



IMCO

INTERNATIONAL CONFERENCE ON TONNAGE MEASUREMENT

Technical Committee

FIRST DRAFT OF REGULATIONS FOR DETERMINING GROSS AND NET TONNAGES OF SHIPS

In order to facilitate the work of the Technical Committee, the Secretariat has prepared the attached first draft of Regulations for Determining Gross and Net Tonnages of Ships, taking into account decisions so far taken by the Committee.

The draft text is based on the assumption that the formula for gross tonnage is the function of the total volume of enclosed spaces of a ship and the formula for net tonnage is the function of displacement, possibly together with the total moulded volume of passenger spaces of number of passengers and the total volume of water ballast spaces.

TM/CONF/C.2/WP.22

FIRST DRAFT OF REGULATIONS FOR DETERMINING
GROSS AND NET TONNAGES OF SHIPS

Regulation 1

General

- (1) The tonnage of a ship shall consist of gross tonnage and net tonnage.
- (2) The gross and net tonnages shall be determined in accordance with the provisions of these Regulations.
- (3) The gross and net tonnages of novel types of craft whose constructional features are such as to render the application of the provisions of these Regulations unreasonable or impracticable shall be as determined by the Administration. Where the tonnage is so determined, the Administration shall communicate to the Organization details of the method used for that purpose, for circulation to the Contracting Governments for their information.

Regulation 2

Definitions of Terms used in the Annexes

(1) Upper Deck

The upper deck is the uppermost complete deck exposed to the sea and weather, which has permanent weathertight means of closing all openings in the weather part thereof, and below which all openings in the sides of the ship are fitted with permanent means of watertight closing. In a ship having discontinuous upper deck, the lowest line of the exposed deck and the continuation of that line parallel to the upper part of the deck is taken as the upper deck.

(2) Moulded depth

- (a) The moulded depth is the vertical distance measured from the top of the keel to the top of the upper deck beam at side. In wood and composite ships the distance is measured from the lower edge of the keel rabbet. Where the form at the lower part of the midship section is of a hollow character, or where thick garboards are fitted, the distance is measured from the point where the line of the flat of the bottom continued inwards cuts the side of the keel.
- (b) In ships having rounded **gunwales**, the moulded depth shall be measured to the point of intersection of the moulded lines of the deck and side shell plating, the lines extending as though the gunwale were of angular design.
- (c) Where the upper deck is stepped and the raised part of the deck extends over the point at which the moulded depth is to be determined, the moulded depth shall be measured to a line of reference extending from the lower part of the deck along a line parallel with the raised part.

(3) Passenger

A passenger is every person other than:

- (i) the master and the members of the crew or other persons employed or engaged in any capacity on board a ship on the business of that ship; and
- (ii) a child under one year of age.

TM/CONF/C.2/WP.22

/(4) Special trade passenger

A special trade passenger is a passenger carried in special trades in spaces other than cabins or state rooms which accommodate not more than eight passengers.]

(5) Passenger space

Passenger spaces are spaces intended to be used by the ship's passengers, i.e. spaces such as: staterooms including baths, toilets, foyers, corridors, and passageways associated therewith, and spaces used or intended to be used as public spaces for passengers generally including baths, toilets, foyers, corridors, passageways, libraries, lounges, bars, gymnasiums, theatres, etc., passenger dining rooms, and other similar spaces associated therewith. Promenade decks on and above the upper deck and other similar spaces not served by the ship's interior heating and ventilating systems, and service and crew areas shall not be included in passenger spaces.

(6) Water ballast spaces

A water ballast space is a space which is exclusively used for the carriage of water ballast and which complies with the following conditions:

- (i) it is certified as properly constructed and tested to ensure that it is capable of withstanding pressure under a head of water;
- (ii) it is solely adapted for water ballast and the means for filling and emptying the tank are of a permanent and satisfactory character independent of the installations for water or oil for motor cooling, water for feed or domestic purposes, fuel oil or cargo; and

- (iii) the sole means of access are by manholes with an area not exceeding 0.45 square metres (4.9 square feet).

Regulation 3

Gross Tonnage

- (1) The gross tonnage of a ship shall be determined by the following formula:

$$GT = K_1 V$$

where: GT = Gross tonnage in register tons,
V = Total volume of all enclosed spaces
of the ship in cubic metres (cubic feet),
K₁ =

- (2) Enclosed spaces referred to in paragraph (1) of this Regulation shall be all those spaces which are separated off by the ship's hull, by decks or coverings other than awnings, or fixed or portable partitions. No break in a deck, nor any opening or openings in the ship's hull, a deck or a covering of a space or in the partitions or bulkheads of a space, nor the absence of a partition shall prevent a space from being measured and included in the enclosed space if means are provided for closing such a break, opening or openings.
- (3) Subject to paragraph (2) of this Regulation, the following spaces shall not be considered as enclosed spaces unless they are provided with shelves or other means for securing cargo or stores and shall not therefore be included in the total volume of enclosed spaces of the ship:

TM//CONF/C.2/WP.22

- (a)(i) A space within an erection opposite an end opening from deck to deck except for a curtain plate of a depth not exceeding by more than 25 millimetres (one inch) the depth of the adjoining deck beams which is not provided with means of closing and which opening has a breadth equal to or greater than 90 per cent the breadth of the deck at the line of the opening of the space (see Figure ...). This provision shall be so applied as to exclude from the total volume of enclosed spaces of the ship only the space between the actual end opening and a line drawn parallel to the line or face of the opening at a distance from the opening equal to one-half the width of the deck at the line of the opening (see Figure ...).
- (ii) Should the open space because of any arrangement, except by convergence of the outside plating, become of less width than 90 per cent the breadth of the deck, then only the space between the line of the opening and a parallel line drawn through the point where the athwartships width of the open space become equal to, or less than, 90 per cent the breadth of the deck shall be excluded from the total volume of enclosed spaces of the ship (see Figure ...).
- (iii) When two erections are separated by an open well having an interval the fore and aft length of which is less than the least half breadth of the deck in way of such interval, then whatever be the breadth of the end of the opening, the volume of the entire erections less the volume of the interval separating them shall be included in the total volume of enclosed spaces of the ship (see Figure ...)

