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Date: 3th September 2014

Directive (8/2014)

National Standard for Tonnange Measurement and Calculation of Myanmar Ships Engaged on Myanmar Waters

Applicable to: Ship owners, Recognized Organizations, Shipping Companies, Flag State Surveyors

1. The Department of Marine Administration circulated this directive in the exercise of the power of Section 294(B), paragraph (b) of Myanmar Merchant Shipping Act.

2 Pursuant to the provision of section 213 (A) of Merchant Shipping Act, the Department of Marine Administration provided this national standard for tonnage measurement and calculation of Myanmar ships engaged on Myanmar Waters.

3. The purpose of this directive is the Department of Marine Administration shall employ this prepared Tonnage Measurement and Calculation Standard as to be national directive for survey, certification and determination of the tonnage of Myanmar ships engaged on Myanmar waters, whilst this standard is being legislated in process.

Maung Maung Oo
Director General
Department of Marine Administration

National Standard for Tonnage Measurement and Calculation on Myanmar Waters

General

1. (1) The tonnage of a ship shall consist of gross tonnage and net tonnage.

(2) The gross tonnage and the net tonnage shall be determined in accordance with the provisions of these Regulations.

(3) The gross tonnage and the net tonnage 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.

Definitions

2. (1) Upper Deck

The upper deck is the uppermost complete deck exposed to weather and sea, which has permanent means of weathertight closing of 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 a stepped 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 underside of the upper deck 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 gunwales 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) Breadth

The breadth is the maximum breadth of the ship, measured amidships to the moulded line of the frame in a ship with a metal shell and to the outer surface of the hull in a ship with a shell of any other material.

(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 bulk-head, shall preclude a space from being included in the enclosed space.

(5) Excluded Spaces

Notwithstanding the provisions of paragraph (4) of this national standard, the spaces referred to in Figure (1) to (9) shall be called excluded spaces and shall not be included in the volume of enclosed spaces.

(6) Passenger

A passenger is every person other than:

(a) 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

(b) a child under one year of age.

(7) Cargo Spaces

Cargo spaces to be included in the computation of net tonnage are enclosed spaces appropriated for the transport of cargo which is to be discharged from the ship, provided that such spaces have been included in the computation of gross tonnage. Such cargo spaces shall be certified by permanent marking with the letters CC (cargo compartment) to be so positioned that they are readily visible and not to be less than 100 millimetres (4 inches) in height.

(8) Weathertight

Weathertight means that in any sea conditions water will not penetrate into the ship.

Gross Tonnage

3. The gross tonnage (GT) of a ship shall be determined by the following formula:

$$GT = K_1 V$$

where: V = Total volume of all enclosed spaces of the ship in cubic metres,

$K_1 = 0{\bullet}2 + 0{\bullet}02 \log_{10} V$

Net Tonnage

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

$$NT = K_2 V_c + K_3$$

in which formula

(a) the factor shall not be taken as greater than unity;

(b) the term $K_2 V_c (4d/3D)^2$ shall not be taken as less than 0•25 GT; and

(c) NT shall not be taken as less than 0•30 GT,

and in which :

V_c = total volume of cargo spaces in cubic metres,

K_2 = $0{\bullet}2 + 0{\bullet}02 \log_{10} V_c$

K_3 = $1.25((GT+10{,}000)/10{,}000)$

D = moulded depth amidships in metres as defined in Regulation 2 (2),

D = moulded draught amidships in metres as defined in paragraph (2) of this Regulation,

N_1 = number of passengers in cabins with not more than 8 berths,

N_2 = number of other passengers,

$N_1 + N_2$ = total number of passengers the ship is permitted to carry as indicated in the ship's passenger certificate; when N_1, + N_2 is less than 13, N_1 and N_2 shall be taken as zero,

GT = gross tonnage of the ship as determined in accordance with the provisions of Regulation 3.

(2) The moulded draught (d) referred to in paragraph (1) of this Regulation shall be one of the following draughts:

(a) for ships to which the International Convention on Load Lines in force applies, the draught corresponding to the Summer Load Line (other than timber load lines) assigned in accordance with that Convention;

(b) for passenger ships, the draught corresponding to 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;

(c) 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 draught corresponding to the summer load line so assigned;

(d) for ships to which no load line has been assigned but the draught of which is restricted in compliance with national requirements, the maximum permitted draught;

(e) for other ships, 75 per cent of the moulded depth amidships as defined in Regulation 2 (2).

