

1967 No. 172

MERCHANT SHIPPING

The Merchant Shipping (Tonnage) Regulations 1967

Made - - - 10th February 1967

Laid before Parliament 20th February 1967

Coming into Operation 1st March 1967

The Board of Trade in exercise of the powers conferred on them by section 1 of the Merchant Shipping Act 1965(a) and of all other powers enabling them in that behalf hereby make the following Regulations:—

PART I

Ascertainment of Tonnage

1. The tonnage of any ship to be registered in the United Kingdom under the principal Act, whether under Part I or Part IV thereof, shall be ascertained in accordance with these Regulations.

Method of Measurement

2.—(1) The owner and the master of a ship to be measured shall make it available for measurement by a surveyor of ships pursuant to section 6 of the principal Act and afford all necessary facilities for its inspection and measurement and shall produce for the surveyor's use and retention if required such plans, drawings, specifications and other documents relating to the ship as he may require.

(2) Subject to paragraph (3) of this Regulation, the tonnage of a ship shall be measured in the manner specified in Rule I of Schedule 1 and in Schedule 2 to these Regulations.

(3) In any case in which the surveyor is satisfied that by reason of the ship's being laden or otherwise measurement of the tonnage of the ship below the upper deck in accordance with paragraph (2) of this Regulation is not reasonably practicable, such tonnage shall be measured in the manner specified in Rule II of Schedule 1 and in the case of a ship so measured the provisions of Regulations 11 and 12 shall not apply.

(4) The Board may on the application of the owner of any ship the tonnage of which below the upper deck has been measured in accordance with paragraph (3) direct such tonnage to be measured in accordance with paragraph (2) and cause the particulars relating to its registered tonnage to be altered accordingly.

(5) All measurements required by these Regulations shall be taken and expressed in feet and fractions of a foot, and such fractions shall be expressed in decimals.

(6) Tonnage in relation to any ship or space in a ship shall be measured in terms of cubic capacity, 100 cubic feet representing one ton.

Certificates of British Tonnage

3.—(1) The Board shall issue to the owner of every ship registered in the United Kingdom under the principal Act, the tonnage of which has been ascertained in accordance with these Regulations, a certificate of British tonnage certifying the registered tonnage of the ship and containing the following particulars:—

(a) 1965 c. 47.

- (a) the name, port of registry and official number of the ship;
- (b) its registered dimensions;
- (c) its gross tonnage and the tonnage of each of the components thereof specified in Regulation 4(1);
- (d) its register tonnage and the deductions and allowances made pursuant to Regulations 9 and 10 respectively in ascertaining that tonnage;
- (e) in the case of a ship to which gross and register tonnages have been assigned in accordance with Regulation 11, or to which alternative tonnages have been assigned in accordance with Regulation 12, particulars of the spaces the tonnage of which has been excluded by virtue of the provisions of Regulation 11 or Regulation 12, as the case may be, in ascertaining such tonnages;
- (f) the position in which any tonnage mark assigned to the ship is to be placed.

(2) For the purpose of ascertaining in relation to ships not registered in the United Kingdom the amount of rates and charges based upon tonnage, the Board may issue to the owner of any such ship the tonnage of which has been ascertained in accordance with these Regulations a certificate of British tonnage as aforesaid, and the gross and register tonnages as stated in that certificate shall, unless any alteration is made in the form or capacity of the ship or it is discovered that the tonnage of the ship has been erroneously computed, be taken for that purpose to be the gross and register tonnages of the ship.

(3) On remeasurement of a ship any certificate of British tonnage in force in relation to that ship shall be delivered up to the Board and the Board shall issue a new certificate in place thereof.

PART II

A. GROSS TONNAGE

Components of Gross Tonnage

4.—(1) Subject to the provisions of Part III of these Regulations, the gross tonnage of a ship shall be the sum of—

- (a) the underdeck tonnage of the ship ascertained in accordance with the provisions of Regulation 5 and paragraph 1 of Rule I of Schedule 1 to these Regulations;
- (b) the tonnage of betweendeck space between the second deck and the upper deck ascertained in accordance with the provisions of paragraph 2 of the said Rule I;
- (c) the tonnage of permanently closed-in spaces on or above the upper deck including that of breaks situated above the line of the deck but excluding—
 - (i) the tonnage of hatchways described in Regulation 6;
 - (ii) the tonnage of framed-in spaces on or above the upper deck which contain any part of the propelling machinery or which light or ventilate space appropriated for such machinery;
 - (iii) any space excluded by virtue of the provisions of Regulation 7, ascertained in accordance with the provisions of paragraphs 3, 4 and 5 of the said Rule I;
- (d) the tonnage of hatchways described in Regulation 6, ascertained in accordance with the provisions of that Regulation and paragraph 5 of the said Rule I;
- (e) the tonnage of framed-in spaces on or above the upper deck which contain any part of the propelling machinery or which light or ventilate space appropriated for such machinery, ascertained in accordance with

the provisions of paragraph 5 of the said Rule I, subject to the conditions that—

- (i) the owner of the ship has made written application to the Board for the inclusion of such spaces in the propelling machinery space of the ship;
- (ii) they are permanently marked by a notice stating their purpose; and
- (iii) they are certified by a surveyor of ships as safe and seaworthy and properly constructed for their purpose, as reasonable in extent for that purpose, and as being such that they cannot be used for any other purpose.

(2) In the case of a ship the tonnage of which below the upper deck has been measured in accordance with Rule II of Schedule 1, that tonnage shall be included instead of the tonnages specified at (a) and (b) in paragraph (1).

(3) For the purpose of these Regulations the expression “ permanently closed-in spaces on or above the upper deck ” shall include:—

- (a) a poop, bridge or forecastle notwithstanding the presence of an opening in the end transverse bulkhead thereof, unless the opening extends from deck to deck for one half or more of the breadth of the deck in way of the bulkhead;
- (b) a deck house notwithstanding the presence of an opening in one of the boundary bulkheads thereof exposed to the weather, unless the opening extends from deck to deck for one half or more of the length of the bulkhead in which it is situated and is 4 feet wide or more;
- (c) a structure extending from side to side of the ship notwithstanding the presence in it of an opening in the ship’s side, unless the opening extends for one half or more of the length of the space which it serves and exceeds in height one third of the distance from deck to deck in way of the opening or 2 feet 6 inches, whichever is the greater;
- (d) a passage way at the ship’s side, unless it is 4 feet wide or more and is completely open to the weather at one end, or both ends, of its length;
- (e) a recess, unless it extends from deck to deck for 3 feet or more of its width and is exposed to the weather; and
- (f) any space having an opening in the deck over being a deck exposed to the weather, unless the area of the opening is one quarter or more of the deck area over the space.

