

# **Interpretations of the Tonnage Measurement**

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# TM 1 Determination of Moulded Depth (D) for Ships with an Open Mooring Deck Aft or Stepped Upper Deck

(1993)

## Regulation 2 (2) (c) of Annex 1

When calculating the net tonnage for ships with an open mooring deck aft, the moulded depth should be measured to the line of the open mooring deck continued forward parallel to the raised part of the upper deck (depth D1 in Figure 1) and not to the raised part of the upper deck (depth D2 in Figure 1). If the upper deck is continued aft over the mooring deck, the moulded depth should still be taken as D1 in Figure 1, provided that the side openings allow the space below the upper deck to be considered as an excluded space according to Regulation 2 (5) (b) and (c).

For ships with a step in the upper deck extending across the full breadth and greater than one metre in length, the moulded depth should be measured to the line of the lower point of the exposed deck extended parallel to the raised part of the exposed deck (depth D1 in Figure 2) and not to the raised part of the upper deck (depth D2 in Figure 2).

If the step or mooring deck is situated outside the length as defined in Article 2(8) of the Convention or if the length of the step or mooring deck is one metre or less, the moulded depth should be taken as D2 in Figures 1 and 2.

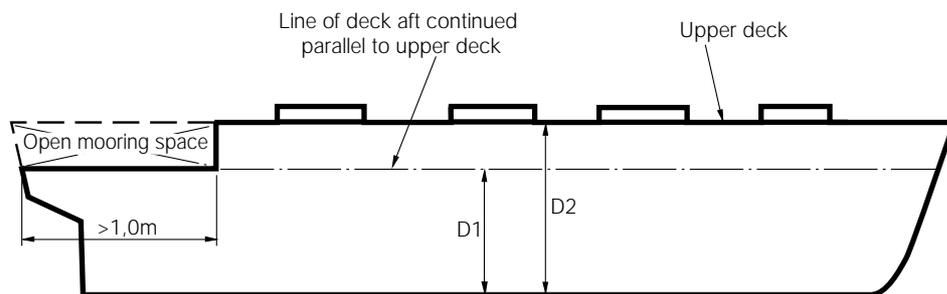


Fig. 1

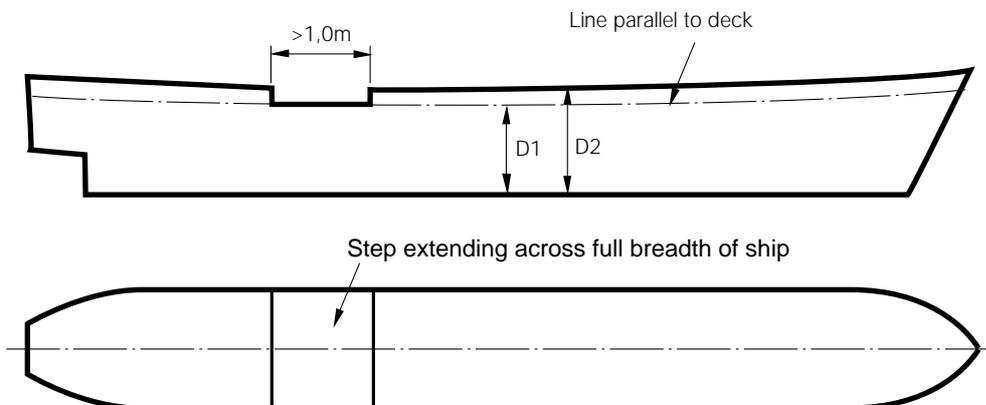


Fig. 2



# International Tonnage Convention 1969 - Heat Exchangers (Coolers) Treatment

## References

### International Convention on Tonnage Measurements of Ships, 1969 - Regulation 2(4):

#### Enclosed Spaces

Enclosed Spaces are all those spaces which are bounded by the ship's hull, by fixed or portable partitions or bulkheads, by decks or coverings other than permanent or movable awnings. No break in a deck, nor any opening in the ship's hull, in a deck or in a covering of a space, or in the partitions or bulkheads of a space, nor the absence of a partition or bulkhead, shall preclude a space from being included in the enclosed space.

