

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER~~)

For LONDON OFFICE ONLY

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Owners C11

Ship's Name "AENOS" EX "WILLIAM" (Wm.)	Official Number	Nationality and Port of Registry LIBERIA MONROVIA	Gross Tonnage	Date of Build 1920-8	Port of Survey LIVERPOOL Date of Survey FEBRUARY 1955 Surveyor's Signature <i>W.O. Tunnell</i> Particulars of Classification +100 A1
Moulded Dimensions: Length 356'0" Breadth 48'42" Depth 25'91" Freeboard Length 356'77" Moulded displacement at moulded draught = 85 per cent. of moulded depth NOT AVAILABLE tons Coefficient of fineness for use with Tables NOT AVAILABLE SAY 771					

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... 25'91" Stringer plate ... 46" ... 04" Wood Sheathing on exposed deck $T \frac{(L-S)}{L} =$ Depth for Freeboard (D) = 25'95"	(a) Where D is greater than Table depth (D-Table depth) R = (25'95"-23'78") 2'174" = - 5'96" (b) Where D is less than Table depth (if allowed) (Table depth-D) R = If restricted by superstructures	Moulded Breadth (B) 48'42" Standard Round of Beam = $\frac{B \times 12}{50} =$ 11'62" Ship's Round of Beam = 16" Difference 4'38" Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right) =$ 4'38" \times .194 = - 8'52"

DEDUCTION FOR SUPERSTRUCTURES.				
Mean Covered Length (S)	Equivalent Enclosed Length (S)	Height	Height Correction	Effective Length (E)
Poop enclosed ... 35'10"	35'10"	7'0"	7'04"	34'75"
" overhang ...				
R.Q.D. enclosed ...				
" overhang ...				
Bridge enclosed ... 220'50"	220'50"	7'0"		218'32"
" overhang aft ...				
" overhang forward ... 2'04"	1'02"	7'0"		1'01"
F'cle enclosed ... 29'71"	30'64"	7'0"		30'36"
" overhang ... 30'64"				
Trunk aft ...				
" forward ...				
Tonnage opening aft ...				
" " forward ...				
Total ... 288'31"	287'29"			284'44"

Standard Height of Superstructure 7'04"	
" " R.Q.D. ✓	
Deduction for complete superstructure 39'12"	
Percentage covered $\frac{S}{L} =$ 80'82"	
" " $\frac{S_1}{L} =$ 80'53"	
" " $\frac{E}{L} =$ 79'73"	
Percentage from Table, Line A.-0 44'94"	
(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 = 39'12" - 44'94" = - 5'82"	
7487	

SHEER CORRECTION.							
Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S
A.P. ...	45'68"	1		45'68"	55'0"	65'00"	1
$\frac{1}{4}L$ from A.P. ...	20'33"	4		81'32"	23'5"	23'50"	4
$\frac{3}{4}L$ " ...	6'04"	2		10'05"	7'0"	7'00"	2
Amidships ...	0	4		0	0	0	4
$\frac{3}{8}L$ from F.P. ...	10'05"	2		20'10"	11'5"	11'50"	2
$\frac{1}{8}L$ " ...	40'65"	4		162'60"	43'0"	43'00"	4
F.P. ...	91'35"	1		91'35"	107'5"	107'50"	1
Total ...				411'10"			

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{54'40" - 404'1"}{18} = - 1'05"$

If limited on account of midship superstructure. **No.**

Mean actual sheer aft = **Excess**

Mean standard sheer aft = **Excess**

Mean actual sheer forward = **Excess**

Mean standard sheer forward = **Excess**

Length of enclosed superstructure forward of amidships = **> .1L**

" " aft of " = **> .1L**

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD
Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 25'95" Summer freeboard = 3'15" Moulded draught (d) = 22'40" Keel allowance = Extreme draught = Deduction for Tropical freeboard and addition for = Winter freeboard = $\frac{d}{4}$ inches = 5'70" Addition for Winter North Atlantic Freeboard (if required) =	Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line $T =$ Deduction = $\frac{\Delta}{40 T}$ inches = 24'0" 23'0" 22'0" 21'0"	Corrected for Flush Deck (if required) Correction for coefficient 68'74" 1'451" 1'36" 1'36" Depth Correction ... 6'96" Deduction for superstructures ... 29'83" Sheer correction ... 1'05" Round of Beam correction ... 2' Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... 5'96" 30'59" - 24'63" Summer Freeboard = 37'75"