Underdeck Tonnage

5. The underdeck tonnage of a ship shall be the sum of—

- (a) the tonnage of the space below the tonnage deck bounded by—
 - (i) the tonnage deck,
 - (ii) the upper surface of the double bottom tanks, open floors or ceiling as the case may be, and
 - (iii) the inner face of the timbers, frames or sparring as the case may be, measured in accordance with the provisions of paragraph 1 of Rule I of Schedule 1 to these Regulations, but subject to such limitations specified in Schedule 2 as may be applicable in the circumstances of the case, and excluding the tonnage of breaks above the line of the tonnage deck; and
- (b) the tonnage of shaft bossings and any other appendages forming part of the hull of the ship below the tonnage deck whether or not they project beyond the extreme points of measurement of that deck.

Tonnage of Hatchways

6. The tonnage of all hatchways leading to space included in the gross tonnage of the ship other than internal hatchways totally enclosed within such space shall be measured in accordance with paragraph 5 of Rule I of Schedule 1 to these Regulations and from the aggregate thereof there shall be deducted $\frac{1}{2}$ of 1 per cent. of the ship's gross tonnage excluding such aggregate. The remainder (if any) shall be the tonnage of hatchways, customarily referred to as "excess of hatchways", to be included in the gross tonnage of the ship.

Closed-in spaces on or above the upper deck not to be included in Gross Tonnage

7. Permanently closed-in spaces of the following kinds situated on or above the upper deck shall not be included in the gross tonnage of the ship:—

- (a) dry cargo space, unless situated in a break above the line of the upper deck;
- (b) space fitted with and appropriated for the use of machinery or condensers;
- (c) the wheelhouse and chartroom, and space fitted with and appropriated for the use of radio and navigational aids;
- (d) skylights, domes and trunks which light or ventilate the space they serve;
- (e) chain lockers, and space appropriated for working the anchor gear and capstan;
- (f) space appropriated for the storage of safety equipment or batteries;
- (g) companions and access hatches serving as protection for stairways or ladderways leading to space below, and openings over such stairways and ladderways;
- (h) the galley, and any separate bakery fitted with ovens, provided in either case that no part thereof is appropriated for use for any other purpose;
- (i) washing and sanitary accommodation forming part of the crew accommodation or appropriated for the use of the master;
- (j) workshops and storerooms appropriated for the use of pumpmen, engineers, electricians, carpenters and boatswains, and the lamp-room;
- (k) water ballast tanks not appropriated for use for any other purpose;
- (l) shelter space providing weather protection only for use, free of charge, by deck passengers in ships intended for use only on voyages not exceeding 10 hours duration;
- (m) sheltered promenade space, glassed in and unfurnished except for deckchairs or similar light portable seating, in ships intended for use on international voyages:

Provided that this Regulation shall not apply in any case other than that specified at sub-paragraph (a) unless the space is certified by a surveyor of ships as being reasonable in extent, and properly constructed, for its purpose and is permanently marked by a notice stating that purpose.

B. REGISTER TONNAGE

Ascertainment of Register Tonnage

8. Subject to the provisions of Part III of these Regulations, the register tonnage of a ship shall be the tonnage obtained by deducting from its gross tonnage—

- (a) the tonnage of spaces specified in Regulation 9, and
- (b) the tonnage allowance for propelling machinery space described in Regulation 10:

Provided that—

- (i) the deduction shall in each case be subject to any condition, limit or restriction expressed to be applicable in that case; and
- (ii) no deduction shall be made of or in respect of the tonnage of any space which has not first been included in the ship's gross tonnage.

Space to be Deducted

9. The spaces referred to in Regulation 8(a) are—

- (a) space appropriated for the accommodation of the master;
- (b) crew accommodation, except space appropriated for the storage of fresh water and space appropriated for the storage of provisions (other than fresh water), being in the latter case space in excess of 15 per cent. of the aggregate of—
 - (i) space appropriated for the accommodation of the master; and
 - (ii) crew accommodation other than space appropriated for the storage of provisions and fresh water;
- (c) the wheelhouse and chartroom, and space fitted with and appropriated for the use of radio and navigational aids;
- (d) chain lockers and space appropriated for, or for the working of, the steering gear, anchor gear and capstan;
- (e) space appropriated for the storage of safety equipment or batteries;
- (f) workshops and storerooms appropriated for the use of pumpmen, electricians, carpenters and boatswains, and the lamp-room;
- (g) space occupied by the donkey engine and boiler if they are outside the propelling machinery space and connected to the main pumps of the ship;
- (h) space occupied by the main pumps of the ship if they are outside the propelling machinery space;
- (i) in the case of ships wholly propelled by sails, space appropriated for the storage of sails, so however that the total tonnage of such space does not exceed 2½ per cent. of the ship's gross tonnage; and
- (j) water ballast tanks not appropriated for use for any other purpose, so however that the total tonnage so to be deducted, when added to the tonnage of spaces appropriated for water ballast not included in the gross tonnage of the ship consisting of double bottom space, space below bottom floor level or space above the upper deck, does not exceed 19 per cent. of the ship's gross tonnage:

Provided that no deduction shall be made—

- (i) in respect of any space specified in sub-paragraph (b) unless it is certified by a surveyor of ships as complying with all applicable provisions as to crew accommodation contained in the Merchant Shipping Acts 1894 to 1965 and regulations made thereunder; and
- (ii) in respect of any space specified in sub-paragraphs (a) or (c) to (j) unless it is certified by a surveyor of ships to be reasonable in extent, and properly constructed, for its purpose and is permanently marked by a notice stating that purpose.

