

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

Kollstein
42272

Ship's Name	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey
"ETNEFJELL"	---	Norwegian Oslo	About 9860	1950 8	Gothenburg
Moulded Dimensions: Length 149.350 M. Breadth 19.810 M. Depth 11.280 Metres.					Date of Survey
Freeboard Length 149.550 Metres to Centre Line of Rudder Stock.					Whilst building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 22210 METRIC TONNES					Surveyor's Signature
Coefficient of fineness for use with Tables 782					Particulars of Classification
					+100A1 Carrying Petroleum in bulk

Depth for Freeboard (D). M.	Depth correction.	Round of Beam correction.
Moulded depth ... 11.280	(a) Where D is greater than Table depth (D - Table depth) R = $8.33(11.300 - 9.970)30 = +332 \text{ inches}$	Moulded Breadth (B) 19.810 M.
Stringer plate020	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B}{50} = 396$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 400 mm.
Depth for Freeboard (D) = 11.300		Difference 4
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{4}{4} \times 6.59 = -1 \text{ inches}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	32.000	32.000	2290	✓	32.000
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...	12.488	12.488	2290	✓	12.488
„ overhang aft ...					
„ overhang forward ...					
F'cle enclosed ...	12.945	12.945	2290	✓	12.945
„ overhang ...					
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward ...					
Total ...	57.433	57.433			57.433

Standard Height of Superstructure	2.29
„ „ R.Q.D.	✓
Deduction for complete superstructure	1067
Percentage covered $\frac{S}{L} =$	
„ „ $\frac{S_1}{L} =$	38.41
„ „ $\frac{E}{L} =$	
Percentage from Table, Line A. Tanker 29.41	
(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 =	$1067 \times 29.41 = 314 \text{ inches}$

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	1500	1	1500	1070	1070	1	1070
$\frac{1}{4}L$ from A.P. ...	666	4	2664	188	188	4	752
$\frac{2}{4}L$ „ ...	167	2	334	0	-	2	
Amidships ...	-	4	-	0	-	4	
$\frac{3}{4}L$ from F.P. ...	333	2	666	0	-	2	
$\frac{1}{4}L$ „ ...	1333	4	5332	394	394	4	1576
F.P. ...	3000	1	3000	2145	2145	1	2145
Total ...			13496				5543

Mean actual sheer aft =	Deficient
Mean standard sheer aft	
Mean actual sheer forward =	Deficient
Mean standard sheer forward	
Length of enclosed superstructure forward of amidships =	Deficient
„ „ aft of „ =	Sheer.

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{7953}{18} \left(\frac{75-1921}{5579} \right) = +247 \text{ inches}$
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.
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line
Depth to Freeboard Deck = 11.300	$\Delta = 19461$
Summer freeboard = 2.591	Tons per inch immersion at summer load water line
Moulded draught (d) = 8.709	$T = 65.70$
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{48} \text{ inches} = 181 \text{ inches} = 7'4"$	Deduction = $\frac{\Delta}{40T} \text{ inches} = 7.405 = 7'2"$
Addition for Winter North Atlantic Freeboard (if required) = $181 + 123 = 304 \text{ inches} = 12'$	$= 190 \text{ inches}$

TABULAR FREEBOARD corrected for Flush Deck (if required)	2166
Correction for coefficient $\frac{782+68}{1.36} = \frac{1.462}{1.36}$	2328
Depth Correction ...	332
Deduction for superstructures ...	314
Sheer correction ...	247
Round of Beam correction ...	1
Correction for Thickness of Deck amidships ...	-
Other corrections, scantlings, etc. ...	-
579 315 + 264	
Summer Freeboard = 2592.	

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-			
Tropical Fresh Water Line above Centre of Disc	14'4" = 371 inches	Tropical Fresh Water Freeboard	8'6" = 2591 inches
Fresh Water Line	7'1/2" = 190	Fresh Water	7'3 3/4" = 2217
Tropical Line	7'1/4" = 184	Tropical	7'10 3/4" = 2401
Winter Line below	7'4" = 184	Winter	9'1 1/4" = 2775
Winter North Atlantic Line	12" = 304	Winter North Atlantic	9'6" = 2896

See later

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.

Displacements on shell plating and tons per inch immersion in salt water.

Displacement at	75 % of moulded depth	18590 tons, and	65.3 tons per inch,							
"	" 85 %	"	"	"	22550	"	"	67.1	"	"
"	" 95 %	"	"	"	25550	"	"	68.6	"	"
"	" 100 %	"	"	"	27060	"	"	69.2	"	"

Roop :- 30880

$$\frac{2}{3} \times 1680 = \frac{1120}{32000} = \text{equivt encl. length.}$$

Bridge = 11400

$$\frac{2}{3} \times 1680 = \frac{1120}{12520 \times \frac{19.76}{19.81}} = 12.488 \text{ equivt encl. length.}$$

Trade of ship General

Names of sister ships M/T "Koll", "Havbör", "Svenör", "Olav Ringdal Jr", "Filefjell", "Kollskegg", "Granheim" and "Kollstein",
Yard Nos. 343, 344, 345, 360, 375, 392, 393 and 396 respectively.

Builder's name and yard number Eriksbergs Mekaniska Verkstads Aktiebolag, Gothenburg, Yard No. 397.

Owners A/S Dovrefjell (Olsen & Ugelstad, Mgrs.), Oslo.

Fee £ ---



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