Change of Net Tonnage

5. (1) When the characteristics of a ship, such as V, V_c, d, N_1 or N_2 as defined in Regulation 3 and Regulation 4, are altered and where such an alteration results in an increase in its net tonnage as determined in accordance with the provisions of Regulation 4, the net tonnage of the ship corresponding to the new characteristics shall be determined and shall be applied without delay.

(2) A ship to which load lines referred to in sub-paragraphs (2) (a) and (2) (b) of Regulation 4 are concurrently assigned shall be given only one net tonnage as determined in accordance with the provisions of Regulation 4 and that tonnage shall be the tonnage applicable to the appropriate assigned load line for the trade in which the ship is engaged.

(3) When the characteristics of a ship such as V, V_c, d, N_1 or N_2 as defined in Regulation 3 and Regulation 4 are altered or when the appropriate assigned load line referred to in paragraph (2) of this Regulation is altered due to the change of

the trade in which the ship is engaged, and where such an alteration results in a decrease in its net tonnage as determined in accordance with the provisions of Regulation 4, a new International Tonnage Certificate (1969) incorporating the net tonnage so determined shall not be issued until twelve months have elapsed from the date on which the current Certificate was issued; provided that this requirement shall not apply:

(a) if the ship is transferred to the flag of another State, or

(b) if the ship undergoes alterations or modifications which are deemed by the Administration to be of a major character, such as the removal of a superstructure which requires an alteration of the assigned load line, or

(c) to passenger ships which are employed in the carriage of large numbers of unberthed passengers in special trades, such, for example, as the pilgrim trade.

Calculation of Volumes

6. (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.

Measurement and Calculation

7. (1) All measurement used in the calculation of volumes shall be taken to the nearest centimetre or one-twentieth of a foot.

(2) The volumes shall be calculated by generally accepted methods for the space concerned and with an accuracy acceptable to the Administration.

(3) The calculation shall be sufficiently detailed to permit easy checking.

ANNEX I
CERTIFICATE FORM

Certificate No.……

NATIONAL TONNAGE CERTIFICATE

Issued under the provisions of the
MYANMAR MERCHANT SHIPPING TONNAGE REGULATIONS

under the authority of the Government of

THE REPUBLIC OF THE UNION OF MYANMAR

by Department of Marine Administration

Name of Ship	Distinctive Number or Letters	Port of Registry	*Date on which the Keel was laid

* Date on which the keel was laid or the ship was at similar stage of construction (Regulation 3(1)), or date on which the ship underwent alterations or modifications of a major character (Regulation 4(1)(b)), as appropriate.

Main Dimensions

Length (Regulation 3(1))	Breadth (Regulation 3(4))	Moulded Depth amidships to Upper Deck (Regulation3(2))

THE TONNAGES OF THE SHIP ARE:

GROSS TONNAGE ……

NET TONNAGE ……..…

THIS IS TO CERTIFY:

The tonnages of this ship have been determined in accordance with the NATIONAL RULES provided in the MYANMAR MERCHANT SHIPPING TONNAGE REGULATIONS.

Issued at ……

……
Date of issued

……
Director General
Department of Marine Administration

SPACES INCLUDED IN TONNAGE					
GROSS TONNAGE			NET TONNAGE		
Name of space	Location	Length	Name of space	Location	Length

EXCLUDED SPACES

An asterisk (*) should be added to those spaces listed above which comprise both enclosed and excluded spaces.

NUMBER OF PASSENGERS

Number of passengers in cabins with not more than 8 berth

.....

Number of other passengers

.....

MOULDED DRAUGHT

.....

Date and place of original measurement .....

Date and place of last previous remeasurement .....

REMARKS:

CERTIFICATE OF TONNAGE MEASUREMENT

ISSUE UNDER AUTHORITY OF

THE REPUBLIC OF THE UNION OF MYANMAR

FOR SHIPS NOT ASSIGNED A TONNAGE MARK

NAME OF SHIP	PORT OF REGISTRY	OFFICIAL NUMBER	IMO NUMBER	SIGNAL LETTERS
REGISTER DIMENSIONS L =		B =		D =

I, the undersigned, hereby certify that I have measured the above ship in accordance with Myanmar Merchant Shipping Tonnage Regulations.

GROSS TONNAGE is ..... (cubic metres) and the
REGISTER TONNAGE is ..... (cubic metres).

A summary of the tonnage is given overleaf together with an account of the spaces which have not been included in the above tonnage.

Dated at .....
this day of.....20 .

