

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

| | | | | | |
|--|-----------------|--|---------------|---------------|--|
| Ship's Name ETREMA | Official Number | Nationality and Port of Registry Dutch | Gross Tonnage | Date of Build | Port of Survey |
| Moulded Dimensions: Length 129.54 Breadth 16.54 Depth 9.449 | | | | | Date of Survey 20.1.48 |
| Moulded displacement at moulded draught = 85 per cent. of moulded depth | | | | | Surveyor's Signature |
| Coefficient of fineness for use with Tables .775 | | | | | Particulars of Classification +10041 C.P. 16. |

| DEPTH FOR FREEBOARD (D). | | DEPTH CORRECTION. | | ROUND OF BEAM CORRECTION. | |
|------------------------------------|--------------|---|--|--|---|
| Moulded depth ... | 9.449 | (a) Where D is greater than Table depth (D - Table depth) R = 8.33(9.449 - 8.636) × 30 = +208 | | Moulded Breadth (B) | 16.54 |
| Stringer plate ... | 18 | (b) Where D is less than Table depth (if allowed) (Table depth - D) R = | | Standard Round of Beam = $\frac{B \times 12}{50}$ | 331 |
| Sheathing on exposed deck | | | | Ship's Round of Beam | 343 |
| $T \left(\frac{L-S}{L} \right) =$ | | If restricted by superstructures | | Difference | 12 |
| Depth for Freeboard (D) = | 9.467 | | | Restricted to | |
| | | | | Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right)$ | = $\frac{12 \times 5646}{4} = -2$ |

| DEDUCTION FOR SUPERSTRUCTURES. | | | | | |
|--------------------------------|-------------------------|--|--------------|-------------------|----------------------|
| | Mean Covered Length (S) | Equivalent Enclosed Length (S ₁) | Height | Height Correction | Effective Length (E) |
| Poop enclosed | 27.22 | 27.22 | 2.341 | - | 27.22 |
| " overhang | | | | | |
| R.Q.D. enclosed | | | | | |
| " overhang | | | | | |
| Bridge enclosed | 12.45 | 12.45 | 2.279 | 2.279 | 12.39 |
| " overhang aft | | | | | |
| " overhang forward | | | | | |
| Fore enclosed Equiv. | 16.73 | 16.73 | 2.341 | - | 16.73 |
| " overhang | | | | | |
| Trunk aft | | | | | |
| " forward | | | | | |
| Tonnage opening aft | | | | | |
| " " forward | | | | | |
| Total | 56.40 | 56.40 | | | 56.44 |

| | |
|--|--------------------------------|
| Standard Height of Superstructure | 2290 |
| " " R.Q.D. | |
| Deduction for complete superstructure | 1067 |
| Percentage covered $\frac{S}{L} =$ | 43.54 |
| " " $\frac{S_1}{L} =$ | 43.54 |
| " " $\frac{E}{L} =$ | 43.49 |
| Percentage from Table, Line A. Tanker | 34.49 |
| (corrected for absence of forecastle (if required)) | - |
| Percentage from Table, Line B. | - |
| (corrected for absence of forecastle (if required)) | - |
| Interpolation for bridge less than .2L (if required) | - |
| Deduction = | 1067 × 34.49 = 368 mper |

| SHEER CORRECTION. | | | | | | | |
|---------------------------|-------------------|----------|--------------|-----------------|--------------------|----------|--------------|
| Station | Standard Ordinate | S M | Product | Actual Ordinate | Effective Ordinate | S M | Product |
| A.P. | 1333 | 1 | 1333 | 1361 | 1361 | 1 | 1361 |
| $\frac{1}{4}$ L from A.P. | 592 | 4 | 2368 | 604 | 604 | 4 | 2416 |
| $\frac{2}{4}$ L | 148 | 2 | 296 | 157 | 157 | 2 | 314 |
| Amidships | - | 4 | - | - | - | 4 | - |
| $\frac{2}{4}$ L from F.P. | 296 | 2 | 592 | 298 | 298 | 2 | 596 |
| $\frac{1}{4}$ L | 1185 | 4 | 4740 | 1197 | 1197 | 4 | 4788 |
| F.P. | 2666 | 1 | 2666 | 2740 | 2740 | 1 | 2740 |
| Total | | | 11995 | | | | 12245 |

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{220}{18} (.75 - .2177) = -7$

If limited on account of midship superstructure.

Mean actual sheer aft = **6x cm**
Mean standard sheer aft = **6x cm**

Mean actual sheer forward = **6x cm**
Mean standard sheer forward = **6x cm**

Length of enclosed superstructure forward of amidships = **7 tanks; does not apply.**
aft of " = **7 tanks; does not apply.**

| Deduction for Tropical Freeboard. | | Deduction for Fresh Water. | | TABULAR FREEBOARD corrected for Fresh Deck (if required) | |
|--|--------------|--|--------------|--|---------------------------------|
| Addition for Winter and Winter North Atlantic Freeboard. | | Displacement in salt water at summer load water line | | Correction for coefficient | |
| Depth to Freeboard Deck = | 9.467 | $\Delta =$ | 13025 | Depth Correction | 208 |
| Summer freeboard = | 1.700 | Tons per inch immersion at summer load water line | 18.75 | Deduction for superstructures | 368 |
| Moulded draught (d) = | 7.767 | Deduction = $\frac{\Delta}{40 T}$ inches | 17 | Sheer correction | 7 |
| Deduction for Tropical freeboard and addition for | | | | Round of Beam correction | 2 |
| Winter freeboard = $\frac{d}{48}$ inches = | 16 | | | Correction for Thickness of Deck amidships | - |
| Addition for Winter North Atlantic Freeboard (if required) = | 27 | | | Other corrections, scantlings, etc. | - |
| | | | | | 208 377 |
| | | | | | Summer Freeboard = 16.95 |

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

| | | | |
|--|-------------|--------------------------------|-------------|
| Tropical Fresh Water Line above Centre of Disc | ... 33 chrs | Tropical Fresh Water Freeboard | ... 33 chrs |
| Fresh Water Line | ... 17 " 4 | Fresh Water | ... 153 " 4 |
| Tropical Line | ... 16 " 4 | Tropical | ... 154 " 4 |
| Winter Line below | ... 16 " 4 | Winter | ... 186 " 4 |
| Winter North Atlantic Line | ... 27 " 4 | Winter North Atlantic | ... 197 " 4 |