

# MERCHANT SHIPPING (TONNAGE) REGULATIONS 2010



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S. I. 10 of 2010

**MERCHANT SHIPPING ACT**  
(2007 No. 27)

Merchant Shipping (Tonnage) Regulations 2010

[9th March, 2010] Commence-  
ment

**In exercise of the powers conferred upon me by Section 326 of the Merchant Shipping Act, 2007 and of all other powers enabling me in that behalf, I, IBRAHIM ISA BIO, Minister of Transportation, hereby make the following Regulations :**

PART I—MEASUREMENT ETC. OF TONNAGE

1. — (1) Where it is necessary to measure the tonnage of a ship in Nigeria, it shall be ascertained in accordance with these Regulations.

Tonnage  
Measure-  
ment  
Certificates

(2) Application shall be made by the owner or master to the Minister in a form prescribed by or acceptable to the Nigerian Maritime Administration and Safety Agency if-

(a) the application relates to a ship registered in Nigeria, the Minister shall after the measurement is made by a surveyor of ships, issue a certificate containing the following particulars-

- (i) the name, port of registry and official number of the ship;
- (ii) its registered dimensions;
- (iii) its gross tonnage and the tonnage of each of the components specified in regulation 4(1) of these Regulations;
- (iv) its registered tonnage and the deductions and allowances made pursuant to regulations and 10 of these Regulations in ascertaining that tonnage;
- (v) in the case of a ship to which modified gross and register tonnages or alternative tonnages have been assigned in accordance with regulation 11 or 12 of these Regulations as the case may be, particulars of the spaces for the tonnage which has been excluded by virtue of the provisions of that regulation in ascertaining such tonnages;
- (vi) the position in which any tonnage mark assigned to the ship is placed;

(b) for any reason it is necessary to ascertain the tonnage of any other ship which is not exempted under these Regulations so as to fix the amount of rates and charges, the Minister may issue a certificate of Nigerian tonnage ascertained in accordance with these Regulations, and the gross tonnage and register tonnage set out therein shall be those tonnages for the purposes

of rates and charges, until the contrary is shown by reason of any subsequent alteration in the form or capacity of the ship or an erroneous computation is discovered to have been made.

(3) On re-measurement of a ship in Nigeria, any valid certificate of Nigerian tonnage in force in relation to that ship shall be delivered up to the Minister who shall issue a new certificate in place.

Offence

2. Failure to deliver to the Minister such certificate or other document relating to tonnage in paragraph (3) of regulation 1 of these Regulations shall be an offence for which the owner and the master shall be jointly and severally liable and punishable on summary conviction by a fine of not less than ₦200,000 and where the offence is a continuing one, the penalty shall be increased by ₦50,000 for every day or part of a day during which the offence continues.

Powers of Surveyors of Ships and Methods of Determining Tonnage.

3.—(1) A surveyor of ships may require the owner or master of a ship being measured under these Regulations to give him access to every facility during his inspection of the ship and allow him to take measurements and in the course thereof to produce for his use and retention, if he thinks it necessary, all plans, drawings, specifications and other relevant documents of the ship.

(2) The measurement of the tonnage of a ship shall be effected in the manner prescribed in the First Schedule (Rule I) and in the Second Schedule of these Regulations, so that if the ship is laden or for any other reason the measurement of the tonnage of the ship below the upper deck in accordance with the provisions of the First Schedule (Rule I) the Second Schedule of these Regulations is, in the opinion of the surveyor of ships not reasonably practicable, the tonnage shall be ascertained by a measurement in the manner prescribed in the First Schedule (Rule II); and where the measurement is ascertained pursuant to Rule II of the First Schedule of these Regulations, the provisions of Regulations 12 and 13 shall (subject however to the next succeeding paragraph) not apply.

First Schedule

(3) The Minister may, on the application of the owner of any ship the tonnage of which below the upper deck has been measured in accordance with the First Schedule (Rule II) direct the tonnage to be measured, when practicable, in accordance with the First Schedule (Rule I); and after the measurement, the particulars relating to its registered tonnage shall where necessary be altered accordingly.

Second Schedule

PART II-GROSS TONNAGE

Components of Gross Tonnage.

