



# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15210.

Port of HAMBURG Date of First Survey 19<sup>th</sup> July Date of Last Survey 27<sup>th</sup> Oct. 1922 No. of Visits 12

No. in Reg. Book 81004 on the ~~Iron or~~ Steel Turbine Motor "TIRADENTES" Port belonging to TÖNSBERG. Built at HAMBURG By whom DEUTSCHE WERFT, A. G. When built 1922.

Owners *Wih. Wilhelmsen.* Owners' Address *CHRISTIANIA.*  
Yard No. *10* Electric <sup>Power</sup> ~~Light~~ Installation fitted by *A.E.G. - BERLIN + HAMBURG.* When fitted *1922*  
*in connection with the Guider.*

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

3 - 2 cylinder 4 cycle stroke Diesel engine direct coupled to compound wound  
D. E. G. dynamo running at 300 revolutions per minute.

Capacity of Dynamo \$ 335 Amperes at 225 Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Engine room* Whether single or double wire system is used *double wired*

Position of Main Switch Board *Engine room.* having switches to groups *Nos 1 to 31.* of lights, ~~for~~ as below

Positions of ~~auxiliary switch boards and numbers of switches on each~~ resistance on each in vicinity of or close to the motors.

If fuses are fitted on main switch board to the cables of main circuit yes ✓ and on each auxiliary switch board to the cables of auxiliary circuits ✓ and at each position where a cable is branched or reduced in size yes ✓ and to each lamp circuit ✓

If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits ~~including lamp circuits~~ *yes ✓*

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 25 per cent over the normal current

Are the fuses fitted in easily accessible positions *yes* ✓ Are the fuses of standard dimensions *yes* ✓ If wire fuses are used

are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes, ✓

Total number of Motors: 31.

Total number of Motors. : 31.			CABLES		
No	Motors fitted for	requiring a total current of Amps.	comprised of wires	Dia. of each <sup>mm</sup>	sq. <sup>mm</sup> total sect. area.
1.	Transformer, f. lightning inst.	45	7	1.7 <sup>mm</sup>	16. sq. <sup>mm</sup> ✓
2.	Air circ. fan in refriger. chamber. No 1	80	19	1.8 <sup>mm</sup>	50 " " ✓
3.	" " " " " No 2	80	19	1.8 <sup>mm</sup>	50 " " ✓
4.	Transformer for steering engine	60	7.	2.1 <sup>mm</sup>	25 " " ✓
5.	After capstan.	40	7.	1.7 <sup>mm</sup>	16 " " ✓
6.	Winches Nos 9 & 10. aft.	80	19	1.5 <sup>mm</sup>	35 " " ✓
7.	" " 7 & 8 "	80	19	1.5 <sup>mm</sup>	" " " ✓
8.	" " 5 & 6 midship.	80	19.	1.5 <sup>mm</sup>	" " " ✓
9.	" " 3 & 4 forward.	80	19.	1.5 <sup>mm</sup>	" " " ✓
10.	" " 1 & 2 "	80	19.	1.5 <sup>mm</sup>	" " " ✓
11.	Windlass	160	19	2.15 <sup>mm</sup>	70 " " ✓
12.	Wireless Telegr.	16	1	2.75 <sup>mm</sup>	6 " " ✓
13.	Auxiliary compressor	300	37	2.5 <sup>mm</sup>	185 " " ✓
14.	Oil transfer pump & daily supply.	58	7.	1.7 <sup>mm</sup>	16 " " ✓
15.	Lubrication pump No 1.	58	7	1.7 <sup>mm</sup>	" " " ✓
16.	" " " No 2.	58	7	1.7 <sup>mm</sup>	" " " ✓
17.	Brine pump No 1.	58	7.	1.7 <sup>mm</sup>	" " " ✓
18.	" " " No 2	58	7.	1.7 <sup>mm</sup>	" " " ✓
19.	C.O <sub>2</sub> compressor No 1.	162	19	2.15 <sup>mm</sup>	70 " " ✓
20.	" " " No 2.	162.	19.	2.15 <sup>mm</sup>	" " " ✓
21.	Cooling pump No 1.	58	7.	1.7 <sup>mm</sup>	16 " " ✓
22.	" " " No 2	58	7.	1.7 <sup>mm</sup>	" " " ✓
23.	Auxiliary pump No 1.	32	7.	1.25 <sup>mm</sup>	10 " " ✓
24.	" " " No 2.	32	7.	1.25 <sup>mm</sup>	" " " ✓
25.	Ballast pump	58	7.	1.7 <sup>mm</sup>	16 " " ✓
26.	Freshwater pump	5.	1.	1.35 <sup>mm</sup>	1.5 " " ✓
27.	Brine circulating pump	16	1.	2.75 <sup>mm</sup>	6 " " ✓
28.	Turning gear S.W. main engine	24.	1.	2.75 <sup>mm</sup>	6 " " ✓
29.	" " Port " "	24.	1.	2.75 <sup>mm</sup>	6 " " ✓
30.	Workshop	6.	1.	2.25 <sup>mm</sup>	4 " " ✓
31.	Electric Jacking-oven.	22.	1.	2.75 <sup>mm</sup>	6 " " ✓
MAIN CABLES		300 Amps.	37.	2.5 <sup>mm</sup>	185 " " ✓

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yls in engine room.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *cables are carried in green ducts overhead in way of deck girders.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *armoured cables.*

What special protection has been provided for the cables near boiler casings *✓*

What special protection has been provided for the cables in engine room *armoured cables*

How are cables carried through beams *through bulkheads, &c. watertight glands.*

How are cables carried through decks *deck holer*

Are any cables run through coal bunkers *✓* or cargo spaces *Yls* or spaces which may be used for carrying cargo, stores, or baggage *Yls*

If so, how are they protected *armoured cables in sheet iron casings*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, stores, or baggage *Yls in ventilating chamber.*

If so, how are the lamp fittings and cable terminals specially protected *Yls glass in iron protective box*

Where are the main switches and fuses for these lights fitted *engine room.*

If in the spaces, how are they specially protected *✓*

Are any switches or fuses fitted in bunkers *✓*

Cargo light cables, whether portable or permanently fixed *✓* How fixed *✓*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *✓*

How are the returns from the lamps connected to the hull *✓*

Are all the joints with the hull in accessible positions *✓*

Is the installation supplied with voltmeters *Yls* and with amperemeters *Yls* fixed *Main Switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *✓*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *✓*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *✓*

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *500 M.U.* *kilometer* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

*The Builders* are the Electrical Engineers Date *28/10/22.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 15 m.*

Distance between dynamo or electric motors and steering compass *"*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>

Have the compasses been adjusted with and without the electric installation at work at full power *Yls*

The maximum deviation due to electric currents, etc., was found to be *nil* degrees on *✓* course in the case of the standard compass and *nil* degrees on *✓* course in the case of the steering compass.

DE TOUHE WERFT  
AKTIENGESELLSCHAFT.

Builder's Signature. Date *28<sup>th</sup> October 1922.*

GENERAL REMARKS.

*The Electric Power Installation is constructed and fitted on board in accordance with the approved plans. It has been tried under working conditions and was found satisfactory & eligible in my opinion to be placed with the Society.*

*Fees: £: 37. 2. 0.*

*Friedrich J. A.*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 15 MAY. 1923

TUE JUL 24 1923

FRI. 14 SEP. 1923



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