recommendation 14</p>
Reg 17	<p><u>Machinery space openings</u></p> <p>(4) Where due to ship size and arrangement this is not practicable, lesser heights for machinery space and emergency generator room ventilator coaming, fitted with weathertight closing appliances in accordance with regulation 19(4), may be permitted by the Administration in combination with other suitable arrangements to ensure an uninterrupted, adequate supply of ventilation to these spaces.</p>	<p>(4)Determined by the RO at the designed stage on a case-by-case basis to ensure an equivalent level of safety.</p>
Reg 19	<p><u>Ventilators</u></p> <p>(3) Ventilators in position 1 the coaming of which extend to more than 4.5m above the deck, and in position 2 the coamings of which extend to more than 2.3m above the deck, need not be fitted with closing arrangements unless specifically required by the Administration.</p> <p>(5) In exposed locations, the height of coamings may be increased to the satisfaction of the Administration.</p>	<p>(3)&(5)Determined by the RO at the design stage to ensure an equivalent level of safety.</p>



Reg 20	<p><u>Air pipes</u></p> <p>(2) Where these heights may interfere with the working of the ship, a lower height may be approved, provided that the Administration is satisfied that the closing arrangements and other circumstances justify a lower height.</p>	<p>(2)Determined by the RO at the design stage, taking into account MSC.1/Circ.1534 regarding air pipes.</p>
Reg 21	<p><u>Cargo ports and other similar openings</u></p> <p>(1)Cargo ports and other similar openings in the sides of ships below the freeboard deck shall be fitted with doors so designed as to ensure the same watertightness and structural integrity as the surrounding shell plating. Unless otherwise granted by the Administration, these openings shall open outwards.</p> <p>(2) Unless otherwise permitted by the Administration, the lower edge of openings referred to in paragraph (1) shall not be below a line drawn parallel to the freeboard deck at side, which is at its lowest point at least 230mm above the uppermost edge of the uppermost load line.</p> <p>(5) Arrangements for bow doors and their inner doors, side doors and stern doors and their serring shall be in compliance with the requirements of a RO, or with the applicable national standards of the Admin which provide an equivalent level of safety.</p>	<p>(1)Determined by the RO at the design stage, taking into account IACS interpretation LL.21.</p> <p>(2)Determined by the RO at the design stage, taking into account IACS interpretation LL.49</p> <p>(5) Determined by the RO at the design stage, taking into account IACS UI SC220 Rev 1.</p>
Reg 22	<p><u>Scuppers inlets and discharges</u></p> <p>(6) All pipes to which this regulation refers shall be of steel or other equivalent material to the satisfaction of the Administration.</p>	<p>(6)Determined by the RO at the design stage on a case-by-case basis to ensure an equivalent level of safety.</p>
Reg 23	<p><u>Sidescuttles, windows and skylights</u></p> <p>(1) Sidescuttles and windows, together with their glasses, deadlights and storm covers, if fitted, shall be of an approved design and substantial construction.</p>	<p>(1)An approved design is BS ISO 1751:2012 Ships' side scuttles, or an equivalent national standard.</p>
Reg 25	<p><u>Protection of the crew</u></p> <p>(2) Guard rails or bulwarks shall be fitted around all exposed decks. The height of the bulwarks or guard rails shall be at least 1m from the deck</p>	<p>(2)Determined by the RO at the design stage on a case-by-case basis to ensure an equivalent level of safety.</p>



	provided that where this height would interfere with the normal operation of the ship, a lesser height may be approved. If the Administration is satisfied that adequate protection is provided.	
Chapter II Freeboards		
Reg 27	<p><u>Freeboards</u></p> <p>(6) Type B ships</p> <p>Freeboards at intermediate lengths of ship shall be obtained by linear interpolation. Ships above 200m in length shall be dealt with by the Administration.</p> <p>(13)(f)Condition of equilibrium – the Administration is satisfied that the stability is sufficient during intermediate stages of flooding.</p>	(6)Determined by the RO at the design stage on a case-by-case basis to ensure an equivalent level of safety.
Reg 28	<p><u>Freeboard tables</u></p> <p>Freeboard Tables in Regulation 28 bear an accompanying note to the effect that "Ships above 365 metres in length shall be dealt with by the Administration."</p>	Determined by the RO at the design stage on a case-by-case basis to ensure an equivalent level of safety.
Reg 39	<p><u>Minimum bow height and reserve buoyancy</u></p> <p>(3)Ships which, to suit exceptional operational requirements, cannot meet the requirements of paragraphs (1) and (2) of this regulation may be given special consideration by the Administration.</p>	(3)Determined by the RO at the design stage on a case-by-case basis to ensure an equivalent level of safety.
Chapter IV Special requirements for ships assigned timber freeboards		
Reg 44	<p><u>Stowage</u></p> <p>(6) Timber deck cargo shall be effectively secured throughout its length by a lashing system acceptable to the Administration for the character of the timber carried.</p> <p>(9) Where the requirements prescribed in paragraph (8) are impracticable, alternative arrangements satisfactory to the Administration shall be used.</p>	(6)IoM Ship Registry applies the Timber Deck Cargo Code. The latest version is Resolution A.1048(27) Code of Safe Practice for ships carrying timber deck cargoes, 2011.