Allowance for Propelling Machinery Space

10. The tonnage allowance for propelling machinery space to be deducted pursuant to Regulation 8(b) shall be determined as follows:—

- (a) in the case of ships propelled by screws—
 - (i) if the tonnage of the propelling machinery space is 13 per cent. or over but less than 20 per cent. of the gross tonnage the allowance shall be 32 per cent. of the gross tonnage;
 - (ii) if the tonnage of the propelling machinery space is less than 13 per cent. of the gross tonnage the allowance shall be that lesser percentage of the gross tonnage multiplied by $\frac{32}{13}$;
- (b) in the case of ships propelled by paddle wheels—
 - (i) if the tonnage of the propelling machinery space is 20 per cent. or over but less than 30 per cent. of the gross tonnage the allowance shall be 37 per cent. of the gross tonnage;
 - (ii) if the tonnage of the propelling machinery space is less than 20 per cent. of the gross tonnage the allowance shall be that lesser percentage of the gross tonnage multiplied by $\frac{37}{20}$;
- (c) in the case of ships to which sub-paragraphs (a) and (b) do not apply, the allowance shall be—
 - (i) in the case of ships propelled by screws, $1\frac{3}{4}$ times the tonnage of the propelling machinery space;
 - (ii) in the case of ships propelled by paddle wheels, $1\frac{1}{2}$ times the tonnage of the propelling machinery space:

Provided that—

- (i) in no case save that of tugs intended to be used exclusively as such shall the allowance exceed 55 per cent. of that portion of the tonnage of the ship which remains after deducting from its gross tonnage the deductions authorised by Regulation 8(a); and
- (ii) such deductions shall be subject to the propelling machinery space and space appropriated for its lighting and ventilation being certified as adequate by a surveyor of ships and being permanently marked by notices stating their purpose.

PART III

MODIFIED AND ALTERNATIVE TONNAGES AND TONNAGE MARKS

Modified gross and register tonnage of ships with certain freeboards

11.—(1) This Regulation shall apply to a ship in respect of which—

- (a) greater than minimum freeboards have been assigned under the Load Line Rules;
- (b) the positions of the load lines are not higher than would have been the case if the freeboards assigned to the ship and the position of the load lines appropriate thereto had been calculated treating the second deck as the freeboard deck.

(2) The Board may, on the application of the owner of a ship to which this Regulation applies, assign to the ship as its gross tonnage and register tonnage a modified gross tonnage and modified register tonnage ascertained in accordance with paragraph (3) of this Regulation instead of the gross tonnage and register tonnage ascertained in accordance with Part II of these Regulations.

(3) The modified gross tonnage and modified register tonnage so to be assigned shall be ascertained in accordance with Part II of these Regulations subject to the following modifications:—

- (a) for references to the upper deck in—
Regulation 4(1)(c) and (e), and (3);
Regulation 7;
Regulation 9(j);
the definition of “ propelling machinery space ” in Regulation 16;
and Schedule 1, paragraphs 3, 5 and 6,
there shall be substituted references to the second deck; and
- (b) Regulation 4(1)(b) and paragraph 2 of Rule I of Schedule 1 shall be omitted.

(4) Where such tonnages have been assigned to a ship there shall be placed on each side of the ship a tonnage mark in the form described in Schedule 3 to these Regulations, in a position in line with the deepest load line to which the ship may be loaded, no account being taken for this purpose of timber load lines, but subject to the foregoing in a position determined in accordance with Schedule 4.

Alternative Tonnages

12.—(1) The Board may, on the application of the owner of a ship, assign to the ship, as an alternative to its gross tonnage and register tonnage ascertained in accordance with Part II of these Regulations, the modified gross tonnage and modified register tonnage ascertained in accordance with the provisions of paragraph (3) of Regulation 11.

(2) Where alternative tonnages have been assigned to a ship there shall be placed on each side of that ship a tonnage mark in the form described in Schedule 3 to these Regulations in a position determined in accordance with the provisions of Schedule 4.

(3) The gross tonnage and register tonnage of the ship shall be taken to be respectively the modified gross tonnage and modified register tonnage when the ship is so loaded that the tonnage mark is not submerged. At all other times the gross and register tonnages of the ship shall be those ascertained in accordance with Part II of these Regulations.

PART IV

GENERAL

Fishing boats

13.—(1) Except as provided in paragraph (2) of this Regulation these Regulations shall not apply in relation to a British fishing boat to be registered under Part IV only of the principal Act.

(2) The tonnage of a British fishing boat to be registered under Part IV only of the principal Act shall be ascertained in accordance with the provisions made with respect to the ascertainment of tonnage by the Merchant Shipping (Fishing Boats Registry) Order 1927(a) (which by virtue of section 3 of the 1965 Act have effect as if contained in these Regulations) and the tonnage so ascertained shall be taken to be the gross and register tonnage of the ship.

Remeasurement of tonnage of ships already registered

14.—(1) The Board may on the application of the owner of a ship registered under Part I of the principal Act before the coming into operation of these

(a) S.R. & O. 1927/642 (Rev. XIV, p. 234: 1927, p. 806).

Regulations direct that the tonnage of the ship be remeasured in accordance with the provisions of these Regulations.

(2) In such a case, after remeasurement of the ship the ship's existing certificate of registry shall be delivered up to the registrar of the ship's port of registry or of any other port of registry.

(3) Such registrar shall on receipt of the surveyor's certificate giving particulars of the ship as remeasured grant a new certificate of registry in place of the existing certificate and, unless he is the registrar of the ship's port of registry, shall forward the surveyor's certificate to that registrar and notify him of the issue of the new certificate.

(4) The registrar of the ship's port of registry shall alter the particulars respecting the ship in his register book accordingly and record therein the grant of the new certificate.

Space for the purposes of section 85 of the principal Act

15.—(1) Space to be taken into account for the purposes of section 85 of the principal Act (payment of dues where goods carried in spaces not forming part of registered tonnage) shall be ascertained in accordance with the provisions of paragraph 5 of Rule I of Schedule 1 to these Regulations.

(2) Permanently closed-in space not included in the registered tonnage of a ship consisting of—

- (a) dry cargo spaces, or
- (b) workshops and store rooms appropriated for the use of pumpmen, engineers, electricians, carpenters and boatswains, or
- (c) the lamp-room,

shall be exempt from being taken into account for the purposes of the said section 85.

(3) Goods or stores shall not be carried in any permanently closed-in space on board ship which has not been included in the registered tonnage of the ship, other than a double bottom tank or space described in paragraph (2).