4.— (1) Save where these Regulations make other provision, 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 the First Schedule (Rule I) of these Regulations;

(b) the tonnage of between deck space between the second deck and the upper deck ascertained in accordance with the provisions of paragraph 2 of the First Schedule (Rule I) of these Regulations;

(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 of these Regulations;

(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 (1) of these Regulations ascertained in accordance with the provisions of paragraphs 3,4 and 5 of the First Schedule (Rule I) of these Regulations;

First  
Schedule

(d) the tonnage of hatchways described in regulation 6 of these Regulations ascertained in accordance with the provisions of that regulation and paragraph 5 of the First Schedule (Rule I) of these Regulations; and

(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 First Schedule (Rule I) of these Regulations in the event that the framed-in spaces are-

(i) certified to in writing by a surveyor of ships that they are properly constructed, reasonable in extent and cannot be used for any other purpose and that they are safe and seaworthy ; and

(ii) permanently marked by a notice stating their purpose;  
if the owner applies to the Minister in writing.

(2) Where the tonnage of a ship below the upper deck has been measured in accordance with the First Schedule (Rule II) to these Regulations, that tonnage shall be substituted for the tonnages in regulation 1(2)(a) and (b) of these Regulation.

First  
Schedule.

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

Underdeck  
Tonnage.

(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 timber, frames or sparring as the case may be, measured in accordance with the provisions of. paragraph 1 of the .

First Schedule (Rule 1) to these Regulations, subject to any applicable limitations specified in the Second Schedule to these Regulations 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.  
First Schedule.

6.—(1) 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 the First Schedule (Rule I) to these Regulations.

(2) From the aggregate, there shall be deducted half ( $\frac{1}{2}$ ) of 1 per cent of the ship's gross tonnage excluding such aggregate and the remainder (if any) shall be the tonnage of hatchways for inclusion in the gross tonnage of the ship.

Exclusion of Closed-in Spaces on or above the Upper Deck from Gross Tonnage.

7.—(1) Subject to paragraph (2) of this regulation, 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) any dry cargo space, unless situated in a break above the line of the upper deck;

(b) the space fitted with and appropriated for the use of machinery or condensers ;

(c) the wheelhouse, 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 the working of the steering gear, the anchor gear and capstan ;

(f) the 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 that no part of it is appropriated for use or any other purpose;

(i) washing and sanitary accommodation forming part of the crew accommodation or appropriated for the use of the master;

(j) the lamp room and any workshop and storeroom appropriated for the use of pumpmen, engineers, electricians, carpenters and boatswains;

(k) water ballast tanks not appropriated for use or any other purpose;

(I) shelter space providing weather protection for use free of charge, by deck passengers only in ships and intended for use only on voyages not exceeding 10 hours duration;

(111) sheltered promenade space, glassed in and unfurnished except for deckchairs -or similar light portable seating, intended for use in ships on international voyages.

(2) With the exception of spaces within paragraph (1)(a) of this regulation, this regulation shall not apply to other closed-in spaces unless a surveyor of ships certifies in writing that they are reasonable in extent, properly constructed for the particular purposes designated in the certificate, and that any such space is permanently marked by a notice stating its purpose.

### PART III—REGISTER TONNAGE

8.—(1) Subject to the provisions of this regulation and any other of these Regulations, the register tonnage of a ship shall be the tonnage obtained by deducting from its gross tonnage—

Register  
Tonnage.

(a) the allowable tonnage of spaces within regulation 9 of these Regulations; and

(b) the tonnage allowance for propelling machinery space determined in accordance with regulation 10 of these Regulations.

(2) The deduction under paragraph (1) of this regulation shall be subject to the applicable conditions, limitations or restrictions (if any), and a deduction of the tonnage of any such space shall not be made without first being included in the ship's gross tonnage.

9.—(1) In the application of regulation 8(1)(a) of these Regulations but subject to paragraph (2) of this regulation, the spaces to be deducted shall be—

Space to be  
Deducted.

(a) any 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 freshwater;

(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 the working of, the steering gear, anchor gear and capstan;

(e) space appropriated for the storage of safety equipment or batteries;

(f) the lamp room and any workshops and storerooms appropriated for the use of pumpmen, electricians, carpenters and boatswains;

(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 that the total tonnage of such space does not exceed  $2\frac{1}{2}$  per cent of the ship's gross tonnage; and

(j) water ballast tanks not appropriated for use or any other purpose, so that the total tonnage 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.

