

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

*now named "TURUL" of Budapest (10/4/35)*

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Having *Forecastle and joined Bridge and Poop*

(Type of Superstructures.)

Ship's Name *TURUL*  
*WARTA*

Nationality and Port of Registry *POLISH*  
*Gdynia*

Official Number *122*

Gross Tonnage *2478*

Date of Build *1916/10*

Moulded Dimensions: Length *253.0'* Breadth *43.5'* Depth *27.58'*

Moulded displacement at moulded draught = 85 per cent. of moulded depth *5764* tons

Coefficient of fineness for use with Tables *782*

Port of Survey *London*

Date of Survey *9<sup>th</sup> 10<sup>th</sup> December 1932*

Name of Surveyor *Geo. A. Laming*

Particulars of Classification *+100AL*  
*S.S. No 3. 2/29.*

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	27.58	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	43.50
Stringer plate	0.4	(27.62 - 16.87) 1.946 = + 20.92		Standard Round of Beam = $\frac{B \times 12}{50}$	10.44
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	13
$T \left( \frac{L-S}{L} \right) =$				Difference	2.56
Depth for Freeboard (D) =	27.62	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{2.56}{4} \times 4.18 = - .27$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure 6.03
" overhang ...						" " R.Q.D. 4.04
R.Q.D. enclosed	121.85	121.85	7.5		121.85	Deduction for complete superstructure 31.3
" overhang						Percentage covered $\frac{S}{L} = 58.20\%$
Bridge enclosed ...						" " $\frac{S_1}{L} = 58.20\%$
" overhang aft ...						" " $\frac{E}{L} = 58.20\%$
" overhang forward						Percentage from Table, Line A. 43.48%
P'cle enclosed ...	25.4	25.40	7.5		25.40	(corrected for absence of forecastle (if required))
" overhang ...						Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...						Deduction = $31.30 \times .4348 = - 13.61$
" forward						
Total ...	147.25	147.25			147.25	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	35.30	1		35.30	17.0	17.64	1		34.64	Mean actual sheer aft = Deficient
$\frac{1}{2}L$ from A.P. ...	15.71	4		62.84	1.58	17.00	4		61.64	Mean actual sheer forward = Deficient
$\frac{3}{4}L$ " ...	3.88	2		7.76	.394	0.90	2		7.62	Mean standard sheer aft
Amidships ...		4					4			Mean standard sheer forward
$\frac{3}{4}L$ from F.P. ...	17.77	2		15.54	3.94	3.10	2		6.20	Length of enclosed superstructure forward of amidships =
$\frac{1}{2}L$ " ...	31.42	4		125.68	15.8	14.30	4		57.20	" " aft of " =
F.P. ...	70.60	1		70.60	53.0	53.00	1		53.00	
Total ...				317.72					220.30	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{97.42}{18} (.75 - .291) = + 2.48$

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.  
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 27.62

Summer freeboard = 3.75

Moulded draught (d) = 23.87

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 5.97 = 6

Addition for Winter North Atlantic Freeboard (if required) = 2

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

T =

Deduction =  $\frac{\Delta}{40T}$  inches = 6

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	20.92	-
Deduction for superstructures	-	13.61
Sheer correction	2.48	-
Round of Beam correction	-	.27
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-

23.40 13.88 + 9.52

Summer Freeboard = 44.92

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

Tropical Fresh Water Line above Centre of Disc	12	Tropical Fresh Water Freeboard	2
Fresh Water Line	6	Fresh Water	
Tropical Line	6	Tropical	
Winter Line below	6	Winter	
Winter North Atlantic Line	8	Winter North Atlantic	



WARTA

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles:—

None. ✓

## Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

1 on forecottle head. 3" diameter. 10" high to F.P.T.  
 1 through forecottle bulkhead 3" diameter. 6'-0" and 7'-0" above deck, from wing & double bottom tanks.  
 2 - 20" high and 2 - 20" high. 3" diameter, forward well deck from wing & D.B. tanks. fitted with screw caps.  
 39 wood plugs attached by chains provided.