### International Convention on Tonnage Measurements of Ships, 1969 - Regulation 6(2):

#### Calculation of Volumes

Volumes of appendages shall be included in the total volume.

#### **TM.5/Circ.6 - Interpretation R.2(4)-9:**

Machinery such as mooring and towing equipment, winches, revolving cranes, cranes with truss structures, and other similar items should not be included in the total volume of all enclosed spaces (V).

#### **TM.5/Circ.6 - Interpretation R.6(2)-1:**

Bulbs, fairwaters, propeller shaft bossings or other structures should be treated as appendages.

## Interpretation

Heat exchangers (coolers) fitted in hull recesses or outside of the hull shall be treated as machinery under TM.5/Circ.6 Interpretation R.2(4)-9 and not as appendages.

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#### Note:

1. This UI is to be uniformly implemented by IACS Societies from 1 July 2016.

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# Interpretation of International Tonnage Calculation: Open Deck Spaces Bounded by Partitions or Bulkheads (ITC69 regulation 2(4), 2(5) and 6)

## ITC69 regulation 2(4)

### Enclosed Spaces

Enclosed Spaces are all those spaces which are bounded by the ship's hull, by fixed or portable partitions or bulkheads, by decks or coverings other than permanent or movable awnings. No break in a deck, nor any opening in the ship's hull, in a deck or in a covering of a space, or in the partitions or bulkheads of a space, nor the absence of a partition or bulkhead, shall preclude a space from being included in the enclosed space.

## ITC69 regulation 2(5)

### Excluded Spaces

Notwithstanding the provisions of paragraph (4) of this Regulation, the spaces referred to in sub-paragraphs (a) to (e) inclusive of this paragraph shall be called excluded spaces and shall not be included in the volume of enclosed spaces, except that any such space which fulfils at least one of the following three conditions shall be treated as an enclosed space:

- the space is fitted with shelves or other means for securing cargo or stores;
- the openings are fitted with any means of closure;
- the construction provides any possibility of such openings being closed.

(a) (i) A space within an erection opposite an end opening extending 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, such opening having a breadth equal to or greater than 90 per cent of the breadth of the deck at the line of the opening of the space. This provision shall be applied so as to exclude from the enclosed spaces 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 of the width of the deck at the line of the opening.

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### Note:

1. This UI is to be uniformly implemented by IACS Societies from 1 January 2017.

**TM3**  
(cont)

(a) (ii) Should the width of the space because of any arrangement except by convergence of the outside plating, become less than 90 per cent of the breadth of the deck, only the space between the line of the opening and a parallel line drawn through the point where the athwartships width of the space becomes equal to, or less than, 90 per cent of the breadth of the deck shall be excluded from the volume of enclosed spaces.

(a) (iii) Where an interval which is completely open except for bulwarks or open rails separates any two spaces, the exclusion of one or both of which is permitted under subparagraphs (a) (i) and/or (a) (ii), such exclusion shall not apply if the separation between the two spaces is less than the least half breadth of the deck in way of the separation.

(b) A space under an overhead deck 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 its support. In such a space, open rails or a bulwark and curtain plate may be fitted or stanchions fitted at the ship's side, provided that the distance between the top of the rails or the bulwark and the curtain plate is not less than 0.75 metres or one-third of the height of the space, whichever is the greater.

(c) A space in a side-to-side erection directly in way of opposite side openings not less in height than 0.75 metres or one-third of the height of the erection, whichever is the greater. If the opening in such an erection is provided on one side only, the space to be excluded from the volume of enclosed spaces shall be limited inboard from the opening to a maximum of one-half of the breadth of the deck in way of the opening.

(d) A space in an erection immediately below an uncovered opening in the deck overhead, provided that such an opening is exposed to the weather and the space excluded from enclosed spaces is limited to the area of the opening.

(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.

**ITC69 regulation 6**

## Calculation of Volumes

(1). All volumes included in the calculation of gross and net tonnages shall be measured, irrespective of the fitting of insulation or the like, to the inner side of the shell or structural boundary plating in ships constructed of metal, and to the outer surface of the shell or to the inner side of structural boundary surfaces in ships constructed of any other material.

