

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41522.

Port of Glasgow Date of First Survey 3-5-21 Date of Last Survey 21. 11. 21 No. of Visits 5
 No. in on the Iron or Steel S. S. LANGFJORD Port belonging to Kristiania
 Reg. Book 32116 Built at Ordrøssan By whom The Ordrøssan S.B. Co. Ltd. When built 1921
 Owners Norwegian American S.S. Co. Ltd. Owners' Address Kristiania
 Yard No. 316 Electric Light Installation fitted by Messrs Safford & Co. & McKay & Co. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

— TOTAL K W = 8 —

Engine, open type, single cylinder, double acting, vertical, coupled direct to open protected type dynamo compound wound multipolar
 Capacity of Dynamo 80 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed on starting platform Whether single or double wire system is used double
 Position of Main Switch Board Beside dynamo having switches to groups of Five circuits of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each no auxiliary switchboards

If fuses are fitted on main switch board to the cables of main circuit yes and on each auxiliary ^{Fuse} switch board to the cables of auxiliary circuits yes and at each position where a cable is branched or reduced in size none 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

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 marble or porcelain

Total number of lights provided for 120 - 16c arranged in the following groups:—

A Navigation	5 lights each of	32	candle power requiring a total current of	5.00	Amperes
B Midships	32 lights each of	30 Watts	candle power requiring a total current of	9.60	Amperes
C Crew	18 lights each of	30 "	candle power requiring a total current of	5.40	Amperes
D Engines	30 lights each of	30 "	candle power requiring a total current of	9.00	Amperes
E Cluster	20 lights each of	16	candle power requiring a total current of	10.00	Amperes
2 Mast head lights with	1 lamp each of	32	candle power requiring a total current of	included above	Amperes
2 Side lights with	1 lamp each of	32	candle power requiring a total current of	" "	Amperes
4 Cargo lights of		96	candle power, whether incandescent or arc lights	" "	

If arc lights, what protection is provided against fire, sparks, &c. no arc lamps

Where are the switches controlling the masthead and side lights placed In wheel house

DESCRIPTION OF CABLES.

Main cable carrying 80 Amperes, comprised of 19 wires, each .083 S.W.G. diameter, 0.100 square inches total sectional area
 Branch cables carrying 9 Amperes, comprised of 7 wires, each .044 S.W.G. diameter, 0.010 square inches total sectional area
 Branch cables carrying 5.4 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, 0.007 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, 0.002 square inches total sectional area
 Cargo light cables carrying 2.5 Amperes, comprised of 1 wires, each .064 S.W.G. diameter, 0.003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables are insulated with pure india-rubber vulcanized india-rubber and rubber coated tape. The whole vulcanized together and compounded. Protected by steel tubing or lead sheath.

Joints in cables, how made, insulated, and protected no joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances none 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

Are there any joints in or branches from the cable leading from dynamo to main switch board no

How are the cables led through the ship, and how protected Cables are V.I.R. and led through ship in solid drawn steel tubes under beams.



© 2020

Lloyd's Register
Foundation

W457-0192

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 Steel Tubes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Steel Tubes

What special protection has been provided for the cables near boiler casings Steel Tubes

What special protection has been provided for the cables in engine room Armour and braiding

How are cables carried through beams under beams in Steel Tubes through bulkheads, &c. Steel Tubes

How are cables carried through decks Steel Tubes

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

If so, how are they protected Steel tubes

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 no

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 —

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 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.

Jelford Grier Mackay & Co

Electrical Engineers

Date 22/10/21

COMPASSES.

Distance between dynamo or electric motors and standard compass 100 feet approx

Distance between dynamo or electric motors and steering compass 94 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Distance from standard compass	Distance from steering compass
<u>25</u>	<u>inside</u>	<u>inside</u>	<u>inside</u>
<u>5</u>	<u>10</u>	<u>6</u>	<u>6</u>
<u>9.6</u>	<u>18</u>	<u>12</u>	<u>12</u>

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 — course in the case of the standard compass and nil degrees on — course in the case of the steering compass.

E. Grier Mackay & Co

Builder's Signature.

Date November, 1921.

GENERAL REMARKS.

This installation has been fitted on board under special survey. Tested under full working conditions found satisfactory.

FEE £8-0-0
Exp. 15-0

4/15/12/21

Elec. Light.

J.S. Rankin

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

27 DEC 1921

Elec. Light.

50



© 2020

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.