- (b) A space under an overhead deck or covering open to the sea and weather, having no other connexion on the exposed sides with the body of the ship than the stanchions necessary for their support; open rails or a bulwark and curtain plate may be fitted or stanchions fitted at the ship's side provided the open space between the top of the rails or the bulwark and the curtain plate is not less than 0.75 metres (2.5 feet) or one-third the height of the space, whichever is the greater (see Figure ...).
- (c) A space in a side-to-side erection directly in way of opposite side openings not less in height than 0.75 metres (2.5 feet) or one-third the height of the erection whichever is the greater; if the opening is provided on one side only the space excluded from the total volume shall be limited inboard from the opening to a maximum of one-half the breadth of the deck in way of the opening (see Figure ...).
- (d) A space in an erection immediately below an uncovered opening in the deck overhead, exposed to the weather and limited to the area of the opening (see Figure ...).
- (e) A recess in the boundary bulkhead of an erection, which is exposed to the weather and the opening of which extends from deck to deck without means of closing, provided that the interior width is not greater than the width at the entrance and its extension into the erection is not greater than twice the width of its entrance (see Figure ...).

TM/CONF/C.2/WP.22

- (4) In the event that any space excluded from the total volume of enclosed spaces of the ship in compliance with paragraph (3) of this Regulation has been put to a condition which does not permit such exclusion in compliance with that paragraph, such space shall be included in the total volume of enclosed spaces and shall not thereafter be excluded therefrom until the ship is transferred to the flag of another State or a real change in the ownership of the ship takes place.

Regulation 4

Net Tonnage

- (1) The net tonnage of a ship shall be determined by the following formula:

$$\sqrt[3]{NT} = K_2 V + \dots$$

Where NT = Net tonnage in register tons,

V = displacement of a ship in cubic metres (cubic feet) calculated at the draught as defined in paragraph (3) of this Regulation,

K_2 = a coefficient, $\sqrt{\quad}$

- $\sqrt{\quad}$ (2) In no case shall the net tonnage be less than that calculated by the following formula:

NT = $\sqrt{\quad}$

- (3) The displacement referred to in paragraphs (1) and (2) of this Regulation shall be calculated at one of the following load lines or draughts:
- (i) for ships to which the International Convention on Load Lines in force applies, the summer load line other than timber load line assigned in accordance with that Convention;
 - (ii) for passenger ships, the deepest subdivision load line assigned in accordance with the International Convention for the Safety of Life at Sea in force or other international agreement where applicable;
 - (iii) for ships to which the International Convention on Load Lines does not apply but which have been assigned a load line in compliance with national requirements, the summer load line so assigned;
 - (iv) for ships to which no load line is assigned but the draught of which is restricted in compliance with national requirements the maximum permitted draught so required; or
 - (v) for other ships, the draught equal to 85 per cent of the moulded depth amidships to the upper deck.

Regulation 5

Change of Net Tonnage

- (1) When the assigned load line of a ship or the permitted draught referred to in Regulation ... is altered which results in an increase in its net tonnage as determined in accordance with the provisions of Regulation ..., the net tonnage of the ship corresponding to the new load line shall be determined and shall be applied forthwith.

TM/CONF/C.2/WP.22

(2) When the assigned load line of a ship or the permitted draught referred to in Regulation ... is altered which results in a decrease in its net tonnage as determined in accordance with the provisions of Regulation ... the reduced net tonnage of the ship corresponding to the new load line shall not be applicable for the purposes of this Convention before twelve months have elapsed from the date on which the assigned load line was altered; provided that this requirement shall not apply:

- (i) if the ship is transferred to the flag of another State, or
- (ii) if a real change in the ownership of the ship takes place, or
- (iii) if the ship undergoes alterations or modifications which are deemed by the Administration to be of a major character. For the guidance of the Administration alterations or modifications which result in the change of the gross tonnage of the ship by at least 10 per cent are regarded as being of a major character.

[(3) Notwithstanding the provisions of paragraphs (1) and (2) of this Regulation, a ship to which load lines referred to in sub-paragraphs (i) and (ii) of Regulation ... are concurrently assigned shall be given only one net tonnage as determined in accordance with the provisions of Regulation ... and that tonnage shall be the tonnage applicable to the appropriate assigned load line, provided that:

- (i) changes resulting in a decrease in net tonnage shall be made not more than ... times in any period of twelve months; and
- (ii) changes may be made in accordance with the terms of the proviso contained in the preceding paragraph.]

Regulation 6

Calculation of Volumes and Displacement

- (1) All volumes and the displacement included in the calculation of gross and net tonnages shall be measured to the inner side of plating in ships with metal plating, and outer surface of plating in ships with plating of any other material.
- (2) Volumes of bulges in the ship's sides, such as a bulbous bow and propeller bossings, shall be included in the total volume and displacement.
- (3) Volumes of spaces open to the sea, such as slipways, bow thruster tunnels, open wells in dredgers, etc. may be excluded from the total volume and displacement.

Regulation 7

Measurement and Calculation

- (1) All measurement used in the calculation of volumes and displacement shall be taken to the nearest centimetre (one-twentieth of a foot).
 - (2) The volumes and displacement shall be calculated by methods generally accepted for this purpose and with an accuracy acceptable to the Administration.
 - (3) The calculations shall be sufficiently detailed to permit easy checking.
-