## None.

3. H.C. discharges led below hullboard deck and fitted with storm valves on ship's side.  
Copper pipes from accommodation, in compartment, steering engine house in bridge-poop space led below hullboard deck overboard & all fitted with storm valves. Port side 2'-4" 1'-2" 1'-3". Starboard side 1'-2" 1'-3"

Side Scuttles of strong construction & fitted with hinged deadlights - a few require overhaul.  
Side Scuttles in Poop Sides forward of Stokeloc Bulkhead removed and openings closed by riveted spigot doublers.

Open Rails round forecastle head, bridge and poop - 3 rails 40" high Marchion Spaced. 5'-0" to 6'-0"  
Steel plate bulwarks in well deck 36" high.

Eye bolts fitted in bridge front of horse the bulkhead & life line rigged when required.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..								
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ... ..	✓							
Bridge, Forward Bulkhead ... ..	3/8"	5/16"	Chamfer 8"x3 1/2"x50	29"	8x6 top & bottom	none	✓	7'-6"
Forecastle Bulkhead ... ..	5/16"	5/16"	4"x3"x38	24	none	1-27"x53"	8" above trunk	7'-6"
Trunk, Aft ... ..	✓							
Trunk, Forward ... ..	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Super-structure Decks ... ..	30	30	3x3x25 9 2 1/2 x 2 1/2 x 25	30"	Btts at top	2-23"x60"	18"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	30	30	2 1/2 x 2 1/2 x 25 9 3 x 3 x 25	30"	8x6 at top	1-24"x60"	18"	7'-6"
Deckhouses on Flush Deck Ships ...	✓							

Poop Bulkhead	x ... .. ✓
Raised Quarter Deck Bulkhead	... .. ✓
Bridge, After Bulkhead	... .. ✓
Bridge, Forward Bulkhead	... .. ✓
Forecastle Bulkhead	... ..
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	... .. ✓
Exposed Machinery Casings on Superstructure Decks	... .. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	... ..
Deckhouses on Flush Deck Ships	... ..

*Lateral*

*Strong steel hinged door with joint 9 clips spaced 20" and 2 1/4" apart. workable from both sides.*

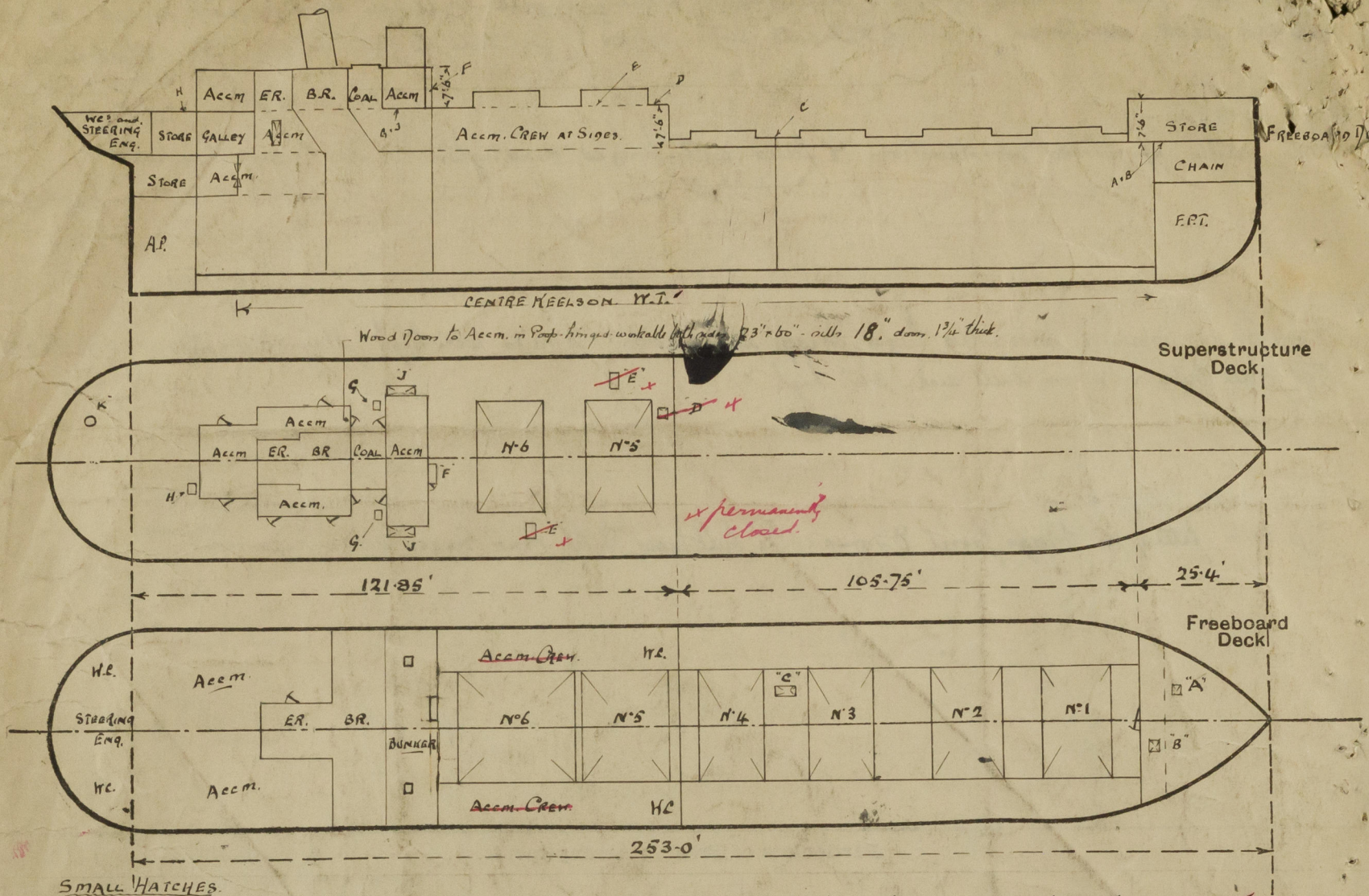
*- 2 Hardwood doors 1 3/4" thick. 1 opening from both side. One with fastening mechanism.*

