

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

*See GILSAY 048 8th Dec 1948  
Classed for service*

Ship's Name <b>LYNGAS</b>	Official Number ✓	Nationality and Port of Registry <b>Norwegian Fosnua</b>	Gross Tonnage <b>532</b>	Date of Build <b>1944</b>	Port of Survey <b>Bergen</b>
Moulded Dimensions: Length <b>157.0</b> Breadth <b>27'-6"</b> Depth <b>15'-0"</b>					Date of Survey <b>6.7.48</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>925</b> tons					Surveyor's Signature <b>S. A. EIDE.</b>
Coefficient of fineness for use with Tables <b>.68 (actual less than .68)</b>					Particulars of Classification <b>+100 A1</b>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... .. <b>15.00</b>	(a) Where D is greater than Table depth (D - Table depth) R = <b>(15.08 - 10.10) 1.165 = +5.80"</b>	Moulded Breadth (B) <b>27'-6"</b>
Stringer plate ... .. <b>.03</b>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <b>-</b>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{27.5 \times 12}{50} = \mathbf{6.6}$
Sheathing on exposed deck <b>2 1/2</b>	If restricted by superstructures <b>-</b>	Ship's Round of Beam = <b>7</b>
$T \left( \frac{L-S}{L} \right) = .21 \times 38.66 = \mathbf{.05}$		Difference = <b>.4</b>
Depth for Freeboard (D) = <b>15.08</b>		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.4^2}{4} \times 2806 = \mathbf{-.03"}$

DEDUCTION FOR SUPERSTRUCTURES.				
Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..				
" overhang ... ..				
R.Q.D. enclosed ... ..				
" overhang ... ..				
Bridge enclosed <b>Equivalent</b>	<b>83.55</b>	<b>7'-3"</b>	<b>-</b>	<b>83.55</b>
" overhang aft ... ..				
" overhang forward ... ..	<b>2.04</b>	<b>7'-9 3/4"</b>	<b>-</b>	<b>1.02</b>
Fore enclosed ... ..	<b>24.42</b>	<b>6'-3 1/2"</b>	<b>-</b>	<b>24.42</b>
" overhang ... ..				
Trunk aft ... ..				
" forward ... ..				
Tonnage opening aft ... ..				
" " forward ... ..				
Total ... ..	<b>110.01</b>	<b>108.99</b>		<b>108.99</b>

Standard Height of Superstructure **6.00'**

" " R.Q.D. **-**

Deduction for complete superstructure **21.15"**

Percentage covered  $\frac{S}{L} = \frac{108.99}{150} = \mathbf{72.61}$

" "  $\frac{S_1}{L} = \frac{83.55}{150} = \mathbf{55.7}$

" "  $\frac{E}{L} = \frac{71.94}{150} = \mathbf{47.96}$

Percentage from Table, Line A. and B **65.39**  
(corrected for absence of fore-castle (if required)) **-**

Percentage from Table, Line B. **-**  
(corrected for absence of fore-castle (if required)) **-**

Interpolation for bridge less than .2L (if required) **-**

Deduction = **21.15" x 65.39 = -13.83'**

SHEER CORRECTION.							
Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ... ..	<b>25.15</b>	<b>1</b>	<b>25.15</b>	<b>70</b>	<b>34.0</b>	<b>1</b>	<b>34</b>
1/8 L from A.P. ... ..	<b>11.19</b>	<b>4</b>	<b>44.76</b>	<b>35</b>	<b>11.0</b>	<b>4</b>	<b>44</b>
2/8 L " ... ..	<b>2.765</b>	<b>2</b>	<b>5.53</b>	<b>14</b>	<b>2.0</b>	<b>2</b>	<b>4</b>
Amidships ... ..	<b>-</b>	<b>4</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>4</b>	<b>-</b>
2/8 L from F.P. ... ..	<b>5.53</b>	<b>2</b>	<b>11.06</b>	<b>-4</b>	<b>8</b>	<b>2</b>	<b>16</b>
1/8 L " ... ..	<b>22.39</b>	<b>4</b>	<b>89.56</b>	<b>2</b>	<b>26</b>	<b>4</b>	<b>104</b>
F.P. ... ..	<b>50.30</b>	<b>1</b>	<b>50.30</b>	<b>18</b>	<b>54</b>	<b>1</b>	<b>54</b>
Total ... ..			<b>226.36</b>				<b>256.00</b>

Mean actual sheer aft = **21**

Mean standard sheer aft = **21**

Mean actual sheer forward = **21**

Mean standard sheer forward = **21**

Length of enclosed superstructure forward of amidships = **0702**

" " aft of " = **7.1**

Correction =  $\frac{\text{Difference between sums of products}}{18} = \frac{226.36 - 256.00}{18} = \frac{-29.64}{18} = \mathbf{-.64'}$

If limited on account of midship superstructure.  $\frac{1702}{2} \times .64 = \mathbf{-.54}$

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

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 <b>Nie</b>
Depth to Freeboard Deck = <b>15.43</b>	$\Delta =$	Depth Correction ... .. <b>5.80</b>
Summer freeboard = <b>1.67</b>	Tons per inch immersion at summer load water line	Deduction for superstructures ... .. <b>13.83</b>
Moulded draught (d) = <b>13.36</b>	T =	Sheer correction ... .. <b>.54</b>
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40 T}$ inches	Round of Beam correction ... .. <b>.03</b>
Winter freeboard = $\frac{d}{4}$ inches = <b>3.34 = 3 1/4</b>	= <b>3"</b>	Correction for Thickness of Deck amidships ... .. <b>.60</b>
Addition for Winter North Atlantic Freeboard (if required) = <b>5 1/4</b>		Other corrections, scantlings, etc. to summer draught <b>13.49</b>
		Summer Freeboard = <b>20.00</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>6 1/4 = 15.9 mm</b>	Tropical Fresh Water Freeboard	<b>1 1/4 = 3.4 mm</b>
Fresh Water Line " "	<b>3 = 76</b>	Fresh Water " "	<b>1 = 25.4</b>
Tropical Line " "	<b>3 1/4 = 83</b>	Tropical " "	<b>1 1/4 = 3.4</b>
Winter Line below " "	<b>3 1/4 = 83</b>	Winter " "	<b>2 1/4 = 6.4</b>
Winter North Atlantic Line " "	<b>5 1/4 = 133</b>	Winter North Atlantic " "	<b>2 1/4 = 6.4</b>