Section 6

Foreign ships

Foreign ships visiting the Isle of Man

A foreign ship in the territorial waters of the Isle of Man must comply with such of the requirements of the Load Lines Convention, as apply in relation to a ship of its description.

The requirements for foreign ships is stated in Part 4 of the Isle of Man MS (Load Lines) Regulations 2002.

Inspection of a foreign ship

The Port State Control requirements are stated in Article 21 of the Load Lines Convention.

In summary:

1. the Port State Control inspection will be carried out by Officers appointed by the Ship Registry and will be exercised as far as is reasonable and practical with a view to verifying that a valid certificate is on board. If there is a valid certificate on board, the control will be limited to the purpose of determining that:
 - a) the ship is not loaded beyond the limits allowed by the certificate;
 - b) the position of the load line of the ship corresponds with the certificate; and
 - c) the ship has not been so materially altered in respect of the matters set out in Article 19(9)(a) or (b) (duration and validity of certificates) that the ship is manifestly unfit to proceed to sea without danger to human life.
2. If there is a valid International Load Line Exemption Certificate on board, such control shall be limited to the purpose of determining that any conditions stipulated in that certificate are complied with.
3. If control is exercised under sub-paragraph 1 c), it must only be exercised in so far as may be necessary to ensure that the ship shall not sail until it can proceed to sea without danger to the passengers or the crew.
4. For the purposes of paragraph 2, an inspector may accept any certificate that the inspector considers to be equivalent to the International Load Line Certificate or an International Load line Exemption Certificate, if the flag State of the foreign ship is not a Party to the 1966 Convention.



Section 7

List of Resolutions amending the Load Lines Convention

The IoM Ship Registry's Load Lines Regulations will enact the International Convention on Load Lines, 1966 as modified by the 1988 protocol including the following Resolutions:

- Resolution MSC.143(77) – adopted on 5 June 2003
- Resolution MSC.172(79) – adopted on 9 December 2004
- Resolution A.972(24) – adopted on 1 December 2005
- Resolution MSC.223(82) – adopted on 8 December 2006
- Resolution MSC.270(85) – adopted on 4 December 2008
- Resolution MSC.329 (90) adopted on 24 May 2012, including (Corrigendum)
- Resolution MSC.345 (91) – adopted on 30 November 2012
- Resolution MSC.356 (92) – adopted on 21 June 2013
- Resolution A.1082(28) – adopted on 4 December 2013
- Resolution A.1083(28) – adopted on 4 December 2013
- Resolution MSC.375(93) – adopted on 22 May 2014
- Resolution MSC.444(99) – enters into force on 1 January 2020



Section 8

Information on the stability of a ship

The information relating to the stability of a ship to be provided for the master shall include the particulars specified below.

- 1.** The ship's name, IMO or official number, port of registry, gross and register tonnages, principal dimensions, displacement, deadweight and draught to the summer load line.
- 2.** A profile view and, if necessary, plan views of the ship drawn to scale showing all compartments, tanks, storerooms and crew and passenger accommodation spaces, with their position relative to mid-ship.
- 3.** (1) The capacity and the longitudinal and vertical centre of gravity of every compartment available for the carriage of cargo, fuel, stores, feed water, domestic or water ballast.
(2) In the case of a vehicle ferry, the vertical centre of gravity of compartments designated for the carriage of vehicles shall be based on the estimated centres of gravity of the vehicles and not on the volumetric centres of the compartments.
- 4.** (1) The estimated total weight and the longitudinal and vertical centre of gravity of each such total weight of:
 - (a) the passengers and their effects; and
 - (b) the crew and their effects.(2) In estimating such centres of gravity, passengers and crew shall be assumed to be distributed about the ship in the spaces they will normally occupy, including the highest decks to which either or both have access.
- 5.** (1) The estimated weight and the disposition and centre of gravity of the maximum amount of deck cargo which the ship may reasonably be expected to carry on an exposed deck.
(2) In the case of deck cargo, the arrival condition shall include the weight of water likely to be absorbed by the cargo. (For timber deck cargo the weight of water absorbed shall be taken as 15% of the weight when loaded).
- 6.** A diagram or scale showing:
 - (a) the load line mark and load lines with particulars of the corresponding freeboards; and
 - (b) the displacement, metric tons per centimetre immersion, and deadweight corresponding to a range of mean draughts extending between the waterline representing the deepest load line and the waterline of the ship in light condition.
- 7.** (1) A diagram or tabular statement showing the hydrostatic particulars of the ship, including the heights of the transverse metacentre and the values of the moment to change trim one centimetre. These particulars shall be provided for a range of mean



draughts extending at least between the waterline representing the deepest load line and the waterline of the ship in light condition.

