

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name **M.V. "EMPIRE SAXON"**  
*Renamed NORFJELL*

Official Number **NOT YET ASSIGNED**

Nationality and Port of Registry **BRITISH. Norwegian OSLO. NEWCASTLE - ON TYNE.**

Gross Tonnage **NOT YET ASSIGNED**

Date of Build **1942.**

Port of Survey **NEWCASTLE-ON-TYNE.**

Date of Survey **DURING CONSTRUCTION.**

Surveyor's Signature **K. Little. E.H. Dean.**

Particulars of Classification **+ 100.A.1**  
**"CARRYING PETROLEUM IN BULK."**

Moulded Dimensions: Length **460.69** Breadth **59'-0"** Depth **34'-0"**  
*To centre of rudder stock*

Moulded displacement at moulded draught = 85 per cent. of moulded depth **17730 Tons**

Coefficient of fineness for use with Tables **.790-**

Depth for Freeboard (D).

Moulded depth ... **34'-0"**

Stringer plate ... **.06**

Sheathing on exposed deck  $T \left( \frac{L-S}{L} \right) =$  **.790-**

Depth for Freeboard (D) = **34'-06"**

Depth correction.

(a) Where D is greater than Table depth  
 $(D - \text{Table depth}) R = (34.06 - 30.71) \times 3 = +10.05$

(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) **59'-0"**

Standard Round of Beam =  $\frac{B \times 12}{50} =$  **14.16**

Ship's Round of Beam = **14'-3"**

Difference **.59**

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.59}{4} \times 5744 = .08"$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed <i>Equin</i> ...	<b>112.40</b>	<b>112.40</b>	<b>7'-6"</b>	<b>✓</b>	<b>112.40</b>
" overhang ...	-	-	-	-	-
R.Q.D. enclosed ...	-	-	-	-	-
" overhang ...	-	-	-	-	-
Bridge enclosed <i>Equin</i> ...	<b>46.75</b>	<b>46.75</b>	<b>7'-6"</b>	<b>✓</b>	<b>46.75</b>
" overhang aft ...	<b>1.44</b>	<b>1.44</b>	-	-	<b>1.44</b>
" overhang forward ...	-	-	-	-	-
Forecastle enclosed ...	<b>35.50</b>	<b>35.50</b>	<b>7'-6"</b>	<b>✓</b>	<b>35.50</b>
" overhang ...	-	-	-	-	-
Trunk aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Tonnage opening aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Total ...	<b>196.57</b>	<b>196.09</b>	-	-	<b>196.09</b>

Standard Height of Superstructure **7'-5"**

" " R.Q.D. **✓**

Deduction for complete superstructure **42'-00"**

Percentage covered  $\frac{S}{L} =$  **42.67**

" "  $\frac{S_1}{L} =$  **42.56**

" "  $\frac{E}{L} =$  **42.56**

Percentage from Table, Line A **Tanher 33.56**  
(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 = **42 x .3356 = - 14.10"**

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<b>56.07</b>	<b>1</b>	<b>56.07</b>	<b>58.0"</b>	<b>58.0</b>	<b>1</b>	<b>58.00</b>		
$\frac{1}{8}$ L from A.P. ...	<b>24.95</b>	<b>4</b>	<b>99.80</b>	<b>25.81"</b>	<b>25.81</b>	<b>4</b>	<b>103.24</b>		
$\frac{2}{8}$ L " ...	<b>6.17</b>	<b>2</b>	<b>12.34</b>	<b>6.25"</b>	<b>6.25</b>	<b>2</b>	<b>12.50</b>		
Amidships ...	-	<b>4</b>	-	-	-	<b>4</b>	-		
$\frac{3}{8}$ L from F.P. ...	<b>12.335</b>	<b>2</b>	<b>24.67</b>	<b>12.25"</b>	<b>12.25</b>	<b>2</b>	<b>24.50</b>		
$\frac{4}{8}$ L " ...	<b>49.90</b>	<b>4</b>	<b>199.60</b>	<b>50.0"</b>	<b>50.00</b>	<b>4</b>	<b>200.00</b>		
F.P. ...	<b>112.14</b>	<b>1</b>	<b>112.14</b>	<b>112.5"</b>	<b>112.50</b>	<b>1</b>	<b>112.50</b>		
Total ...			<b>504.62</b>	<b>✓</b>			<b>510.74</b>		

Mean actual sheer aft = **Excess**

Mean standard sheer aft

Mean actual sheer forward = **Excess**

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = **Tanher.**

" " aft of " = **Tanher.**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{6.12(-75-2133)}{18} = -0.18"$

If limited on account of midship superstructure.

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient <b>.790 + .68 = 1.470 / 1.36</b>
Depth to Freeboard Deck = <b>34'-06"</b>	$\Delta =$ <b>16814</b>	Depth Correction ... <b>10.05</b>
Summer freeboard = <b>6.65</b>	Tons per inch immersion at summer load water line	Deduction for superstructures ... <b>14.10</b>
Moulded draught (d) = <b>27.41</b>	$T =$ <b>56.50</b>	Sheer correction ... <b>.18</b>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>6.85 = 6'-3/4"</b>	Deduction = $\frac{\Delta}{40T}$ inches = <b>7.44</b>	Round of Beam correction ... <b>.08</b>
Addition for Winter North Atlantic Freeboard (if required) = <b>6.85 + 4.61 = 11.46 = 11'-2"</b>	<b>= 7'-2"</b>	Correction for Thickness of Deck amidships ... <b>10.05</b>
		Other corrections, scantlings, etc. ... <b>14.36</b>
		Summer Freeboard = <b>79.86</b>

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

Tropical Fresh Water Line above Centre of Disc	<b>14'-4"</b>	<b>362 m/m</b>	Tropical Fresh Water Freeboard	<b>1664</b>	<b>5'-5 1/2"</b>
Fresh Water Line	<b>7'-2"</b>	<b>191</b>	Fresh Water	<b>1835</b>	<b>6'-0 1/4"</b>
Tropical Line	<b>6'-3/4"</b>	<b>171</b>	Tropical	<b>1855</b>	<b>6'-1 1/4"</b>
Winter Line below	<b>6'-3/4"</b>	<b>171</b>	Winter	<b>2147</b>	<b>7'-2 1/2"</b>
Winter North Atlantic Line	<b>11'-2"</b>	<b>292</b>	Winter North Atlantic	<b>2318</b>	<b>7'-7 1/4"</b>



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.

Equivalent bulk heads.

Depth at Side  $109.85' = 109 - 10\frac{1}{4}'$   
 $\frac{2}{3} \times 3.83$   $1.55'$   
 Equiv enclosed  $= \underline{112.40'}$

Bridge at Side  $44'-1''$   
 $\frac{2}{3} \times 4.0$   $2'-8''$   
 Equiv enclosed  $\underline{46'-9''}$   $46.75'$

Trade of ship CARRYING PETROLEUM IN BULK.

Names of sister ships SIMILAR TO "EMPIRE FLINT." N<sup>o</sup> 99644 REPORT

Builder's name and yard number SWAN HUNTER & WIGHAM RICHARDSON LTD., WALKER, ON TYNE. N<sup>o</sup> 1706.

Owner HIS MAJESTY REPRESENTED BY THE MINISTER OF WAR TRANSPORT.

Fee £ 19-0-0



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