Examined by

Surveyor

SCHEDULE 1

EXCLUDED SPACES AS DEFINED IN REGULATIN 2 (5)

In the following figure:

O = excluded space;

C = enclosed space;

I = space to be considered as an enclosed space.(Hatched-in parts to be included as enclosed spaces;

B = breadth of the deck in way of the opening. (In ships with rounded gunwales the breadth is measured as indicated in Figure 9).

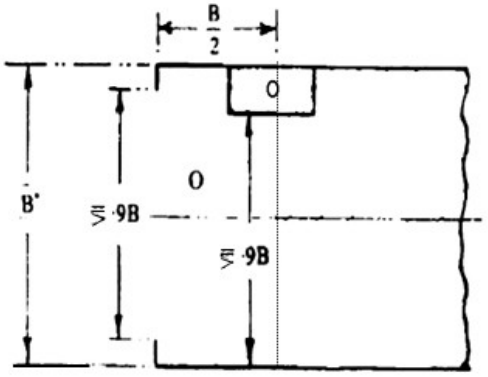


Figure 1.

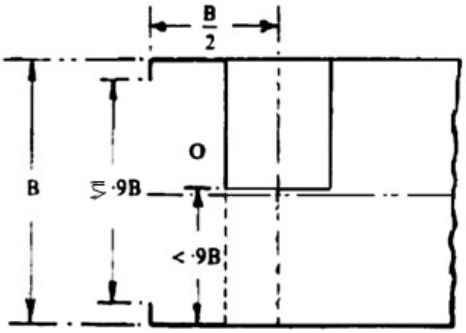


Figure 2.

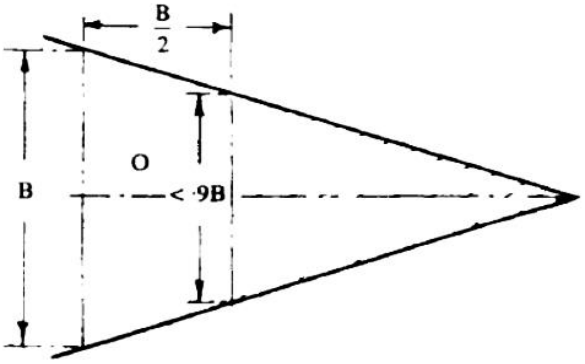


Figure 3.

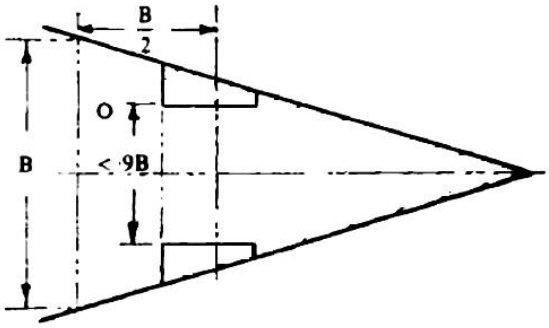


Figure 4.

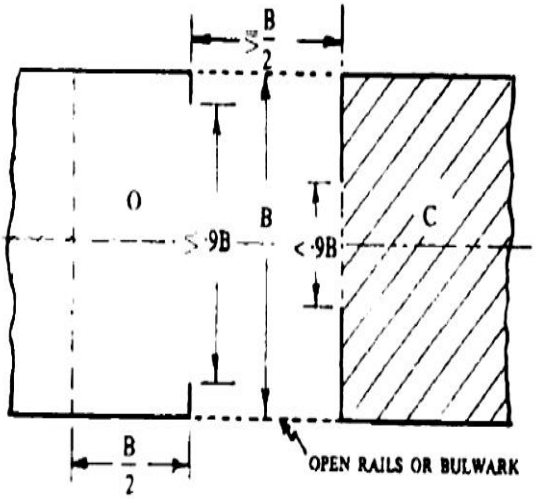
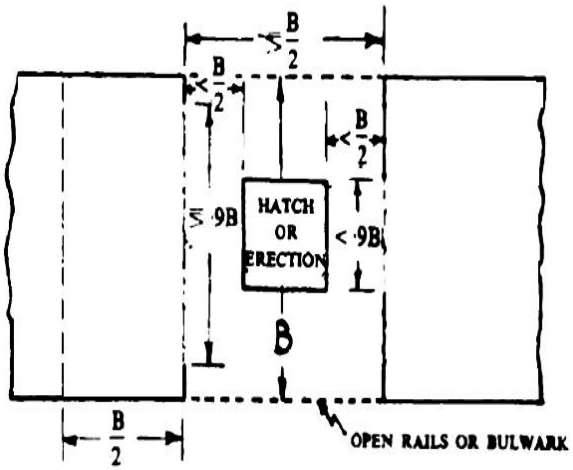


Figure 5.