(2) Where a tabular statement is used to comply with 7 (1), the intervals between such draughts shall be sufficiently close to permit accurate interpolation.

(3) In the case of ships having raked keels, the same datum for the heights of centres of buoyancy and metacentres shall be used as for the centres of gravity referred to in paragraphs 3, 4 and 5.

8. The effect on stability of free surface in each tank in the ship in which liquids may be carried, including an example to show how the metacentric height is to be corrected.

9. (1) A diagram showing cross curves of stability.

(2) The diagram shall indicate the height of the assumed axis from which the righting levers are measured and the trim which has been assumed.

(3) In the case of ships having raked keels and where a datum other than the top of keel has been used, the position of the assumed axis shall be clearly defined.

(4) Subject to paragraph 9(5), only enclosed superstructures and efficient trunks shall be taken into account in deriving such curves.

(5) The following structures may be taken into account in deriving such curves if the Assigning Authority is satisfied that their location, integrity and means of closure will contribute to the ship's stability:

(a) Superstructures located above the superstructure deck;

(b) Deckhouses on or above the freeboard deck whether wholly or in part only;

(c) Hatchway structures on or above the freeboard deck

(6) Subject to the approval of the Assigning Authority in the case of a ship carrying timber deck cargo, the volume of the timber deck cargo, or a part thereof, may be taken into account in deriving a supplementary curve of stability appropriate to the ship when carrying such cargo.

(7) An example shall be included to show how a curve of righting levers (GZ) may be obtained from the cross curves of stability.

(8) In the case of a vehicle ferry or a similar ship having bow doors, ship-side doors or stern doors and the buoyancy of a superstructure is taken into account in the calculation of stability information, and the cross curves of stability are based upon the assumption that such doors are secured weathertight, there shall be a specific warning that such doors must be secured weathertight before the ship proceeds to sea.

10.(1) The diagram and statements referred to in 10(2) shall be provided separately for each of the following conditions of the ship:

(a) *Light condition*, If the ship has permanent ballast, such diagram and statements shall be provided for the ship in light condition both with and without such ballast;

(b) *Ballast condition*, both on departure and on arrival. It is to be assumed that on arrival oil fuel, fresh water, consumable stores and the like are reduced to 10% of their capacity;



- (c) *Condition on departure and on arrival*, when loaded to the summer load line with cargo filling all spaces available for cargo. Cargo shall be taken to be homogeneous except where this is clearly inappropriate, for example, in cargo spaces which are intended to be used exclusively for the carriage of vehicles or of containers;
- (d) *Service loaded conditions*, both on departure and on arrival.
- (2) A profile diagram of the ship drawn to a suitable small scale showing the disposition of all components of the deadweight, a statement showing the lightweight, the disposition and the total weights of all components of the deadweight, the displacement, the corresponding positions of the centre of gravity, the metacentre and also the metacentric height (GM) and a diagram showing the curve of righting levers (GZ). Where credit is given for the buoyancy of a timber deck cargo the curve of righting levers (GZ) must be drawn both with and without this credit.
- (3) The metacentric height (GM) and the curve of righting levers (GZ) shall be corrected for liquid free surface.
- (4) Where there is a significant amount of trim in any of the conditions referred to in sub-paragraph (1) the metacentric height and the curve of righting levers (GZ) may be required to be determined from the trimmed waterline.
- (5) If in the view of the Assigning Authority the stability characteristics in either or both of the conditions referred to in 10(1)(c) are not satisfactory, such conditions shall be marked accordingly and an appropriate warning to the master shall be inserted.

11. A statement of instructions on appropriate procedures to maintain adequate stability in each case where special procedures are applied such as partial or complete filling of spaces designated for cargo, fuel, fresh water or other purposes.

12. The report on the inclining test and of the calculation derived from it to obtain information of the light condition of the ship.

Reference Material:

Documents referred to in this MSN:

- Merchant Shipping (Load Lines) Regulations 2020
- International Convention on Load Lines, 1966, as Modified by the 1988 Protocol

Most Regulations and notices are available on the Isle of Man Government website: www.iomshipregistry.com or by contacting marine.survey@gov.im

