

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10610

Port of MIDDLESBROUGH Date of First Survey _____ Date of Last Survey White No. of Visits Building
 No. in Reg. Book _____ on the Iron or Steel S.S. Roana ex War Craft Port belonging to _____
 Built at Middlesbrough By whom Furness S & Co. When built 1930
 Owners Roua Società Di Navigazione Owners' Address Genoa
 Yard No. 13 Electric Light Installation fitted by Furness S & Co. When fitted 1930

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo by Elect Construction Co Ltd., 4 pole open type, with interpoles Makers No 40149
 Engine by Hindley Sons, Dorset, Enclosed type with forced lubrication Makers No 7054
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Main Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board On Bulkhead 3 ft from dynamo, having switches to groups of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each No auxiliary switchboards fitted, Distribution boxes only, for circuits A, B, C, etc. below.

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 25 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 145 arranged in the following groups:—

A	Navigation	{ 3 lights each of 52 }	candle power requiring a total current of	<u>6</u>	Amperes
B	Widship	36 lights each of 30 watt M.F.	candle power requiring a total current of	<u>28</u>	Amperes
C	after crew	17 lights each of 16	candle power requiring a total current of	<u>10</u>	Amperes
D	Engine Room	40 lights each of 16	candle power requiring a total current of	<u>21</u>	Amperes
E	Cargo clusters	38 lights each of 16	candle power requiring a total current of	<u>20</u>	Amperes
2	Mast head light with	1 lamps each of 32	candle power requiring a total current of	<u>2.4</u>	Amperes
2	Side light with	1 lamps each of 32	candle power requiring a total current of	<u>2.4</u>	Amperes
6	Cargo lights of	96 (6 at 16cp)	candle power, whether incandescent or arc lights	<u>incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed in Chart House

DESCRIPTION OF CABLES.

Main cable carrying	<u>100</u> Amperes, comprised of	<u>19</u> wires, each	<u>14</u> S.W.G. diameter,	<u>.0937</u> square inches total sectional area
Branch cables carrying	<u>28</u> Amperes, comprised of	<u>7</u> wires, each	<u>14</u> S.W.G. diameter,	<u>.0346</u> square inches total sectional area
Branch cables carrying	<u>21</u> Amperes, comprised of	<u>7</u> wires, each	<u>16</u> S.W.G. diameter,	<u>.0221</u> square inches total sectional area
Leads to lamps carrying	<u>3.6</u> Amperes, comprised of	<u>1</u> wires, each	<u>18</u> S.W.G. diameter,	<u>.0018</u> square inches total sectional area
Cargo light cables carrying	<u>3.6</u> Amperes, comprised of	<u>110</u> wires, each	<u>36</u> S.W.G. diameter,	<u>.0045</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

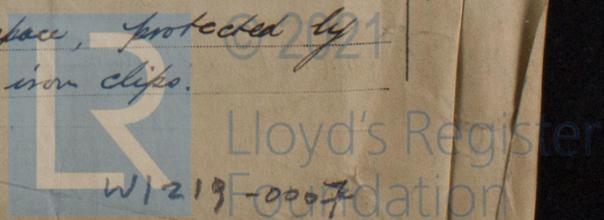
Cables in Engine Room, 'tween decks, etc. armoured + braided
 " " Cabins, V.I.R. + Lead Covered.

Joints in cables, how made, insulated, and protected porcelain covered, brass connectors, insulated with pure rubber + black adhesive tape.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances no solder or flux used with connectors 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 Yes

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 Through beams in 'tween deck space, protected by steel armoring, + clipped up with galvanised iron clips.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes, except if tween decks are filled right up to stelter deck*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *No cables fitted in open alleyways, lead covered cables used where exposed to weather*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *none*

What special protection has been provided for the cables near boiler casings *No cables fitted on boiler casings, those near casings being armoured & braided.*

What special protection has been provided for the cables in engine room *Armoured & braided cables used*

How are cables carried through beams *Clear Holes* through bulkheads, &c. *Watertight glands*

How are cables carried through decks *Iron deck tubes 18" high*

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

If so, how are they protected *Armoured & braided cables used*

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.

For FURNES'S SHIPBUILDING CO. LIMITED.

P.S. Govern Electrical Engineer

Date *19th March 20*

COMPASSES.

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

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

The nearest cables to the compasses are as follows:—

A cable carrying	<i>3</i>	Amperes	<i>inside</i>	feet from standard compass	<i>also inside</i>	feet from steering compass
A cable carrying	<i>6</i>	Amperes	<i>12</i>	feet from standard compass	<i>6</i>	feet from steering compass
A cable carrying	—	Amperes	—	feet from standard compass	—	feet from steering compass

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 *hie* degrees on *acc* course in the case of the standard compass and *hie* degrees on *acc* course in the case of the steering compass.

For FURNES'S SHIPBUILDING CO. LIMITED.

Jmc Govern

Builder's Signature. Date _____

GENERAL REMARKS.

Director.

This installation has been fitted in accordance with the Rules, it is of good material & workmanship, and on completion was examined under full working conditions and found satisfactory

It is submitted that this vessel is eligible for *ELEC: LIGHT*

Geo. Forman
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



Im.11.18—Transfer.