(4) If goods or stores are carried in a permanently closed-in space on board ship in contravention of paragraph (3), the master and the owner of the ship shall each be liable to a fine not exceeding £100.

Interpretation

16.—(1) In these Regulations, unless the context otherwise requires—

- “ the Board ” means the Board of Trade;
- “ the principal Act ” means the Merchant Shipping Act 1894(a);
- “ the 1965 Act ” means the Merchant Shipping Act 1965;
- “ crew accommodation ” has the same meaning as in the Merchant Shipping Act 1948(b);
- “ dry cargo space ” means space appropriated for the carriage of cargo other than liquid or gaseous matter in bulk;
- “ Load Line Rules ” means the Load Line Rules 1959(c) as amended (d) and includes in relation to any ship not registered in the United Kingdom any corresponding rules of the country in which the ship is registered;

(a) 1894 c. 60.

(b) 1948 c. 44.

(c) S.I. 1959/2238 (1959 I, p. 1699).

(d) S.I. 1961/599, 1920, 1964/753, 1965/1575, 1967/173 (1961 I, p. 1318; III, p. 3577; 1964 II, p. 1502; 1965 II, p. 4588).

“ passenger ” has the same meaning as in the Merchant Shipping (Safety Convention) Act 1949(a);

“ propelling machinery space ” means space below the upper deck appropriated for the main or auxiliary propelling machinery of a ship, and includes—

- (a) ventilation, light or escape trunks serving any such space;
- (b) space appropriated for boilers serving such machinery;
- (c) shaft tunnels;
- (d) engineers’ storerooms and workshops not exceeding in total tonnage $\frac{3}{4}$ of 1 per cent. of the gross tonnage of the ship;
- (e) oil fuel settling tanks serving the main or auxiliary propelling machinery, having a total capacity sufficient to provide not less than 24 or more than 96 hours steaming for the ship at maximum speed;

and shall also include framed-in spaces on or above the upper deck described in Regulation 4(1)(e) and included in the gross tonnage of the ship in accordance with that provision;

“ second deck ” means the deck next below the upper deck, being a deck—

- (a) which is fitted as an integral part of the ship’s structure;
- (b) which is continuous at least between peak bulkheads both fore and aft and transversely, and
- (c) in which all hatchways are fitted with substantial and durable covers, a deck being taken to be continuous for this purpose notwithstanding the presence in it of—
 - (i) openings serving propelling machinery space or leading to ladderways or stairways;
 - (ii) hatch or ventilation trunks, provided that they do not extend fore and aft from one main transverse bulkhead to another;
 - (iii) chain lockers or cofferdams; or
 - (iv) a break or breaks the aggregate height of which above the line of continuation of the deck does not exceed 4 feet;

“ tonnage deck ” means the second deck except in the case of single deck ships, in which case it means the upper deck;

“ upper deck ” means the uppermost complete deck exposed to sea and weather fitted as an integral part of the ship’s structure, being a deck all openings in the weather portions of which are fitted with permanent means of closing and below which all openings in the sides of the ship are fitted with permanent means of watertight closing, but shall in the case of an open ship be taken to be the upper edge of the upper strake of the gunwale.

(2) The Interpretation Act 1889(b) shall apply to the interpretation of these Regulations as it applies to the interpretation of an Act of Parliament.

Citation and Commencement

17. These Regulations may be cited as the Merchant Shipping (Tonnage) Regulations 1967 and shall come into operation on 1st March 1967.

10th February 1967.

J. P. W. Mallalieu,
Minister of State,
Board of Trade.

(a) 1949 c. 43.

(b) 1889 c. 63.

SCHEDULE 1

MEASUREMENT OF TONNAGE

RULE I

Regulation 2

1. *Underdeck tonnage*

(1) The length of the tonnage deck shall be measured in a straight line in the middle plane of the ship between the points at the forward and after ends of the deck where the underside of the deck, or the line of continuation thereof in way of breaks or discontinuations of the deck, meets the inner face of the frames, timbers, ceiling or sparring as the case may be. Such length so measured is hereafter referred to in this Schedule and in Schedule 2 to these Regulations as the "tonnage length".

(2) In ships which have a break, or breaks, in a double bottom the tonnage length shall be measured in parts corresponding to the number and position of such break or breaks.

(3) The tonnage length, or the length of each of the several parts thereof obtained in accordance with sub-paragraph (2), shall be divided into equal parts as shown in the following table:—

- length 50 feet or under, into 4 equal parts;
- length above 50 feet but not exceeding 120 feet, into 6 equal parts;
- length above 120 feet but not exceeding 180 feet, into 8 equal parts;
- length above 180 feet but not exceeding 225 feet, into 10 equal parts;
- length above 225 feet, into 12 equal parts:

Provided that the length of any of the several parts obtained in accordance with sub-paragraph (2) may be divided into 2 equal parts if such length is 30 feet or under.

(4) The transverse area of the ship at each point of division of the tonnage length, or of parts of that length as aforesaid, shall be calculated as follows:—

(a) The depth in the middle plane of the ship from the underside of the tonnage deck to the top of the open floor or double bottom as the case may be shall be measured, deducting therefrom the average thickness of ceiling, if fitted, and one-third the round of beam. If the top of the double bottom falls from the middle plane of the ship, there shall be added to the depth the mean of the fall; if the top of the double bottom rises from the middle plane, a corresponding correction shall be deducted from the depth.

In ships of wooden construction the lower terminal point of the depth shall be the upper side of the floor timber at the inside of the limber strake, after deducting therefrom the average thickness of ceiling between the bilge planks and the limber strake.

(b) If the depth so obtained does not exceed 16 feet at the amidship division of the total tonnage length, the depth at each point of division of the tonnage length, or of parts of that length as aforesaid, shall be divided into 4 equal parts; depths in excess of 16 feet shall be divided into 6 equal parts.

(c) At the point of division between each of the parts obtained in accordance with sub-paragraph (b) the horizontal breadths to the inner face of the

timber, frame or sparring as the case may be shall be measured. Numbering these breadths from the tonnage deck, the even numbered breadths shall be multiplied by 4 and the others, with the exception of the first and last, by 2; these products shall be added together, and to the sum there shall be added the first and last breadths; the quantity thus obtained shall be multiplied by one-third of the common interval between the breadths and the product shall be the transverse area in square feet.

