

LLOYD'S REGISTER OF SHIPPING

SURVEYS FOR FREEBOARD

(COMPUTATION FOR ~~STEAMER~~, ~~SAILING SHIP~~, TANKER)

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|---|-------------------------|--|---------------|---------------|---|
| Ship's Name 'DILOMA' | Official Number | Nationality and Port of Registry Dutch | Gross Tonnage | Date of Build | Port of Survey |
| Moulded Dimensions: Length 140.510 m | Breadth 17.983 m | Depth 10.372 m | | | Date of Survey 18/1/60 |
| Freeboard Length | | | | | Surveyor's Signature |
| Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) | | | | | Particulars of Classification +100 A1 C.P.I.B. |
| Coefficient of fineness for use with Tables .790 | | | | | |

| DEPTH FOR FREEBOARD (D). | DEPTH CORRECTION. | ROUND OF BEAM CORRECTION. |
|---|--|--|
| Moulded depth ... 10.372 | (a) Where D is greater than Table depth (D - Table depth) R = 8.33(10.392 - 9.347)36 = +256 mm | Moulded Breadth (B) 17.893 |
| Stringer plate029 | (b) Where D is less than Table depth (if allowed) (Table depth - D) R = 1.025 | Standard Round of Beam = $\frac{B \times 2}{50} = \frac{35.786}{50} = 360 \text{ mm}$ |
| Wood Sheathing on exposed deck | | Ship's Round of Beam = 375 mm |
| $T \left(\frac{L-S}{L} \right) =$ | | Difference +15 |
| Depth for Freeboard (D) = 10.392 | If restricted by superstructures | Restricted to |
| | | Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S}{L} \right) = \frac{15}{4} \times .5809 = -7 \text{ mm}$ |

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S _i) | Height | Height Correction | Effective Length (E) | |
|-----------------------------------|-------------------------|--|--------|-------------------|----------------------|--|
| Poop enclosed <i>equivalent</i> | 29.288 | 29.288 | | | 29.288 | Standard Height of Superstructure 2290 mm |
| " overhang | | | | | | R.Q.D. |
| R.Q.D. enclosed | | | | | | Deduction for complete superstructure 1067 mm |
| " overhang | | | | | | Percentage covered $\frac{S}{L} = 42.04$ |
| Bridge enclosed <i>equivalent</i> | 14.383 | 14.383 | | | 14.383 | $\frac{S_i}{L} = 41.91$ |
| " overhang aft | .762 | .572 | | | .572 | $\frac{E}{L} = 32.91$ |
| " overhang forward | | | | | | Percentage from Table, Line A Tanker |
| Fore enclosed | 14.643 | 14.643 | | | 14.643 | (corrected for absence of forecastle (if required)) |
| " overhang | | | | | | Percentage from Table, Line B. |
| Trunk aft | | | | | | (corrected for absence of forecastle (if required)) |
| " forward | | | | | | Interpolation for bridge less than .2L (if required) |
| Tonnage opening aft | | | | | | Deduction = 1067 x .3291 = 351 mm |
| " forward | | | | | | |
| Total | 59.076 | 58.886 | | | 58.886 | |

SHEER CORRECTION.

| Station | Standard Ordinate | S | M | Product | Actual Ordinate | Effective Ordinate | S | M | Product | |
|--------------------------|-------------------|----------|--------------|-------------|-----------------|--------------------|--------------|-------------|--------------|--|
| A.P. | 1424 | 1 | 1424 | 1417 | 1417 | 1 | 1417 | 1417 | 1417 | Mean actual sheer aft = |
| $\frac{1}{4}L$ from A.P. | 633 | 4 | 2532 | 660 | 660 | 4 | 2640 | 2640 | 2640 | Mean standard sheer aft = |
| $\frac{2}{4}L$ | 158 | 2 | 316 | 164 | 164 | 2 | 328 | 328 | 328 | Mean actual sheer forward = |
| Amidships | 0 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | Mean standard sheer forward = |
| $\frac{3}{4}L$ from F.P. | 316 | 2 | 632 | 325 | 325 | 2 | 650 | 650 | 650 | Length of enclosed superstructure forward of amidships = |
| $\frac{1}{4}L$ | 1266 | 4 | 5064 | 1321 | 1321 | 4 | 5284 | 5284 | 5284 | " aft of " |
| F.P. | 2848 | 1 | 2848 | 2779 | 2779 | 1 | 2779 | 2779 | 2779 | |
| Total | | | 12816 | | | | 18098 | | 18098 | |

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{282}{18} (.75 - .2102) = -8 \text{ mm}$

If limited on account of midship superstructure. **5398** If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100ft.

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| Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 10.392 Summer freeboard = 2.030 Moulded draught (d) = 8.362 Keel allowance = Extreme draught = Deduction for Tropical freeboard and addition for = Winter freeboard = $\frac{d}{48} = \frac{8.362}{48} = 174 \text{ mm} = 17 \text{ cm}$ Addition for Winter North Atlantic Freeboard (if required) = 174 + 117 = 291 mm = 29 cm | Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 16791$ Tons per inch immersion at summer load water line $T = 56.03$ Deduction = $\frac{\Delta}{40 T} \text{ inches} = \frac{16791}{40 \times 56.03} = 7.49 \text{ inches} = 19 \text{ cm}$ | TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient 1.47 Depth Correction ... 256 Deduction for superstructures ... 351 Sheer correction ... 8 Round of Beam correction ... 2 Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... Summer Freeboard = 2034 mm |
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

| | | | |
|--|--------------|--------------------------------|---------------|
| Tropical Fresh Water Line above Centre of Disc | 36 cm | Tropical Fresh Water Freeboard | 167 cm |
| Fresh Water Line | 19 cm | Fresh Water | 184 cm |
| Tropical Line | 17 cm | Tropical | 186 cm |
| Winter Line below | 17 cm | Winter | 220 cm |
| Winter North Atlantic Line | 29 cm | Winter North Atlantic | 232 cm |