(2) No deduction shall be made in respect of any space specified in--  
(a) paragraph (l)(b) of this regulation unless a surveyor of ships certifies that the requirements of enactments applicable to crew accommodation and in particular Section 186 of the Merchant Shipping Act have been duly complied with; and

(b) paragraph (l)(a), or (c) to (j), of this regulation unless a surveyor of ships certifies that the relevant space is reasonable in extent, properly constructed for its purpose and is permanently marked by a notice stating that purpose.

Allowance  
for  
Propelling  
Machinery  
Space.

**10.**—(1) Subject to the provisions of paragraph (2) of this regulation, the tonnage allowance for propelling machinery space to be deducted pursuant to regulation 8(1)(b) of these Regulations shall be determined as follows—

(a) in the case of ships propelled by screws if the tonnage of the propelling machinery space is—

(i) 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; and

(ii) less than 13 per cent of the gross tonnage, the allowance shall be that lesser percentage of the gross tonnage multiplied by thirty-two and the result divided by thirteen ( $32/13$ );

(b) in the case of ships propelled by paddlewheels if the tonnage of the propelling machinery space is—

(i) 20 per cent or more but less than 30 per cent of the gross tonnage, the allowance shall be  $37$  per cent of the gross tonnage; and

(ii) less than 20 per cent of the gross tonnage, the allowance shall be



that lesser percentage of the gross tonnage multiplied by thirty seven and the result divided by twenty (37/20);

(c) in the case of ships to which sub-paragraphs (a) and (b) of this paragraph do not apply, the allowance shall be—

(i) in the case of ships propelled by screws, one and three quarter (13/4) times the tonnage of the propelling machinery space; and

(ii) in the case of ships propelled by paddlewheels, one and half (11/2) times the tonnage of the propelling machinery space.

(2) In the application of paragraph (1) of this regulation—

(a) in no case, save that of tugs intended to be used exclusively as such, shall the allowance exceed 55 percent of that portion of the tonnage of the ship which re-mains after deducting from its gross tonnage the deduction authorised by regulation 8(1) (a) of these Regulations; and

(b) deductions shall not be allowed for propelling machinery space and space appropriated for its lighting and ventilation unless a surveyor of ships certifies in writing to their adequacy and the spaces are permanently marked by notices stating their purpose.

#### PART IV—MODIFIED AND ALTERNATIVE GROSS AND REGISTER TONNAGE

11.—(1) Where a ship—

(a) greater than minimum freeboards have been registered under any applicable load line Rule; and

(b) the position of the load lines are not higher than would have been the case if the freeboards assigned and the position of the load lines had been calculated treating the second deck as the freeboard deck;

Modified  
Gross and  
Register  
Tonnage of  
Ships with  
Certain  
Freeboards.

the Minister may on the application in writing of the owner, assign to the ship as its gross tonnage and register tonnage, a modified gross tonnage and modified register tonnage ascertained in accordance with paragraph (2) of this regulation instead of the gross tonnage and register tonnage ascertained under these Regulations.

(2) When modified gross tonnage and modified register tonnage are to be assigned pursuant to this regulation shall apply for determining gross tonnage and register tonnage with the following modifications—

(a) for references to the upper deck in—

(i) regulation 4(1) (c) and (e), and (2) ;

(ii) regulation 7(1) ;

(iii) regulation 9(1) (j) ;

(iv) regulation 16 (3) and in the definition of "propelling machinery space"; and

First Schedule.

(v) the First Schedule (Rule I) and in paragraphs 3, 5, and 6, there shall be substituted references to the second deck; and

(b) regulation 4(1) (b) and paragraph 2 of the First Schedule (Rule I) shall be omitted.

Third Schedule.

(3) Where modified tonnages have been assigned to a ship under paragraph (1) of this regulation, there shall be placed on each side of the ship the tonnage mark as in figure 1 in the annex to the Third Schedule to these Regulations, in a position in line with the deepest load line to which the ship may be loaded, taking no account of timber load lines for this purpose, subject to paragraph (2) of this regulation as determined in accordance with the Fourth Schedule to these Regulations.

Fourth Schedule.

Alternative Tonnages.

12.— (1) The Minister may, on the application of the owner of a ship, assign to the ship, an alternative to its gross tonnage and register tonnage ascertained in accordance with these Regulations, the modified gross tonnage and modified register tonnage ascertained in accordance with the provisions of regulation 11 (2) above.

Third Schedule.  
Fourth Schedule.

(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 the Third Schedule to these Regulations in a position determined in accordance with the provisions of the Fourth Schedule to these Regulations.