(5) The transverse areas so obtained shall be numbered from the extreme forward point of measurement of the tonnage length, or of the parts thereof as the case may be; the even numbered areas shall be multiplied by 4 and the odd numbered areas, other than the first and last, by 2; these products shall be added together and to the sum there shall be added the area (if any) of the first and last; the quantity thus obtained shall be multiplied by one-third of the common interval between the areas; the product so obtained divided by 100 shall be the underdeck tonnage of the ship exclusive of the tonnage of spaces to be included therein pursuant to Regulation 5(b) (appendages).

2. *Betweendeck space between the second deck and the upper deck*

(1) (a) Betweendeck space between the second deck and the upper deck shall be measured for length in a straight line in the middle plane of the ship between the points at the forward and after ends of the space where the inner surface of the frames, timbers, ceiling or sparring as the case may be meets the middle plane of the ship at half the height between the upper surface of the deck and the underside of the deck over.

(b) Where a break exists in the second deck or the upper deck the line of the deck shall be extended through the break parallel to the raised part of the break; and the tonnage of the betweendeck space shall be measured in such a case by reference to the line of the deck so extended.

(2) The length shall be divided into equal parts as provided in paragraph 1(3) of this Rule. At each of these points of division the horizontal breadth from the inner face of the frames, timbers or sparring as the case may be, shall be measured at half the height of the betweendeck space.

(3) These breadths shall be numbered from the stem, the stem being number 1. The even numbered breadths shall be multiplied by 4 and the odd numbered, other than the first and last, by 2. The products shall be added together and the first and the last breadths shall be added to the sum. The quantity thus obtained shall be multiplied by one-third of the common interval between the breadths, and the area thus obtained shall be multiplied by the mean height between the upper surface of the deck and the underside of the deck over. The product so obtained divided by 100 shall be the tonnage of the betweendeck space.

3. *Breaks in the upper deck*

Breaks in the upper deck shall be measured for length in a straight line in the middle plane of the ship between the extremities of the break at half the height of the break, terminal points at the stem or stern being taken as described in paragraph 2(1) of this Rule. The length so obtained shall be divided into 2 equal parts for lengths of 50 feet or less, 4 equal parts for lengths above 50 feet but not more than 225 feet and 6 equal parts for lengths over 225 feet. At each of the points of division the horizontal breadth at half the height of the break at the ship's side to the inner face of the frames, timbers or sparring as the case may be shall be measured. Numbering these breadths from the foremost terminal point, the even numbered breadths shall be multiplied by 4 and the

odd numbered, other than the first and last, by 2. The products shall be added together and to the sum there shall be added the first and last breadths. The quantity thus obtained shall be multiplied by one-third of the common interval between the breadths. The area thus obtained shall be multiplied by the height of the break. The product divided by 100 shall be the tonnage of the break.

4. *Poop, bridge and forecastle*

A poop, bridge or forecastle shall be measured as follows:—

The mean length thereof shall be measured at half the height between the upper surface of the deck and the underside of the deck over, terminal points at the stem and stern being taken as described in paragraph 2(1) of this Rule. The length so obtained shall be divided into 2 equal parts for lengths of 50 feet or under, 4 equal parts for lengths over 50 feet but not exceeding 225 feet, and 6 equal parts for lengths exceeding 225 feet. At each of the points of division the horizontal breadth shall be measured from the inner face of the frames, timbers or sparring as the case may be at half the height between the upper surface of the deck and the underside of the deck over. Numbering these breadths from the foremost terminal point, the even numbered breadths shall be multiplied by 4 and the odd numbered, other than the first and last, by 2. The products shall be added together and to the sum there shall be added the first and last breadths. The quantity thus obtained shall be multiplied by one-third of the common interval between the breadths, and the area thus obtained shall be multiplied by the mean height of the poop, bridge or forecastle. The product divided by 100 shall be the tonnage of the poop, bridge or forecastle.

5. *Other permanently closed-in spaces on or above the upper deck*

Permanently closed-in spaces on or above the upper deck other than those dealt with in paragraph 4 shall be measured by ascertaining their mean length, breadth and height and the product of multiplying these dimensions together shall, when divided by 100, be the tonnage of the space.

6. *Propelling machinery space*

(1) Propelling machinery space which extends to the ship's side and is situated below the upper deck shall be measured as follows:—

The mean length shall be measured in each space at half the mean depth, which shall be measured in the middle plane of the ship from the underside of the deck forming the crown of the space to the top of the double bottom or open floors, allowance being made for ceiling if fitted; for amidship spaces 3 equally spaced breadths shall be used and for spaces abaft amidships 3 equally spaced breadths shall be used for lengths up to 30 feet, 5 equally spaced breadths for lengths over 30 feet to 50 feet and 7 equally spaced breadths for lengths over 50 feet, the breadths being measured from the inner face of the frames, timbers or sparring as the case may be at half the depth of the space at that point. The mean length, mean breadth and mean depth so ascertained shall be multiplied together and the product divided by 100 shall be the tonnage of the space.

(2) Propelling machinery space which does not extend to the ship's side and is situated below the upper deck shall be measured by ascertaining its mean length, mean breadth and mean depth, and the product of multiplying these dimensions together shall, when divided by 100, be the tonnage of the space.

7. *Shaft bossings and appendages*

The tonnage of shaft bossings and other appendages referred to in Regulation 5(b) shall be ascertained by measuring the internal cubic capacity of the space as accurately as practicable and dividing the result by 100.

RULE II

Measurement of tonnage below the upper deck where measurement in accordance with Rule I is impracticable

1. The length of the ship shall be measured on the upper side of the upper deck from the inside of the outer plate or plank at the stem to the aft side of the stern-post, or to the fore side of the rudder stock where no stern-post is fitted. The extreme breadth of the ship shall be measured, excluding rubbers or fenders. The girth, from the upper edge of the upper deck at side on one side of the ship to the same point at the other side, shall be measured on the outside of the ship at the greatest breadth. To half the girth thus measured there shall be added half the aforesaid breadth. The square of the sum shall be multiplied by the aforesaid length. This product multiplied by .0017 in the case of ships built of wood and by .0018 in the case of other ships shall be the tonnage of the ship below the upper deck.