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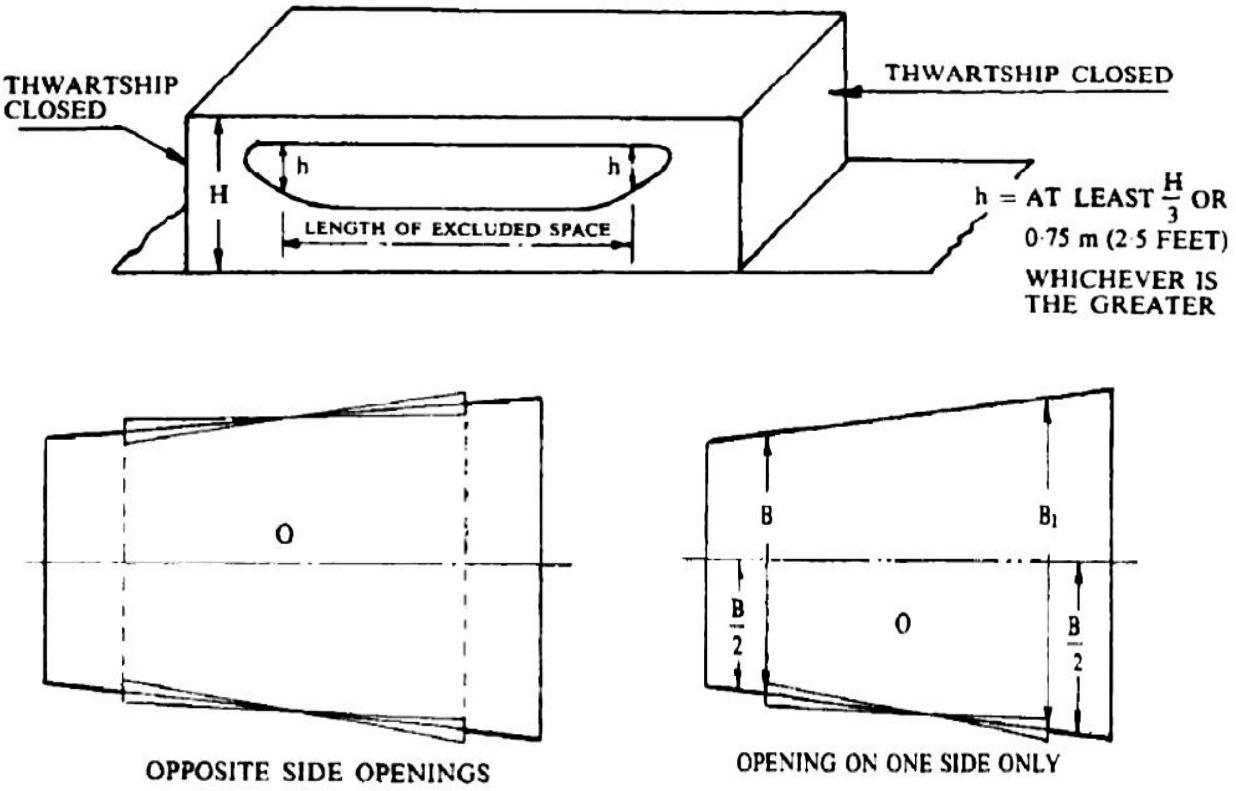

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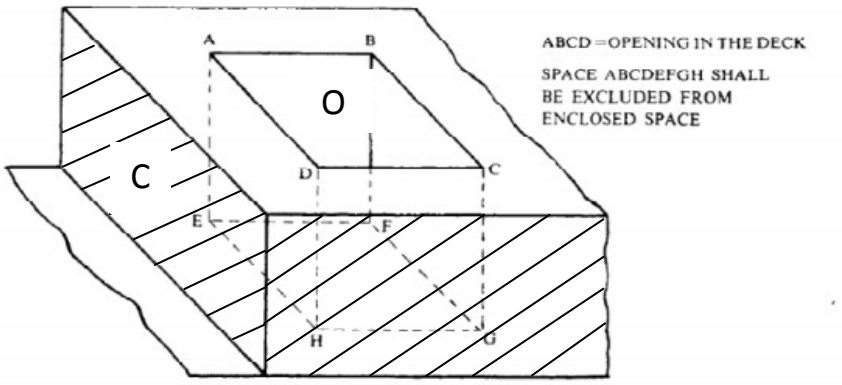

Figure 8.