(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; and at all other times the gross and register tonnages of the ship shall be those ascertained under regulation 11 of these Regulations, other than this regulation.

Fishing Boats.

13.— (1) Subject to the provisions of paragraph (2) of this regulation, nothing in these Regulations shall apply to Nigerian fishing boats.

(2) The First Schedule (Rule II) to these Regulations shall apply where it is necessary to ascertain the gross tonnage of a Nigerian fishing boat and when ascertained the provisions of the Fourth Schedule to these Regulations shall have effect and to give effect, regulation 42 of the Merchant Shipping (Fishing Boat) Regulations shall accordingly be amended by substituting the words "rule II of the Third Schedule to the Act" for the words "the First Schedule (Rule II) to the Merchant Shipping (Tonnage) Regulations".

Re-measurement of Tonnage of Ships already Registered.

14.— (1) Where the owner of a ship registered under the Act before the coming into operation of these Regulations applies to the Minister in writing in that behalf, the Minister may direct the measurement of the ship in accordance with the provisions of these Regulations and in such case, after re-measurement—

(a) the ship's existing certificate of registry shall be delivered up to the registrar of the ship's port of registry or any other port of registry; and

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

(2) After due compliance with the requirements of paragraph (1) of this regulation, the registrar of the ship's port of registry shall make all necessary alterations in his register and record therein the grant of the new certificate.

(3) Failure to comply with the requirement of paragraph (1) of this regulation as to delivery of a ship's existing certificate of registry before taking possession of a new certificate of registry issued pursuant to this regulation shall be an offence for which the owner and the master shall be jointly and severally liable and punishable on summary conviction by a fine of not less than ₦200,000 and where the offence is a continuing one, the penalty shall be increased by ₦50,000 for every day or part of a day during which the offence continues.

15.—(1) Where space is occupied by or designed for certain deck cargo to which section 305 of the Act applies, that space shall be ascertained in accordance with the provisions of paragraph 5 of the First Schedule (Rule I) to these Regulations, so that if-

Space  
Occupied by  
Deck Cargo  
Liable to  
Dues.  
First  
Schedule.

(a) a ship has been assigned alternative gross and register tonnages in pursuance of regulation 12 (1) of these Regulations; or

(b) the tonnages applicable to the ship -are the modified tonnages ascertained in accordance with regulation 10 (1) ;

no account shall be taken for the purpose of section 305 of the Act of any space which is included in the register tonnage ascertained in respect of the ship in accordance with these Regulations but which is not included in the modified register tonnage; to the extent that the tonnage of such space exceeds the difference between those in the register tonnages.

(2) Goods or stores shall not be carried in any permanently closed-in space on board the ship which has not been included in the register tonnage of the ship other than—

(a) dry cargo spaces;

(b) workshops or storerooms appropriated for the use of pumpmen, engineers, electricians, carpenters and boatswains;

(c) the lamp room; or

(d) double bottom tanks;

and it shall be an offence for goods or stores to be so stacked or stored on board ship in contravention of this paragraph, for which the master and the owner of the ship shall, upon conviction be jointly and severally liable to a fine of not less than N200,000.

Application.

16. These Regulations shall apply to all Nigerian ships within the meaning of the Act and any other ships to which regulation 1(2) (b) of these Regulations applies, however—

(a) nothing herein shall affect ships of war, or pleasure yachts; and

(b) fishing boats shall be affected only by regulation 13 above.

Interpretation.

17. In these Regulations, unless the context otherwise requires—

"the Act" means the Merchant Shipping Act;

"crew accommodation" has the same meaning as in the Merchant Shipping (Crew Accommodation) Regulations;

"dry cargo space" means space appropriated for the carriage of cargo other than liquid or gaseous matter in bulk;

"hatchways" means what is customarily referred to by naval architects as excess of hatchways ;

"Load Line Rules" means the Merchant Shipping (Load Line) Rules;

"permanently closed-in -spaces on or above the upper deck" includes —

(a) a poop, bridge or forecastle notwithstanding the presence of an opening in the end transverse bulkhead, 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 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 1.22 metres or more wide;

(c) a structure extending from side to side of the ship notwithstanding the presence 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 0.76 metres whichever is the greater;

(D) a passage way at the ship's side, unless it is 1.22 metres 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 1 metre 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.