2. In any case in which the surveyor is satisfied that by reason of the size of the ship it is not reasonably practicable to measure its girth as provided in paragraph 1, such girth shall be ascertained by adding the aforesaid breadth of the ship to twice the depth of the ship from the top of the upper deck at the side of the ship to the bottom of the keel and multiplying this sum by 0.98.

SCHEDULE 2

LIMITATION OF HEIGHT OF OPEN FLOORS AND DOUBLE BOTTOMS, AND OF DEPTHS OF FRAMES AND SIDE BRACKETS, FOR PURPOSES OF MEASUREMENT OF UNDERDECK TONNAGE

Regulation 5

The provisions of this Schedule shall have effect for the purposes of the measurement of underdeck tonnage.

1. *Open floors*

(1) Any part of an open floor, other than a floor in the main space for the propelling machinery of a ship, which is situated above the horizontal line hereinafter described shall be disregarded for the purposes of measurement of underdeck tonnage, which shall be measured accordingly by reference to the said line.

(2) The line above referred to shall be a line passing through a point in the middle plane of the ship at a height consisting of the maximum height of open floors applicable to a ship of the tonnage length of the ship undergoing measurement, ascertained by reference to columns A and B of Table I and corrected by the addition of a distance equal to the rise of the moulded frame line at one quarter of the breadth of the ship between moulded frame lines at the said maximum height.

(3) The provisions of this paragraph shall also apply in the case of ships fitted with longitudinal floors and/or frames.

2. *Double Bottoms*

A double bottom, situated in any part of a ship other than the main space for the propelling machinery, which is of greater height than a height consisting of the maximum height of double bottom applicable to a ship of the tonnage length of the ship undergoing measurement, ascertained by reference to columns A and C of Table I and corrected by the addition of a distance equal to the rise of the moulded frame line at one quarter of the breadth of the ship between

moulded frame lines at the said maximum height, shall be treated not as a double bottom but as an open floor of such height ascertained in accordance with the provisions of paragraph 1(2) of this Schedule as would be applicable in the case of a ship of the tonnage length of the ship undergoing measurement.

3. *Bilge brackets*

(1) The horizontal width of bilge brackets measured from the shell of the ship to the inboard toe of the bracket shall not—

- (a) if taken at the level of the top of an open floor, exceed the maximum height of open floor applicable to the ship obtained by reference to columns A and B of Table I;
- (b) if taken at the level of the top of a double bottom, exceed the maximum height of double bottom applicable to the ship obtained by reference to columns A and C of that Table.

(2) In any case in which underdeck tonnage is measured by reference to a height ascertained and applied in accordance with the provisions of paragraphs 1 and 2 of this Schedule, the lowest breadth used in the measurement of underdeck tonnage area shall be the breadth between the inner sides of the shell of the ship taken at that height, less twice the maximum height of open floor applicable to the ship obtained by reference to columns A and B of Table I or twice the width of the bilge bracket whichever is the less.

4. *Allowance for ceiling*

The limitations imposed by the preceding three paragraphs are exclusive of an allowance for ceiling, if fitted.

5. *Depth of frames*

(1) Subject to sub-paragraph (2), the extent to which the depth of transverse or longitudinal ship side framing in the case of any ship, measured from its shell, exceeds the maximum depth of frame applicable to a ship of the registered breadth of the ship undergoing measurement ascertained by reference to Table II shall be disregarded and underdeck tonnage shall be measured accordingly by reference to the maximum depth of frame so ascertained.

(2) In the case of a ship in which alternate deep and shallow frames are fitted, the depth of frame used for purposes of measurement, measured from the shell of the ship, shall not exceed whichever is the lesser of the following dimensions:—

- (a) twice the depth of the shallow frame, or
- (b) the maximum depth of frame applicable to the ship ascertained as aforesaid.

(3) The limitations imposed by sub-paragraphs (1) and (2) are exclusive of an allowance for sparring fitted on the toe of the frames.

TABLE I

A TONNAGE LENGTH OF SHIP	B MAXIMUM HEIGHT OF OPEN FLOORS	C MAXIMUM HEIGHT OF DOUBLE BOTTOM
The dimensions shown are to be increased by 50 per cent. for the foremost 25 per cent. and aftermost 15 per cent. of the tonnage length of the ship.		
<i>in feet</i>	<i>in inches</i>	<i>in inches</i>
Not exceeding 60	23	34.5
80	24	36
100	25	37.5
120	26	39
140	27	40.5
160	28	42
180	29	43.5
200	30	45
220	31	46.5
240	32	48
260	33	49.5
280	34	51
300	35	52.5
320	36	54
340	37	55.5
360	38	57
380	39	58.5
400	40	60
420	41	61.5
440	42	63
460	43	64.5
480	44	66
500	45	67.5
520	46	69
540	47	70.5
560	48	72
580	49	73.5
600	50	75
620	51	76.5
640	52	78
660	53	79.5
680	54	81
700	55	82.5

In the case of ships of intermediate length, the maximum height of floors or double bottoms shall be obtained by interpolation, and in the case of ships exceeding 700 feet, by linear extrapolation.

TABLE II

REGISTERED BREADTH <i>in feet</i>	MAXIMUM DEPTH OF FRAME <i>in inches</i>
Not exceeding 20	14
30	16
40	18
50	20
60	22
70	25
80	28
90	31
100 and above	34

In the case of ships of intermediate breadths, the maximum depth of frame shall be obtained by interpolation.

SCHEDULE 3
TONNAGE MARK

Regulations 11 and 12

1. Save as otherwise provided in paragraph 2, the tonnage mark shall consist as shown in Figure I of a horizontal line 15 inches long and 1 inch wide upon which shall be placed for identification purposes an inverted equilateral triangle, each side of which is 12 inches long and 1 inch wide, having its apex on the mid-point of the horizontal line.

2. In the case of a ship intended to operate in fresh or tropical waters as defined in the Load Line Rules (not being a ship on which tonnage marks have been placed in accordance with Regulation 11), an additional horizontal line may on the application of the owner of the ship be placed above the tonnage mark described in paragraph 1 at a distance of one forty-eighth (1/48th) of the moulded draught to that tonnage mark. This additional line shall be 9 inches long and 1 inch wide measured from a 1 inch wide vertical line (shown marked "W" in Figure 1) at the after end of, and perpendicular to, that tonnage mark. In such a case, at all such times as the ship so marked is operating in fresh or tropical waters as aforesaid, this additional line shall be taken to be the tonnage mark in lieu of that described in paragraph 1.

