Rpt. C.11 (Comp.).

*Shd. 2201.*

Index. No. *3777*
(For London Office only).

# Lloyd's Register of Shipping.
## SURVEYS FOR FREEBOARD.
### (COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER.~~) (TUG)

| Ship's Name | Official Number | Nationality and Port of Registry | Gross Tonnage | Date of Build |
|---|---|---|---|---|
| "EMPIRE ELINOR" | 160309. | BRITISH | ~~244~~ | 1944 |
| Abeille 24 | | HULL. | 268 | |

Port of Survey  Hull.

Date of Survey  During construction

Surveyor's Signature  *JKMacleod*

Particulars of Classification  ✠ 100 A.1.
"FOR TOWING SERVICES".
(CONTEMPLATED)

Moulded Dimensions: Length 105'0"  Breadth 26'6"  Depth 13'6"

Moulded displacement at moulded draught = 85 per cent. of moulded depth  523  tons

Coefficient of fineness for use with Tables  .68 (.573 ACTUAL)  5.35 T.

## Depth for Freeboard (D).

| | | |
|---|---|---|
| Moulded depth ... ... ... | | 13.5' |
| Stringer plate ... .30 ... ... | | .03 |
| Sheathing on exposed deck $T\left(\frac{L-S}{L}\right)$ = NONE | | ✓ |
| Depth for Freeboard (D) = | | 13.53. |

## Depth correction.

(a) Where D is greater than Table depth
(D—Table depth) R =
$\frac{(13.53 - 7.00) \times .808}{6.53}$ = +5.28

(b) Where D is less than Table depth (if allowed)
(Table depth—D) R = ✓  ✓

If restricted by superstructures

## Round of Beam correction.

| | |
|---|---|
| Moulded Breadth (B) | 26.5' |
| Standard Round of Beam = $\frac{B \times 12}{50}$ = | 6.36 |
| Ship's Round of Beam = | 7½" |
| Difference | 1.14 |
| Restricted to | ✓ |
| Correction = $\frac{\text{Diff}^a}{4} \times \left(1 - \frac{S_1}{L}\right)$ = $\frac{1.14}{4}$ = | −.28 |

## DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S₁) | Height | Height Correction | Effective Length (E) |
|---|---|---|---|---|---|
| Poop enclosed ... ... | | | | | |
| „ overhang ... ... | | | | | |
| R.Q.D. enclosed ... ... | | | | | |
| „ overhang ... | | | | | |
| Bridge enclosed ... ... | | | | | |
| „ overhang aft ... | | | | | |
| „ overhang forward ... | | | | | |
| F'cle enclosed ... ... | | | | | |
| „ overhang ... ... | | | | | |
| Trunk aft ... ... | | | | | |
| „ forward ... ... | | | | | |
| Tonnage opening aft ... | | | | | |
| „ „ forward ... | | | | | |
| Total ... ... | | | | | |

*Flush Deck. No Superstructures*

Standard Height of Superstructure ................

„ „ R.Q.D. ................

Deduction for complete superstructure ................

Percentage covered $\frac{S}{L}$ = ⎫
„ „ $\frac{S_1}{L}$ = ⎬ NIL
„ „ $\frac{E}{L}$ = ⎭

Percentage from Table, Line A.
(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 = NIL.

## SHEER CORRECTION.

| Station | Standard Ordinate | S M | Product | Actual Ordinate | Effective Ordinate | S M | Product |
|---|---|---|---|---|---|---|---|
| A.P. ... ... | 20.50 | 1 | 20.50 | 18" | 18 | 1 | 18.0 |
| ⅙L from A.P. ... | 9.12 | 4 | 36.48 | 8 | 8 | 4 | 32.0 |
| ⅓L „ ... | 2.255 | 2 | 4.51 | 1¾ | 1¾ | 2 | 3.5 |
| Amidships ... ... | — | 4 | — | 0 | — | 4 | — |
| ⅓L from F.P. ... | 4.51 | 2 | 9.02 | 9¾ | 9¾ | 2 | 19.5 |
| ⅙L „ ... | 18.24 | 4 | 72.96 | 35½ | 35½ | 4 | 142.0 |
| F.P. ... ... | 41.00 | 1 | 41.00 | 81½ | 81½ | 1 | 81.5 |
| Total ... | | | 184.47 | | | | 296.5 |

$\frac{\text{Mean actual sheer aft}}{\text{Mean standard sheer aft}}$ = > .75

$\frac{\text{Mean actual sheer forward}}{\text{Mean standard sheer forward}}$ = Excess.