SHIPS WITH ROUNDED GUNWALES

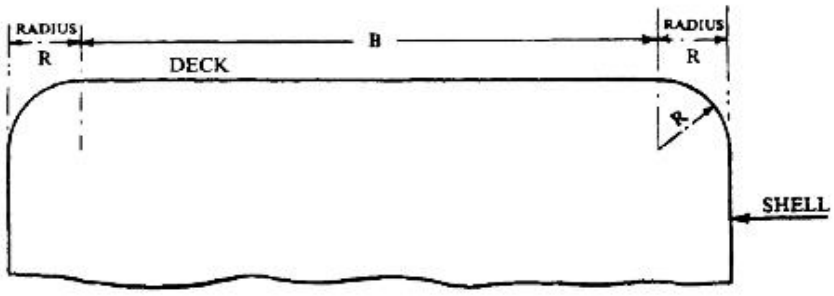

Figure 9.

SCHEDULE 2

COEFFICIENTS K_1 AND K_2 REFEERED TO IN REGULATION 3 AND 4

V or V_c = Volume in cubic metres;

Coefficients K_1 or K_2 at intermediate values of V or V_c shall be obtained by linear interpolation

V or Vc	*K1 or K2*	*V or Vc*	*K1 or K2*	*V or Vc*	*K1 or K2*	*V or Vc*	*K1 or K2*
10	0.2200	45 000	0.2931	330 000	0.3104	670 000	0.3165
20	0.2260	50 000	0.2940	340 000	0.3106	680 000	0.3166
30	0.2295	55 000	0.2948	350 000	0.3109	690 000	0.3168
40	0.2320	60 000	0.2956	360 000	0.3111	700 000	0.3169
50	0.2340	65 000	0.2963	370 000	03.114	710 000	0.3170
60	0.2356	70 000	0.2969	380 000	0.3116	720 000	0.3171
70	0.2369	75 000	0.2975	390 000	0.3118	730 000	0.3173
80	0.2381	80 000	0.2981	400 000	0.3120	740 000	0.3174
90	0.2391	85 000	0.2986	410 000	0.3123	750 000	0.3175
100	0.2400	90 000	0.2991	420 000	0.3125	760 000	0.3176
200	0.2460	95 000	0.2996	430 000	0.3127	770 000	0.3177
300	0.2495	100 000	0.3000	440 000	0.3129	780 000	0.3178
400	0.2520	110 000	0.3008	450 000	0.3131	790 000	0.3180
500	0.2540	120 000	0.3016	460 000	0.3133	800 000	0.3181
600	0.2556	130 000	0.3023	470 000	0.3134	810 000	0.3182
700	0.2569	140 000	0.3029	480 000	0.3136	820 000	0.3183
800	0.2581	150 000	0.3035	490 000	0.3138	830 000	0.3184
900	0.2591	160 000	0.3041	500 000	0.3140	840 000	0.3185
1 000	0.2600	170 000	0.3046	510 000	0.3142	850 000	0.3186
2 000	0.2660	180 000	0.3051	520 000	0.3143	860 000	0.3187
3 000	0.2695	190 000	0.3056	530 000	0.3145	870 000	0.3188

4 000	0.2720	200 000	0.3060	540 000	0.3146	880 000	0.3189
5 000	0.2740	210 000	0.3064	550 000	0.3148	890 000	0.3190
6 000	0.2756	220 000	0.3068	560 000	0.3150	900 000	0.3191
7 000	0.2769	230 000	0.3072	570 000	0.3151	910 000	0.3192
8 000	0.2781	240 000	0.3076	580 000	0.3153	920 000	0.3193
9 000	0.2791	250 000	0.3080	590 000	0.3154	930 000	0.3194
10 000	0.2800	260 000	0.3083	600 000	0.3156	940 000	0.3195
15 000	0.2835	270 000	0.3086	610 000	0.3157	950 000	0.3196
20 000	0.2860	280 000	0.3089	620 000	0.3158	960 000	0.3196
25 000	0.2880	290 000	0.3092	630 000	0.3160	970 000	0.3197
30 000	0.2895	300 000	0.3095	640 000	0.3161	980 000	0.3198
35 000	0.2909	310 000	0.3098	650 000	0.3163	990 000	0.3199
40 000	0.2920	320 000	0.3101	660 000	0.3164	1 000 000	0.3200