3. The lines and triangle above mentioned shall be painted in white or yellow on a dark ground or in black on a light ground, and carefully cut in, centre punched or welded on the sides of the ship. They shall be so kept and maintained as to be plainly visible at all times save when submerged.

SCHEDULE 4
POSITION OF TONNAGE MARKS

Regulations 11 and 12

1. The tonnage mark shall be placed on each side of the ship at a distance below the line where the underside of the second deck stringer plate meets the ship's side plating amidships, or below the line equivalent to that line as shown in Figure 2 in cases where the deck is stepped, to be ascertained by reference to the Tonnage Mark Table at the end of this Schedule.

2. In that Table—

(1) the length L_t in column A is the distance in feet on the second deck between the points at the forward and after ends of the deck where the underside of the deck or line of continuation thereof meets the inner surface of the frames, ceiling or sparring as the case may be in the middle plane of the ship, using an equivalent length in cases where the deck is stepped as shown in Figure 2;

(2) the depth D_s is the depth in feet amidships from the top of the keel

to the point at which the underside of the second deck stringer plate meets the ship's side plating, using an equivalent depth as shown in Figure 2 in cases where the deck is stepped;

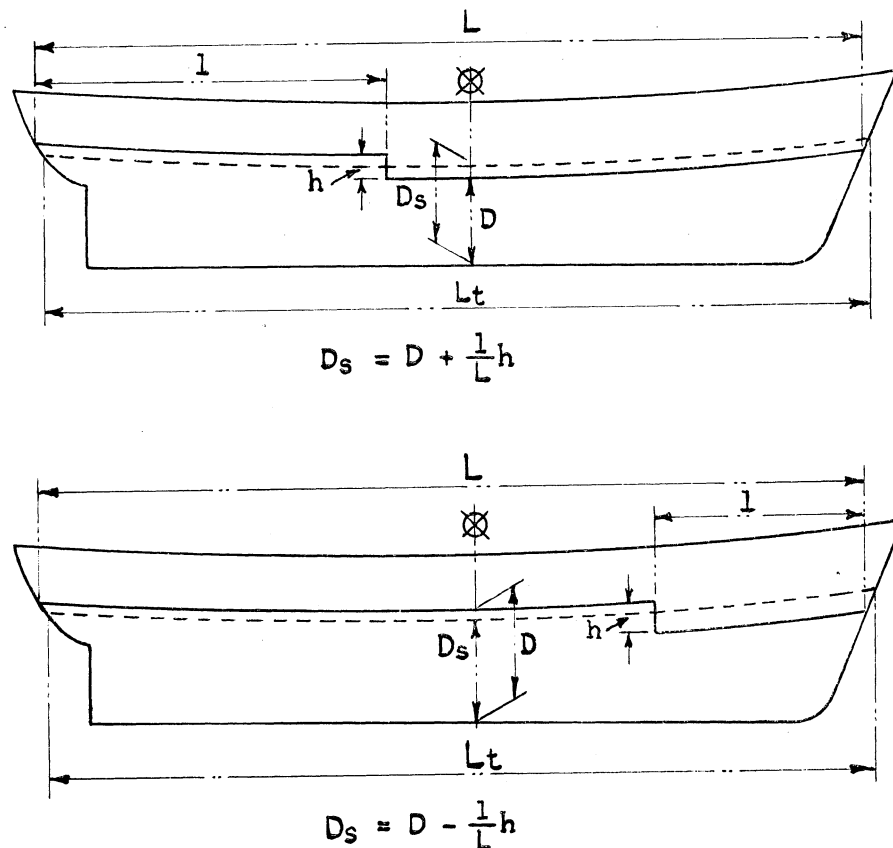
(3) the figures at the top of columns B to J represent the ratio L_t/D_s and the figures below in each column represent distances in inches from the line where the underside of the second deck stringer plate meets the ship's side plating amidships (or, in cases where the deck is stepped, from the equivalent line thereto as shown in Figure 2) to the point at which the upper edge of the tonnage mark is to be placed.

3. In the case of any ship of intermediate length or having an intermediate L_t/D_s ratio, the relevant distance to be applied shall be obtained by interpolation, and in other cases where necessary by linear extrapolation.

4. The effective relevant distance calculated by reference to the Tonnage Mark Table to be applied in the case of any ship shall be corrected to the nearest half-inch.

FIGURE 2

THIS SKETCH ILLUSTRATES HOW THE EQUIVALENT SECOND DECK SHOULD BE DETERMINED, BASED ON EQUAL LONGITUDINAL AREAS



5. In the case of a ship to which load lines have been assigned the tonnage marks shall, subject to the provisions of Regulation 11, be placed in a position ascertained in accordance with the foregoing provisions of this Schedule with the apex of the identification triangle at a distance of 21 inches horizontally aft of the centre line of the load line disc:

Provided—

- (i) that in cases in which a timber load line has been assigned to the ship such distance shall be 42 inches;
- (ii) that in no case shall the tonnage marks be placed above the deepest load line to which the ship may be loaded, no account being taken for this purpose of timber load lines.

6. In the case of a ship to which load lines have not been assigned the tonnage marks shall be placed in a position ascertained in accordance with the foregoing provisions of this Schedule with the apex of the identification triangle at the middle of the length Lt. In every such case the line of the upper deck shall be shown by a deck line corresponding in form to that required by the Load Line Rules and placed centrally to a vertical line bisecting the identification triangle of the tonnage mark.