*1 Strong steel hinged door. workable from both sides. In port side pass age of Poop Accommodation in aft end of casing from Accom. in lower deck.*

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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



#### SMALL HATCHES.

- A" Access to upper fore peak. 24" x 24" coaming 6" x 3" x 40" coaming steel flanged hinged lid. secured by eyebolts & thumb screws.  
 B, C, D " to holds. 21" x 21" coaming 6" x 3" x 40. steel flanged hinged covers. secured by 6-3/4" bolts.  
 F. Entrance to storehold. deck opening 4'-6" x 2'-3" - casing 3/8" th. 7'-6" high steel hinged jointed door. 6 clips workable both sides door 21" x 60" sill 18"  
 G. Bunkers hatch. 21" x 21" coaming 6-3/8" x 40 - hinged steel covers secured by 8-3/4" bolts.  
 H. To passage in poop Accm. 24" x 24" coaming 6" x 3" x 40. hinged steel cover. secured by 11-3/4" bolts.  
 J. Bunkers hatch. 8'-2" x 2'-4" coaming 3/8" th x 21" to 26" high - hinged steel covers. secured by 5-3/4" bolts.  
 State any special features in the construction of the ship:— "K" To Eng Store 18" dia 4" high. C.I. W.T. cover 8-3/4" bolts.

#### Timber Load Line Requirements.

8" x 3 1/2" BA

Plat. .26" +  
 Manchuan  
 6" x 3" BA  
 spaced 6'-9"

Bulwark. 36" high

on forward well deck.

2" x 2" angle sockets for 11" x 3" plank <sup>electrically</sup> welded to deck & spaced 6'-6" from mid. & 9'-0" apart for uprights.

Hoops of 1" dia bar bolted to bulwark rail bar in way of each socket.

Top plates 11" x 3/8" riveted to bulwarks. about 9'-0" spacing, for fastenings.

The steam steering gear engine is placed at the after end of Poop and worked by telemotor. Manual hand steering gear on Poop.

#### Particulars obtained onboard.

7'-0" draft — deadweight.  
 13'-2" " 1500 ton "  
 17'-11" " 2750 " "  
 23'-4 1/2" " 4200 " " 9 22 ton per inch.

Survey held whilst vessel afloat and discharging and confined to particulars for this report.

Builder's name and yard number. Great Lakes Engineering Works. Ecorse, Mich. — Yard No. 163.

Names of sister ships. S.S. "P.L.M. 4"

Owners "Zegluga Polska" Spolka Akcyjna

Fee £ 10 - 4 - 0

Received by me

12 DEC 1932



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