

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11043.

Port of MIDDLESBRO' Date of First Survey 24/5/21 Date of Last Survey 30/6/21 No. of Visits 9
 No. in on the ~~Iron or~~ Steel Sts "Liss" Port belonging to Christiania
 Reg. Book 38134 Built at Haveron Hill on Yess. By whom Huruss Shipbuilding Co. Ltd When built 1921
 Owners Krzimasko A/S. Owners' Address Christiania
 Yard No. 6 Electric Light Installation fitted by Huruss Shipbuilding Co. Ltd When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

An additional 50kW turbo-act-fitted 11.38 for some power circuits
 Dynamo Open Type, Compound Wound, Sunderland Forge No 26642
 Engine Open Type Single Cylinder " 26542

Capacity of Dynamo 85 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Main Engine Room Stbd Side Whether single or double wire system is used Double

Position of Main Switch Board " " " " having switches to groups A. B. C. D. & E. of lights, &c., as below

Positions of auxiliary ~~switch~~ ^{FUSE} boards and numbers of switches on each "A" Chart House (8 switches) "B" Saloon Passage
"B.I." Pile, "C" Crew Aft, "D" Engine Room, "E" Engineers & Officers Accommodation

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 Yes and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes

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 50 per cent over the normal current

Are all 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 Yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 178 arranged in the following groups:—

A Navigation	5 lights each of 8 C.P.	candle power requiring a total current of	8.1	Amperes
B Midship	30 lights each of 30 watt	candle power requiring a total current of	27	Amperes
C Aft	45 lights each of 16 C.P. Including Clusters	candle power requiring a total current of	27	Amperes
D Engine Room	3 lights each of 200 watts	candle power requiring a total current of	16.2	Amperes
E Engineers and Officers	15 lights each of 16 C.P.	candle power requiring a total current of	17.1	Amperes
2 Mast head light with	1 lamps each of 32	candle power requiring a total current of	included in "A"	Amperes
2 Side light with	1 lamps each of 32	candle power requiring a total current of	" " "	Amperes
6 Cargo lights of	80	candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed

Chart House

DESCRIPTION OF CABLES.

Main cable carrying	85 Amperes, comprised of	19 wires, each	14 S.W.G. diameter,	.094 square inches total sectional area
Branch cables carrying	27 Amperes, comprised of	19 wires, each	.052 S.W.G. diameter,	.04 square inches total sectional area
Branch cables carrying	17.1 Amperes, comprised of	7 wires, each	.036 S.W.G. diameter,	.007 square inches total sectional area
Leads to lamps carrying	2 Amperes, comprised of	3 wires, each	.029 S.W.G. diameter,	.002 square inches total sectional area
Cargo light cables carrying	3 Amperes, comprised of	7 wires, each	.036 S.W.G. diameter,	.007 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered cables used in Saloon Accom; & Engineers and Officers Accom;
Lead covered & armoured cables used in Engine Room, Galley, Aft Crew Space,
& Pile; Main Under cables (L.C. & Arm'd) clipped on underside of Fore Aft Gangway
Lead covered wires run in H.S. Conduit in Pump Room
 Joints in cables, how made, insulated, and protected

Porcelain Extension protected by cast iron covers where necessary

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances solder not used, joints being mechanical
 Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage no

Are there any joints in or branches from the cable leading from dynamo to main switch board none

How are the cables led through the ship, and how protected clipped on casing in Stbd Engine Rm Alleyway
carried to underside of Fore Aft Gangway into Saloon Accommodation
Protected by being lead covered & armoured

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Iron Pipes fitted to deck lights*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead covered & Armoured*

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

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

How are cables carried through beams *Lead bushes used for lead covered cables* through bulkheads, &c. *water-tight glands*

How are cables carried through decks *Iron deck pipes*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *no*

If so, how are the lamp fittings and cable terminals specially protected */*

Where are the main switches and fuses for these lights fitted */*

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 *Portable* 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 a voltmeter *yes*, and with an amperemeter *yes*, fixed *on 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 *yes*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *no*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *Gas tight fittings in pump room*

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 *600* 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.

J. S. G. Lorne

Electrical Engineers

Date *26-4-21*

COMPASSES.

Distance between dynamo or electric motors and standard compass *150 ft Approx*

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

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	inside	feet from standard compass	feet from steering compass
<i>3</i>	<i>3</i>	<i>inside</i>	<i>3</i>	<i>3</i>
<i>8.1</i>	<i>8</i>	<i>8</i>	<i>6</i>	<i>6</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. *yes*

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

FURNESS SHIPBUILDING COMPANY, LTD.,

HARTON, LONDON

Builder's Signature.

Date *27-6-21*

GENERAL REMARKS.

This installation has been efficiently fitted on board and proved satisfactory under working conditions

It is submitted that this vessel is eligible for THE RECORD Elec Light.

Yrs £8-10-0
appeared for - 5/8/21
Received - 8/8/21.

W. C. Craig
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

FRI. 12 AUG. 1921

TUE. 11 APR. 1922

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 14. Trans. 10.