"propelling machinery space" means space below the upper deck appropriated for the main and 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 three quarters of one (3/4) of 1 per cent of the gross tonnage of the ship;

(e) soil fuel settling tanks serving the main 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

(f) if located on or above the upper deck any framed-in space as described in regulation 4 (1) (e) and within the gross tonnage of the ship as ascertained in accordance with the regulation;

"second deck" means the deck next below the upper deck, being one which—

(a) is fitted as an integral part of the ship's structure;

(b) is continuous at least between peak bulkheads, both fore and aft and transversely; and

(c) has all hatch ways fitted with substantial and durable covers;

so that the second deck shall be taken to be continuous notwithstanding the presence of any of the following—

(i) openings serving propelling-machinery space or leading to ladderways or stairways;

(ii) hatch or ventilation trunks, if they do not extend fore and aft from one main transverse bulkhead to another;

(iii) chain lockers or cofferdams; or

(iv) breaks, the aggregate height of any of which above the line of continuation of the deck, does not exceed 1.2 metres;

"tonnage" in relation to a measurement of a ship or space shall be computed in terms of cubic capacity with 2.83 cubic metres representing 1 ton; and linear measurements made or taken shall be expressed in metre~ parts of a metre shall not be expressed in centimetres but as decimals of metre;

"tonnage deck" in single deck ships means the upper deck and in any other ship means the second deck;

"upper deck" means the uppermost 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 in the case of an open ship, the upper deck shall be taken to be the upper edge of the upper strake of the gunwale.

Citation.

**18.** These Regulations may be cited as the Merchant Shipping (Tonnage) Regulations 2010.

## SCHEDULES

### FIRST SCHEDULE

*[Regulations 3(2) and (3) ; 4 ; 5 ; 6 ; 11(2) ; 13(2) ; and 15]*

#### *Measurement of Tonnage*

#### RULE I

1.— (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 hereinafter referred to in this Schedule and in the Second Schedule to these Regulations as the "tonnage length".

Underdeck  
Tonnage.

(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 obtained in accordance with sub-paragraph (2), shall be divided into equal parts as shown in the following table so that if the length of any of the several parts does not exceed 9 metres that length may be divided into 2 equal parts-

(a) length 15 metres or under, into 4 equal parts;

(b) length above 15 metres but not exceeding 36 metres, into 6 equal parts;

(c) length above 36 metres but not exceeding 54 metres, into 8 equal parts;

(d) length above 54 metres but not exceeding 68 metres into 10 equal parts;

(e) length above 68 metres, into 12 equal parts.

(4) The transverse area of the ship at each point of division of the tonnage length or of parts of that length in sub-paragraph (3), 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 the average thickness of ceiling; if fitted and one-third the round of beam. When making the calculation, 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 and if the top of the double bottom rises from the middle plane, a corresponding correction shall be deducted from the depth; and in respect of 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 the average thickness of ceiling between the bilge planks and the limber strake ;

(b) if the depth obtained under sub-paragraph 4 (a) does not exceed 5 metres at the amidship division of the total tonnage length, the depth at each point of division of the tonnage length or parts of that length as, shall be divided into 4 equal parts ; while depths in excess of 5 metres shall be divided into 6 equal parts;

(c) at the point of division between each of the parts obtained under paragraph (4) (b) above, the horizontal breadths to the inner face of the timber, frame, or sparring, as the case may be, shall be measured. In 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 metres.

First  
Schedule.

(5) The transverse area obtained under sub-paragraph (4) of this paragraph shall be numbered from the extreme forward point of measurement of the tonnage length, or 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 2.83 shall be the underdeck tonnage of the ship exclusive of the tonnage of spaces to be included therein pursuant to the paragraph appendages referred to in 4 (b) of these Regulations.

Between  
Deck Space  
between the  
Second Deck  
and the  
Upper Deck

2.—(1) The between deck 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, timber, 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 underside of the deck over.

(2) 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 between deck space shall be measured in such a case by reference to the line of the deck so extended.

(3) 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 between deck space.



(4) The breadths so obtained 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 the last, by 2. The products shall be added together and the first and last breadths shall be added to the sum. The resulting quantity shall be multiplied by one-third of the common interval between the breadths. and the area there-by found shall be multiplied by the mean height between the upper surface of the deck and the underside of the deck over. The product when divided by 2.83 shall be the tonnage of the between deck space.

