

No.477 Ship, "Venice Maru."

LIGHT DISPLACEMENT

AND

DEADWEIGHT CARRYING CAPACITY.

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1. - Draught and Displacement at 10.30 A.M., June 8th, 1921:-

Temperature of sea water 69° F.
Specific gravity of sea water by Baume's hydrometer 1.020
Weight of sea water per cub.ft. 62.373 x 1.020 = 63.620 lbs.

Where 62.373 is the weight of 1 cub.ft. of fresh water
at 59° F. (Water with unit specific gravity) in lbs.

Draught at ends : Forward 6'-2¹⁵/₁₆"
Aft 12'-5¹⁵/₁₆"
Mean 9'-4⁷/₁₆"
Trim by the stern 6'-3" = 6.25 ft.
Draught amidships: Port 10'-0¹/₂"
Starboard 8'-4¹/₂"
Mean 9'-2¹/₂"

Hogging h = 9'-4⁷/₁₆" - 9'-2¹/₂" = 1¹⁵/₁₆"

Change in displacement by one ft. trim(35 cub.ft. per ton) 7.80 tons

Tons per inch immersion T = 39.27

Longitudinal I of W.P. about midship I = 143,860,000 Sq.ft.
x Sq. ft.

Displacement at 9'-4⁷/₁₆" draught, even keel(35 cub.ft.per ton)4,053.8 tons

Correction for the trim - 7.80 x 6.25 = - 48.8 "

" " " hogging = - h x (T - $\frac{I}{105L^2}$)

= -1¹⁵/₁₆ x(39.27 - $\frac{143,860,000}{105 \times 405^2}$)

= -1¹⁵/₁₆ x(39.27 - 8.35) = - 59.9 "

Displacement corrected for the trim & hogging(35 cub.ft. per ton) 3,945.1 tons

Displacement further corrected for the density of sea water

3,945.1 x $\frac{62.373}{64.000}$ = 3,921.7 tons



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- Weight to Come Out of Ship:-

Item.		Respective Wt. in Tons.	Gross Wt. in Tons.
No.1 ballast tank	Empty	0	
No.2 " "	"	0	
No.3 " "	"	0	
No.4 " "	"	0	
No.5 " "	"	0	
Feed water tank, P	F.W. Full	97.3	
" " " , S	" "	97.3	
Fore peak tank	Empty	0	
After " "	"	0	
Deep tank, P	"	0	
" " , S	"	0	
Settling tank, P	"	0	
" " , S	"	0	
Fresh water tank, P	F.W. 5'-10"	19.4	
" " " , S	" Full	20.0	
Sanitary tank	Empty	0	
Water in tanks, Total			234.0
Bilge water			3.8
Brine and water in refrigerating plant			0.7
Water in two boilers			63.4
Coal and coke			6.5
Men on board (120)			7.1
Temporary weight			6.5
<u>Weight to come out of ship, Total</u>			320.4

- Weight to Go On Board after the Date:-

Bedding, awning, &c. 1.50 tons.

- Light Displacement and Draught:-

Displacement on June 8th, 1921, corrected for the trim, hogging
and density of sea water 3,921.7 tons.

Weight to come out of ship 320.4 "

Weight to go on board after the date 1.5 "

Equipped weight 3,602.8 tons

(Continued)

Boiler water	89.4 tons.
Light displacement	3,692.2 tons.
Corresponding draught	8'-7½"

5. - Deadweight Carrying Capacity:-

Displacement at 28'-0" draught (Summer Load Draught)	13,420.0 tons.
Light displacement	- 3,692.2 "
<u>Deadweight Carrying Capacity</u>	9,727.8 tons.



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