$\frac{\text{Length of enclosed superstructure}}{L}$ forward of amidships = ⎫ nil.
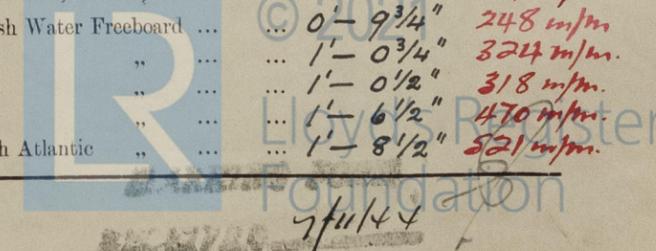„ „ „ aft of „ = ⎬

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L}\right)$ = $\frac{112.03}{18} \times .75$ = −4.67.

If limited on account of midship superstructure. no. Flush Deck.

If limited to maximum allowance of 1½ ins. per 100 ft. 1.58

## Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard.

| | Ft. |
|---|---|
| Depth to Freeboard Deck = | 13.53 |
| Summer freeboard = | 1.29 |
| Moulded draught (d) = | 12.24 |

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.06 = 3"

Addition for Winter North Atlantic Freeboard (if required) = 5"

## Deduction for Fresh Water.

Displacement in salt water at summer load water line  Δ = 585

Tons per inch immersion at summer load water line  T = 5.47

Deduction = $\frac{\Delta}{40 \text{ T}}$ inches = 2.67 = 2¾

| MLD DRAFT. | EXT. DISP. | T. |
|---|---|---|
| 12'6" | 595 | 5.50 |
| 11'6" | 529 | 5.35 |
| 9'6" | 407 | 4.90 |

## TABULAR FREEBOARD corrected for Flush Deck (if required)

10.50 + 1.58 | 12.08

Correction for coefficient  NIL.  12.08

| | + | − | |
|---|---|---|---|
| Depth Correction ... ... ... | 5.28 | | |
| Deduction for superstructures ... ... | — | — | |
| Sheer correction ... ... ... | — | 1.58 | |
| Round of Beam correction ... ... | | .28 | |
| Correction for Thickness of Deck amidships ... | — | — | |
| Other corrections, scantlings, etc. ... ... | — | — | |
| | 5.28 | 1.86 | +3.42 |

Summer Freeboard = 15.50

*87.B.
30.10.44*

## SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck :—

| | | | | |
|---|---|---|---|---|
| Tropical Fresh Water Line above Centre of Disc | 146 m/m. 5¾" | Tropical Fresh Water Freeboard ... | 1'-3½" | 394 m/m. |
| Fresh Water Line „ | 70 m/m. 2¾" | Fresh Water „ | 0'-9¾" | 248 m/m. |
| Tropical Line „ | 76 m/m. 3" | Tropical „ | 1'-0¾" | 324 m/m. |
| Winter Line below | 76 m/m. 3" | Winter „ | 1'-0½" | 318 m/m. |
| Winter North Atlantic Line „ | 127 m/m. 5" | Winter „ | 1'-6½" | 470 m/m. |
| | | Winter North Atlantic „ | 1'-8½" | 521 m/m. |

10m 3.37. T.

013471—013480—0149

*7.11.44*

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Trade of ship    "TOWING SERVICES"

Names of sister ships    "EMPIRE WALTER". "EMPIRE CHARLES".

Builder's name and yard number    HENRY SCARR LTD. YARD Nº 461.

Owners    "THE MINISTRY OF WAR TRANSPORT".

Fee £    TO BE CHARGED WITH FIRST ENTRY.