TONNAGE MARK TABLE

A	B	C	D	E	F	G	H	I	J
Lt/Ds	12	13	14	15	16	17	18	19	20
Length Lt in feet	<i>Distances in inches</i>								
220 and under	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
230	3.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
240	4.7	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
250	6.3	3.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0
260	8.0	4.8	2.1	2.0	2.0	2.0	2.0	2.0	2.0
270	9.9	6.4	3.5	2.0	2.0	2.0	2.0	2.0	2.0
280	11.8	8.1	4.9	2.1	2.0	2.0	2.0	2.0	2.0
290	13.9	9.9	6.5	3.5	2.0	2.0	2.0	2.0	2.0
300	16.0	11.7	8.1	4.9	2.1	2.0	2.0	2.0	2.0
310	18.3	13.7	9.8	6.4	3.5	2.0	2.0	2.0	2.0
320	20.7	15.8	11.7	8.1	4.9	2.1	2.0	2.0	2.0
330	23.2	18.0	13.6	9.8	6.4	3.5	2.0	2.0	2.0
340	25.9	20.4	15.7	11.6	8.1	4.9	2.1	2.0	2.0
350	28.7	22.9	17.9	13.6	9.8	6.5	3.6	2.0	2.0
360	31.7	25.5	20.2	15.7	11.7	8.2	5.0	2.2	2.0

A	B	C	D	E	F	G	H	I	J
Lt/Ds	12	13	14	15	16	17	18	19	20
Length <i>Lt in feet</i>	<i>Distances in inches</i>								
370	34.7	28.3	22.7	17.9	13.6	9.9	6.6	3.7	2.0
380	38.0	31.1	25.3	20.2	15.7	11.8	8.3	5.2	2.4
390	41.3	34.1	27.9	22.6	17.9	13.8	10.1	6.8	3.8
400	44.8	37.2	30.7	25.0	20.1	15.8	11.9	8.4	5.3
410	48.2	40.3	33.5	27.7	22.6	18.1	14.0	10.4	7.2
420	51.5	43.4	36.4	30.4	25.2	20.6	16.4	12.7	9.4
430	54.8	46.5	39.4	33.3	27.9	23.2	19.0	15.2	11.8
440	58.4	49.9	42.6	36.4	30.9	26.0	21.7	17.8	14.4
450	62.1	53.4	46.0	39.6	33.9	29.0	24.6	20.6	17.1
460	65.9	57.0	49.5	42.9	37.1	32.1	27.6	23.5	19.9
470	69.8	60.7	53.0	46.3	40.4	35.2	30.6	26.5	22.8
480	73.7	64.4	56.5	49.7	43.7	38.4	33.7	29.5	25.7
490	77.5	68.1	60.0	53.0	46.9	41.5	36.7	32.4	28.5
500	81.2	71.6	63.4	56.2	50.0	44.5	39.6	35.2	31.2
510	84.9	75.1	66.7	59.4	53.0	47.4	42.4	37.9	33.9
520	88.4	78.4	69.9	62.4	55.9	50.2	45.1	40.5	36.4
530	91.8	81.6	72.9	65.3	58.7	52.9	47.7	43.0	38.8
540	95.2	84.8	75.9	68.1	61.4	55.5	50.2	45.4	41.2
550	98.4	87.8	78.8	70.9	64.0	58.0	52.6	47.8	43.4
560	101.6	90.8	81.6	73.6	66.6	60.5	55.0	50.1	45.6
570	104.8	93.8	84.4	76.3	69.2	62.9	57.3	52.3	47.8
580	107.9	96.8	87.2	78.9	71.7	65.3	59.6	54.5	49.9
590	111.0	99.7	90.0	81.5	74.2	67.7	61.9	56.7	52.0
600	114.0	102.5	92.6	84.0	76.5	69.9	64.0	58.8	54.0
610	117.0	105.3	95.2	86.5	78.9	72.1	66.2	60.8	56.0
620	120.0	108.0	97.8	88.9	81.2	74.4	68.3	62.8	58.0
630	122.9	110.7	100.4	91.3	83.5	76.6	70.4	64.8	59.9

A	B	C	D	E	F	G	H	I	J
Lt/Ds	12	13	14	15	16	17	18	19	20
Length <i>Lt in feet</i>	<i>Distances in inches</i>								
640	125.7	113.4	102.9	93.7	85.8	78.7	72.4	66.8	61.7
650	128.6	116.1	105.4	96.1	88.0	80.8	74.4	68.7	63.6
660	131.4	118.7	107.8	98.3	90.1	82.8	76.3	70.6	65.3
670	134.2	121.2	110.2	100.6	92.2	84.8	78.3	72.4	67.1
680	136.9	123.8	112.6	102.9	94.3	86.8	80.2	74.2	68.9
690	139.6	126.3	115.0	105.1	96.4	88.8	82.1	76.0	70.6
700	142.3	128.8	117.3	107.3	98.5	90.8	83.9	77.8	72.3
710	144.9	131.3	119.6	109.4	100.5	92.7	85.7	79.5	73.9
720	147.5	133.7	121.8	111.5	102.5	94.6	87.5	81.2	75.5
730	150.1	136.1	124.0	113.6	104.5	96.5	89.3	82.9	77.1
740	152.7	138.5	126.2	115.7	106.5	98.3	91.1	84.5	78.7
750	155.3	140.8	128.5	117.8	108.4	100.1	92.8	86.1	80.3
760	157.8	143.1	130.6	119.7	110.3	101.9	94.4	87.8	81.7
770	160.2	145.4	132.7	121.7	112.1	103.6	96.0	89.3	83.2
780	162.6	147.6	134.8	123.7	113.9	105.3	97.6	90.8	84.7
790	165.1	149.9	136.9	125.6	115.7	107.0	99.2	92.3	86.1
800	167.5	152.1	138.9	127.4	117.4	108.6	100.8	93.8	87.4

EXPLANATORY NOTE

(This Note is not part of the Regulations.)

These Regulations are made under the Merchant Shipping Act 1965 which comes into operation on 1st March 1967. They replace with minor amendments the provisions of the Merchant Shipping Acts relating to tonnage measurement which are repealed by that Act, and give effect to a recommendation of the Inter-Governmental Maritime Consultative Organisation regarding the treatment for tonnage measurement purposes of the shelter deck and certain other spaces on board ship.

The principal changes are:—

(1) Shelter deck ships have hitherto been allocated reduced tonnages by virtue of openings in the shelter deck known as tonnage openings. Provision is made for the allocation of alternative tonnages or in certain circumstances, if the owners so desire, permanently reduced tonnages. When alternative tonnages are allocated the submersion or non-submersion of a tonnage mark on the side of the ship will indicate which tonnage is to be applied. The effect of these provisions will be to enable tonnage openings to be permanently closed for reasons of safety without prejudicing the reduced tonnage of the ship.

(2) Certain spaces occupied by goods are exempted from measurement under Section 85 of the Merchant Shipping Act 1894 notwithstanding that they are not included in the register tonnage of the ship.

STATUTORY INSTRUMENTS

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