

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name **SAN VELINO.** Official Number **169859** Nationality and Port of Registry **British London** Gross Tonnage **8210** Date of Build **1944.**

Port of Survey **Newcastle-on-Tyne.**

Date of Survey **during construction**

Surveyor's Signature **A.C. HUNTER.**

Particulars of Classification **+100771. Carrying Petroleum in Bulk. (class contemplated.)**

Moulded Dimensions: Length **461'-0"** Breadth **59'-0"** Depth **34'-0"**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **17737.** tons

Coefficient of fineness for use with Tables **.79.**

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... .. <b>34.00</b>	(a) Where D is greater than Table depth (D - Table depth) R = $(34.06 - 30.73) \times 3 = +9.99$ 3.33	Moulded Breadth (B) <b>59.0</b>
Stringer plate ... .. <b>.06</b>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <b>✓</b>	Standard Round of Beam = $\frac{B \times 12}{50} = 14.16$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ <b>✓</b>	If restricted by superstructures	Ship's Round of Beam = <b>14.8</b>
Depth for Freeboard (D) = <b>34.06</b>		Difference <b>.22</b>
		Restricted to <b>✓</b>
		Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.22}{4} \times .58 = -.03.$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ... ..	<b>96.09</b>	<b>96.09</b>	<b>7.50</b>	<b>✓</b>	<b>96.09.</b>	Standard Height of Superstructure <b>7.5</b>
„ overhang ... ..						„ „ R.Q.D. <b>✓</b>
R.Q.D. enclosed ... ..						Deduction for complete superstructure <b>42.00.</b>
„ overhang ... ..						Percentage covered $\frac{S}{L} = 42.05$
Bridge enclosed ... ..	<b>47.21</b>	<b>47.21</b>	<b>7.50</b>	<b>✓</b>	<b>49.08</b>	„ „ $\frac{S_1}{L} = 41.91$
„ overhang aft ... ..	<b>2.50</b>	<b>1.87</b>				„ „ $\frac{E}{L} = 41.91$
„ overhang forward						Percentage from Table, Line A. <b>Tanker 32.91.</b>
F'cle enclosed ... ..	<b>48.04</b>	<b>48.04</b>	<b>7.50</b>	<b>✓</b>	<b>48.04</b>	(corrected for absence of forecastle (if required))
„ overhang ... ..						Percentage from Table, Line B. <b>✓</b>
Trunk aft ... ..						(corrected for absence of forecastle (if required)) <b>✓</b>
„ forward ... ..						Interpolation for bridge less than .2L (if required) <b>✓</b>
Tonnage opening aft ...						Deduction = <b>42 x .3291 = -13.82.</b>
„ „ forward						
Total ... ..	<b>193.84</b>	<b>193.21</b>			<b>193.21.</b>	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ... ..	<b>56.10</b>	<b>1</b>		<b>56.10</b>	<b>56.00</b>	<b>56.00</b>	<b>1</b>		<b>56.00</b>	Mean actual sheer aft =
$\frac{1}{4}$ L from A.P. ... ..	<b>24.96</b>	<b>4</b>		<b>99.84</b>	<b>24.87</b>	<b>24.87</b>	<b>4</b>		<b>99.48</b>	Mean standard sheer aft =
$\frac{2}{4}$ L „ ... ..	<b>6.17</b>	<b>2</b>		<b>12.34</b>	<b>6.12</b>	<b>6.12</b>	<b>2</b>		<b>12.24</b>	Mean actual sheer forward =
Amidships ... ..	<b>-</b>	<b>4</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>		<b>-</b>	Mean standard sheer forward =
$\frac{3}{4}$ L from F.P. ... ..	<b>12.34</b>	<b>2</b>		<b>24.68</b>	<b>12.25</b>	<b>12.25</b>	<b>2</b>		<b>24.50</b>	Length of enclosed superstructure forward of amidships =
$\frac{1}{4}$ L „ ... ..	<b>49.93</b>	<b>4</b>		<b>199.72</b>	<b>49.87</b>	<b>49.87</b>	<b>4</b>		<b>199.48</b>	„ „ aft of „ =
F.P. ... ..	<b>112.20</b>	<b>1</b>		<b>112.20</b>	<b>112.50</b>	<b>112.50</b>	<b>1</b>		<b>112.50.</b>	
Total ... ..				<b>504.88</b>					<b>504.20.</b>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \frac{.68}{4} \left( \frac{.75 - .2102}{.5398} \right) = +.02.$

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 $\frac{.79 + .68}{1.36} = \frac{1.47}{1.36}$	<b>77.95.</b>
Depth to Freeboard Deck = <b>34.06</b>	$\Delta = 16740.$	Depth Correction ... .. <b>9.99</b>	<b>84.26.</b>
Summer freeboard = <b>6.71</b>	Tons per inch immersion at summer load water line	Deduction for superstructures ... .. <b>- 13.82</b>	<b>52.8.</b>
Moulded draught (d) = <b>27.35</b>	T = <b>56.02</b>	Sheer correction ... .. <b>.02</b>	<b>19.5.4</b>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>6.84 = 6<math>\frac{3}{4}</math></b>	Deduction = $\frac{\Delta}{40T}$ inches = <b>7.47</b>	Round of Beam correction ... .. <b>- .03</b>	
Addition for Winter North Atlantic Freeboard (if required) = <b>6.84 + 4.61 = 11.45 = 11<math>\frac{1}{2}</math></b>	<b>7<math>\frac{1}{2}</math>"</b>	Correction for Thickness of Deck amidships ... .. <b>-</b>	
		Other corrections, scantlings, etc. ... .. <b>-</b>	
		10.01 13.85 <b>-3.84</b>	
		Summer Freeboard = <b>80.42.</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<math>\frac{1}{4}</math>"</b>	Tropical Fresh Water Freeboard ... .. <b>6'-8<math>\frac{1}{2}</math>"</b>
Fresh Water Line „ „ ... .. <b>7<math>\frac{1}{2}</math>"</b>	Fresh Water „ „ ... .. <b>5'-6<math>\frac{1}{4}</math>"</b>
Tropical Line „ „ ... .. <b>6<math>\frac{3}{4}</math>"</b>	Tropical „ „ ... .. <b>6'-1<math>\frac{1}{4}</math>"</b>
Winter Line below „ „ ... .. <b>6<math>\frac{1}{4}</math>"</b>	Winter „ „ ... .. <b>7'-3<math>\frac{1}{4}</math>"</b>
Winter North Atlantic Line „ „ ... .. <b>11<math>\frac{1}{2}</math>"</b>	Winter North Atlantic „ „ ... .. <b>7'-8"</b>