3. The length of breaks in the upper deck shall be measured 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 as described in paragraph 2(1) and (2) of this Rule. The length obtained shall be divided into 2 equal parts for lengths of 15 metres or less, 4 equal parts for lengths above 15 metres but not more than 68 metres, and 6 equal parts for lengths over 68 metres. 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. In 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 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; and the product, when divided by 2.83, shall be the tonnage of the break.

Breaks in the  
Upper Deck.

4. A poop, bridge, or forecastle shall be measured as follows-

The mean length 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 as described in paragraph 2 (1) and (2) of this Rule. The length obtained shall be divided into 2 equal parts for lengths of 15 metres or under, 4 equal parts for lengths over 15 metres but not exceeding 68 metres, and 6 equal parts for lengths exceeding 68 metres. 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 between the upper surface of the deck and the underside of the deck over. In numbering these breadths from the foremost terminal point, the even numbered breadths shall be multiplied by 4 and the odd numbered, the first and last, by 2. The products shall be added together and to the sum there shall be added first and last breadths. The quantity 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 when divided by 2.83, shall be the tonnage of the poop, bridge, or forecastle.

Poop, Bridge  
and  
Forecastle.

Other  
Permanently  
Closed-in  
Spaces on or  
above the  
Upper Deck.

5. 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 2.83, be the tonnage of the space.

Propelling  
machinery  
space.

6. — (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 9 metres, 5 equally spaced breadths for lengths over 9 metres, but not exceeding 15 metres, and 7 equally spaced breadths for lengths over 15 metres, 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 when divided by 2.83, 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 2.83, be the tonnage of the space.

Shaft  
Bossings and  
Appendages.

7. The tonnage of shaft bossings and other appendages referred to in regulation 5(b) of these Regulation's shall be ascertained by measuring the internal cubic capacity of the space as accurately as practicable and dividing the result by 2.83.

**RULE II**

Measure-  
ment of  
Tonnage  
below the  
Upper Deck  
where  
Measure-  
ment in  
Accordance  
with Rule I  
is  
Impracticable

8. 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 earlier mentioned breadth. The square of the sum shall be multiplied by the earlier mentioned 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.

9. 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 of this Rule, the girth shall be ascertained by adding the earlier mentioned 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.

### **RULE III**

10. In ascertaining the tonnage of open ships, the upper edge of the upper strake is to form the boundary line of measurement, and the depth shall be taken from an athwartship line, extending from upper edge to upper edge of that strake at each division of the length.

## SECOND SCHEDULE

*[Regulations 3 (2) ; and 5 ; First Schedule]*

### *Limitation of Heights of Open Floors and Double Bottoms and of Depths of Frames and Side Brackets, for Purposes of Measurement of Underdeck Tonnage*

*(The provisions of this Schedule shall have effect for  
the purposes of the measurement of underdeck tonnage)*

Open Floors.

1.— (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 referred to in sub-paragraph (2) of this paragraph, shall be disregarded for the purposes of measurement of underdeck tonnage, which shall be measured accordingly by reference to that horizontal line.

(2) The horizontal line referred to in sub-paragraph (1) of this paragraph 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 annexed to this Schedule and corrected by the addition of a distance equal to the rise of the moulded frame line at the quarter of the breadth of the ship between moulded frame lines at the said maximum height.

(3) The provisions of this paragraph shall apply to ships fitted with longitudinal floors and frames.

Double  
Bottoms.

2. 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 annexed to this Schedule 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.— (1) The horizontal width of bilge brackets measured from the shell of the ship to the inboard toe of the brackets shall not exceed the maximum height of—

(a) open floor applicable to the ship obtained by reference to columns A and B of Table I annexed to this Schedule, if taken at the level of the top of an open floor; or

Bilge  
Brackets.

(b) double bottom applicable to the ship obtained by reference to columns A and C of Table I aforesaid, if taken at the level of the top of a double bottom.

(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 areas 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 annexed to this Schedule, or twice the width of the bilge bracket whichever is the less.

4. Where open floors, double bottoms and bilge brackets or any of *them* are fitted, the limitations imposed in paragraphs 1 to 3 of this Schedule are exclusive of any allowance for ceiling.

Allowance  
for Ceiling.

5.—(1) Subject to sub-paragraphs (2) and (3) of this paragraph, 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 annexed to this Schedule shall be disregarded, and underdeck tonnage shall be measured accordingly by reference to the maximum depth of frame so ascertained.

Depth of  
Frames.

(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 earlier mentioned.