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

Tropical Fresh Water Line above Centre of Disc	11'2"
Fresh Water Line	5'24"
Tropical Line	5'24"
Winter Line below	5'24"
Winter North Atlantic Line	5'24"

Tropical Fresh Water Freeboard	2'24"
Fresh Water	2'8"
Tropical	2'8"
Winter	3'75"
Winter North Atlantic	3'75"

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.											
FREEBOARD DECK						BRIDGE DECK					
Description of Hatchway	1	2	3	4	5	EX BUNKER HATCHES	HATCH INSIDE F.C.L.E.	2	3	4	
Dimensions of Hatchway	26'-6 1/2" x 19'	26'-6 1/2" x 19'	18'-4 1/2" x 19'	26'-6 1/2" x 19'	26'-6 1/2" x 19'	20'-7-10" x 3'-3"	4'-2" x 3'-3"	26'-6 1/2" x 19'	18'-4 1/2" x 19'	26'-6 1/2" x 19'	
COAMINGS	Height above Deck	3 1/2"	12"	12"	12"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	
	Thickness	.44	.44	.44	.44	.44	.44	.44	.44	.44	
	Stiffeners	7 x 3 x 40 BA	2" COPE	2" COPE	2" COPE	7 x 3 x 40 BA	2" COPE	7 x 3 x 40 BA	2" COPE	7 x 3 x 40 BA	
	Brackets, Stays	2 1/4" S.R.P.				2 1/4" S.R.P.		2 1/4" S.R.P.		2 1/4" S.R.P.	
HATCH BEAMS	Number	4	4	3	4	4		4	3	4	
	Spacing	5'-3 1/2"	5'-3 1/2"	4'-7"	5'-3 1/2"	5'-3 1/2"		5'-3 1/2"	4'-7"	5'-3 1/2"	
	Scantling and Sketch	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44		4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	
	Bearing Surface	3"	3"	3"	3"	3"		3"	3"	3"	
FORE AND AFTERS	Number										
	Spacing										
	Unsupported Lengths										
	Scantling* and Sketch										
HATCH COVERS	Material		WOOD			WOOD	WOOD		WOOD		
	Thickness		2 1/4"			2 1/4"	2 1/4"		2 1/4"		
	How fitted		F & A			ATHWARTSHIPS	F & A		F & A		
	Bearing Surface		3"			2"	3"		3"		
Spacing of Cleats	24"	22"	20"	21"	22"	21"	20"	22 1/2"	22"	24"	
Number of Tarpaulins	2	1	1	1	2	1	1	2	2	2	

*Are wood fore and afters steel shod at all bearing surfaces?

Are battens and wedges efficient and in good condition?

Are tarpaulins in good condition and in accordance with rule requirements?

Are lashings provided in accordance with rule requirements?

Are wood covers fitted with galvanised end bands?

WIRE LASHINGS & STRETCHING SCREWS PROVIDED, IN ACCORDANCE WITH THE RULES.

USUAL BATTENING ARRANGEMENT

Particulars of any special features:— (Timber Deck-cargo Fittings, Skylights, Sewage Systems, Ash Ejectors, Rubbish Shoots, etc.)

TRIMMING HATCHES INSIDE BRIDGE. 16 OFF

1'-10" x 2'-6 1/2", 9" x 3 1/2" x 50 BA COAMING

2 1/2" WOOD COVERS 1 3/4" BEARING SURFACE

CLEATS 2 1/2" x 13" APART.

1 TARPULIN.

SKYLIGHT ON POOP. STRONGLY CONSTRUCTED OF STEEL

3'-9" x 3'-3", 8" HIGH @ SIDE 21" @ CENTRE.

FITTED WITH HINGED STEEL FLAPS, WITH 8"

BULLSEYE LIGHT IN EACH, THE OPENINGS BEING

19" x 14". STEEL FLAPS LIFTED BY QUADRANT

& SECURED IN POSITION BY PIN FROM INSIDE

OF POOP SPACE