(2). Volumes of appendages shall be included in the total volume.

(3). Volumes of spaces open to the sea may be excluded from the total volume.

**Interpretation**

For application of ITC regulations 2 and 6, the phrase "enclosed space" shall be interpreted as follows:

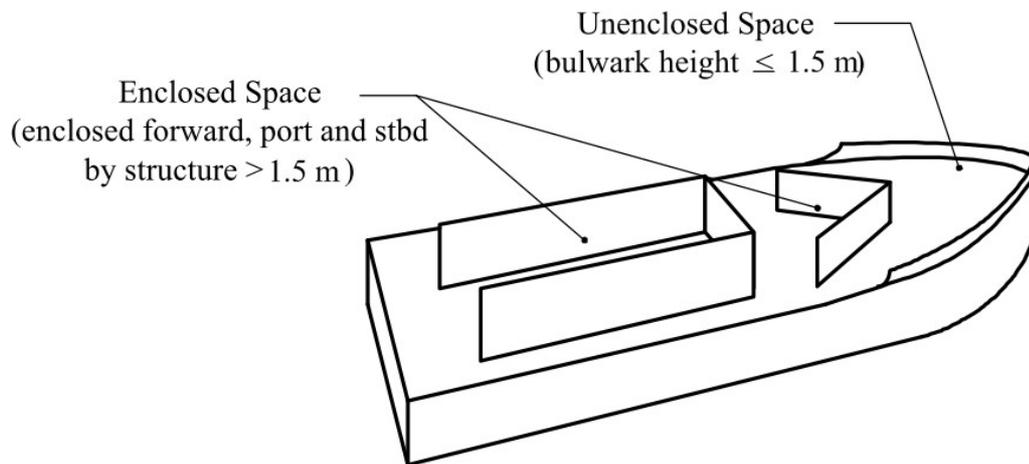
## Enclosed Spaces

A space, covered from above or not, and enclosed by partitions or bulkheads on all sides or on all but a single side or end, and that exceed 1.5 metres in height, as measured from the

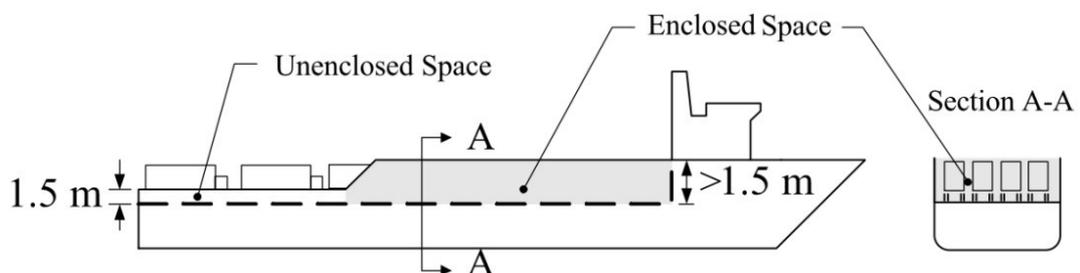
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lowest point of the enclosed space, and fitted with means for securing cargo should be included in V in accordance with the first condition of regulation 2(5), with the exception of the offshore supply vessels (OSV's) and similar constructions.

In case of bulk cargo, the bounding partitions or bulkheads itself are considered as means for securing cargo.



In the situation where only a portion of a bulkhead or partition exceeds 1.5 metres in height, the entire inboard space in way of that portion of the structure from the deck to the top of the structure must be included in the total volume of all enclosed spaces (V).



Offshore Supply Vessels (OSV's) and similar constructions

The uncovered cargo deck space on an offshore supply vessel (OSV) is not considered an enclosed space under the provisions of Regulation 1(3), notwithstanding the presence of bulwarks or other enclosing structures, regardless of their height. In this context, the cargo deck space is defined as the open space on the main deck aft of the forecandle that is exposed to weather and used for stowage of deck cargo loads and/or processing equipment. This determination applies to all self-propelled vessels engaged primarily in towing, anchor handling, transport of stores, materials and equipment to offshore installations and designed with accommodation and bridge erections in the forward part of the vessel and an exposed cargo deck in the after part for the handling of cargo at sea.

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