

11 SEP 1945

Rpt. C.11 (Comp.).

Index. No. 38135
(For London Office only).

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

Ship's Name KOCKUMS MEK VERKS. M/S No 220 SYSLA	Official Number 2520	Nationality and Port of Registry Norwegian Oslo	Gross Tonnage About 10,100	Date of Build 1941	Port of Survey Malmö
Moulded Dimensions: Length 500.82' <i>to centre of rudder stock</i> Breadth 63.0' Depth 38.50'				Date of Survey Whilst building.	
Moulded displacement at moulded draught = 85 per cent. of moulded depth 23010 tons				Surveyor's Signature A. Sundén	
Coefficient of fineness for use with Tables .780				Particulars of Classification 100 A1. Carrying petroleum in bulk (contemplated)	

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 38.50'	(a) Where D is greater than Table depth (D - Table depth) R = (38.57 - 33.39) 3 = +15.54'	Moulded Breadth (B) 63.0
Stringer plate .80"	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 5.18	Standard Round of Beam = $\frac{B \times 12}{50} =$ 15.12
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 18.70
Depth for Freeboard (D) = 38.567'		Difference 3.58
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{3.58^2}{4} \times \frac{67.91}{63.0} = -.61'$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	101.00	101.00	7.75		101.00
.. overhang ...					
R.Q.D. enclosed ...					
.. overhang ...					
Bridge enclosed ...					
.. overhang aft ...					
.. overhang forward ...					
F'cle enclosed ...	59.73	59.73	7.50		59.73
.. overhang ...					
Trunk aft ...					
.. forward ...					
Tonnage opening aft ...					
.. forward ...					
Total ...	160.73	160.73			160.73

Standard Height of Superstructure **7.5'**
R.Q.D. **42.00"**
Deduction for complete superstructure **42.00"**
Percentage covered $\frac{S}{L} =$ **32.09**
 $\frac{S_1}{L} =$ **32.09**
 $\frac{E}{L} =$ **32.09**
Percentage from Table, Line B. **23.09**
(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 = **42.00** x **.2309** = **9.70"**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	60.08	1		60.08	45.80	45.80	1		45.80
$\frac{1}{4}$ L from A.P. ...	26.735	4		106.94	2.82	2.82	4		11.28
$\frac{3}{8}$ L ..	6.61	2		13.22	0	0	2		-
Amidships ...	-	4		-	0	-	4		-
$\frac{3}{8}$ L from F.P. ...	13.22	2		26.44	0	0	2		-
$\frac{1}{4}$ L ..	53.47	4		213.88	20.60	20.60	4		82.40
F.P. ...	120.16	1		120.16	95.50	95.50	1		95.50
Total ...				540.72					234.98

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 = **Yankee with deficient sheer.**
aft of .. =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{305.74}{18} \left(\frac{75-160.4}{589.6} \right) = +10.01'$
If limited on account of midship superstructure. If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard.	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 20105 Tons per inch immersion at summer load water line $T =$ 66.48 Deduction = $\frac{\Delta}{40T}$ inches $= \frac{20105}{40 \times 66.48} = 7.56' = 192.7'$	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{78+68}{136} = 1.46/1.36$
Depth to Freeboard Deck = 38.57' Summer freeboard = 9.11' Moulded draught (d) = 29.46'		
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7.36' = 187.7' Addition for Winter, North Atlantic Freeboard (if required) = 7.36' + 5.01' = 12.37' = 314.7'		
		Depth Correction ... 15.54' Deduction for superstructures ... 9.70' Sheer correction ... 10.01' Round of Beam correction ... 0.61' Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ...
		25.55 10.31 + 15.24 Summer Freeboard = 109.37'

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

Tropical Fresh Water Line above Centre of Disc ... 14 3/4" 379.7'	Tropical Fresh Water Freeboard ... 2778.7' 9' 1 1/4"
Fresh Water Line " " ... 7 1/2" 192.7'	Fresh Water " " ... 2399.7' 7' 10 1/2"
Tropical Line " " ... 7 1/4" 187.7'	Tropical " " ... 2586.7' 8' 5 3/4"
Winter Line below " " ... 7 1/2" 187.7'	Winter " " ... 2591.7' 8' 6"
Winter North Atlantic Line " " ... 12 1/2" 314.7'	Winter North Atlantic " " ... 2965.7' 9' 8 3/4"
	Winter North Atlantic " " ... 3092.7' 10' 1 3/4"

010171-010178-0051

m/s Mak Verks
m/s No 220

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.

Displacement in salt water and tons per inch immersion:-

Moulded draught.	Displacement	Tons/inch
70% = 26.95'	18455 tons	65.25
75% = 28.875'	19480 "	66.20
80% = 30.80'	21540 "	67.14
85% = 32.725'	23100 "	68.05

Trade of ship

Names of sister ships

Builder's name and yard number

Owner

Fee £

Kockums M/T. 27 "Nesthav" Mms. Yhd Reports 1968 & 1968 A.
242 Sweap
Kockums Mek. Verks AB. Malmö Yhd No 220.

Johan Stenersen Oslo.



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