(3) The limitations hereby imposed are exclusive of any allowance for sparring fitted on the toe of the frames:

## SECOND SCHEDULE

(Annex)

TABLE I

A <i>Tonnage length of ship</i>	B <i>Maximum height of open floors</i>	C <i>Maximum height of double bottom</i>
	<i>The dimensions shown are to be increased by 50 per cent for the first 25 per cent and subsequent 15 per cent of the tonnage length of the ship.</i>	
<i>in metre</i>	<i>in centimetres</i>	<i>in centimetres</i>
Not exceeding 18	57.5	87.6
24	60.0	83.8
30	62.5	95.2
36	65.0	99.1
42	67.5	102.9
48	69.0	105.7
55	71.5	110.5
61	74.0	114.3
67	76.5	118.1
73	79.0	121.9
79	81.5	125.7
85	84.0	129.5
91	86.5	127.5
97	89.0	133.3
103	91.5	141.0
110	96.5	144.8
116	99.1	148.6
122	101.6	152.4
128	109	156.2
134	105.7	160.0
140	109.2	163.8
146	111.7	167.6
152	114.3	171.5
158	116.8	175.3
164	119.4	179.1
170	121.9	182.9
177	124.4	186.7
183	127.0	190.5
189	129.5	194.3
195	132.1	198.1
201	134.6	201.9
207	137.1	205.7
213	139.7	209.6

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 200 metres by linear extrapolation.

TABLE II

<i>B 443 Registered breadth in metre</i>	<i>Maximum depth of frame in centimetres</i>
Not exceeding 7	36
9	40
12	45
15	51
18	56
21	63
24	71
27	79
30 and above	86

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

## THIRD SCHEDULE

[Regulations 11(3)  
and 12(2)]

Tonnage  
Marks.

1. Save as otherwise provided in paragraph 2 of this Schedule, the tonnage mark in the annex to this Schedule and there shown in Figure 1 shall consist of a horizontal line 2.5 centimetres long and 2.5 centimetres wide upon which shall be placed for identification purposes an inverted equilateral triangle, each side of which is 30.5 centimetres long and 2.5 centimetres wide, having its apex in 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 which is not a ship on which tonnage marks have been placed in accordance with regulation 11 of these Regulations, an additional horizontal line may on the application of the owner of the ship be placed above the tonnage mark described in paragraph 1 of this Schedule and at a distance of one forty-eighth (*1/48th*) of the moulded draught to that tonnage mark. This additional line shall be 23 centimetres long and 2.5 centimetres wide measured from a 2.5 centimetres wide vertical line (shown marked "w" in Figure 1 aforesaid) 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 of this Schedule.

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.



## FOURTH SCHEDULE

[Regulations 11 (3)  
and 12(2)]

Position of  
Tonnage  
Marks.

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, where the deck is stepped, below the line equivalent to that line as shown in Figure 2 as Annex "A" to this Schedule in a position to be ascertained by reference to the Tonnage Mark Table set out as Annex "B" to this Schedule.

2. In the application of the Tonnage Mark Table-

(a) the length shown as "Lt" in column A is the distance in metres 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 the aforesaid Figure 2 ; and

(b) the depth shown as "Ds" in column A is the depth in metres 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 the aforesaid Figure 2 in cases where the deck is stepped;

(c) the figures 12 to 20 respectively appearing at the top of the columns lettered B to J represent the ratio Lt/Ds, and the figures thereafter set out 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 the aforesaid 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 Lt/Ds ratio, the relevant distance to be applied shall be obtained by interpolation and in other cases where necessary by linear extrapolation.

4. The effect 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 millimetres.

5. Subject to paragraph 6 of this Schedule, in the case of a ship to which load lines have been assigned, the tonnage marks shall, subject to the provisions of regulation 11 of these Regulations, be placed in a position ascertained in accordance with the provisions of this Schedule, with the apex of the identification triangle at a distance of 53 centimetres horizontally aft of the centre line of the line ofload line disc so that where a timber load line has been assigned to the ship the distance shall be 107 centimetres.

FOURTH SCHEDULE

Annex "A"

6. Where tonnage marks have been assigned they shall in no case be placed above the deepest load line to which the ship may be loaded and account shall not be taken of timber load lines when giving effect to this provision.

7. 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 provisions of this Schedule with the apex of the identification triangle at the middle of the length shown as "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.

FIGURE 2

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

