

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15856

Port of Glasgow Date of First Survey 18th Feb. 98 Date of Last Survey 18th Feb. 98 No. of Visits ✓
 No. in Reg. Book on the Iron & Steel S. "Saurmaline" Port belonging to Glasgow
 Built at Glasgow By whom Shaper & Son When built 1898
 Owners N. Robertson Owners' Address Glasgow
 Yard No. 20 Electric Light Installation fitted by James & Co. Glasgow When fitted 1898

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 5 $\frac{1}{2}$ x 5 Vertical Engine, coupled direct on combined Cast iron bed plate, to Compound wound Dynamo, giving 50 Amperes, at 80 Volts at 400 rev. per min. -

Capacity of Dynamo 50 Amperes at 80 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine Room

Position of Main Switch Board Engine Room having switches to groups (5 circuits) of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each double pole fuse boxes. (Forecastle, (Ship's) 2nd mates room (Aft Engineers room) (Switches for each lamp are placed in convenient positions)

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the cut outs of non-oxidizable metal pure tin wire and constructed to fuse at an excess of 50 per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes

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

A	Forward	5	lights each of	16	candle power requiring a total current of	4	Amperes
B	Ald	8	lights each of	16	candle power requiring a total current of	6.4	Amperes
C	Midships	24	lights each of	16	candle power requiring a total current of	19.2	Amperes
D	Engine Room	7	lights each of	16	candle power requiring a total current of	5.6	Amperes
E	Aft	6	lights each of	16	candle power requiring a total current of	4.8	Amperes
1	Mast head light with	1	lamps each of	32	candle power requiring a total current of	1.6	Amperes
2	Side light with	1	lamps each of	32	candle power requiring a total current of	3.2	Amperes
2	Cargo lights each of	8	16 cp. = 128	candle power, whether incandescent or arc lights	incandescent		

If arc lights what protection is provided against fire, sparks, &c. none

Where are the switches controlling the masthead and side lights placed Masthead in forecabin with removable key. Side lights in Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying 45 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area
 4 Branch cables carrying 6 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .00713 square inches total sectional area
 Branch cables carrying 22 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0225 square inches total sectional area
 Leads to lamps carrying 8 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area
 Cargo light cables carrying 6.4 Amperes, comprised of 14 wires, each 23 L.S.G. diameter, .006328 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure rubber, Vulcanized rubber, tape, braiding, ozokerite, (Class 600 megohms)

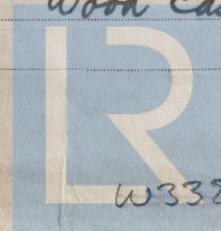
Joints in cables, how made, insulated, and protected none used, except to dynamo terminals. thoroughly soldered, insulated with rubber & prepared tape.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux yes Are all joints in accessible positions, none being

yes 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 no

How are the cables led through the ship, and how protected Forward, Midships, Aft. in Wood casing. Hold & Boiler Engine space in Galv. iron pipes.



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes. except in Hold.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *none exposed.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *none in such. the branch wires in go through bulkhead & right to*

What special protection has been provided for the cables near boiler casings *Galv. iron pipes.*

What special protection has been provided for the cables in engine room *Galv. iron pipes near heat. in wood casing along ships or*

How are cables carried through beams *through iron pipes* through bulkheads, &c. *iron pipes with watertight*

How are cables carried through decks *iron pipes standing 2 ft. above deck. watertight flange.*

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

If so, how are they protected *Galvanized iron pipes*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *only in Hold.*

If so, how are the lamp fittings and cable terminals specially protected *enclosed in fixed Cast iron Shutter fittings*

Where are the main switches and cut outs for these lights fitted *Engine Room*

If in the spaces, how are they specially protected *none*

Are any switches or cut outs fitted in bunkers *none*

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 _____

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas _____

Are any switches, cut outs, 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 installation is *also* supplied with a voltmeter and *an amperometer, fixed* *Engine Room*

The copper used is guaranteed to have a conductivity of *100* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile after 24 hours' immersion in seawater.

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.

James Espie 173rd St Vincent St Glasgow Electrical Engineers Date *22nd Feb. 1898*

COMPASSES.

Distance between dynamo or electric motors and standard compass *30 ft.*

Distance between dynamo or electric motors and steering compass *70 ft*

The nearest cables to the compasses are as follows:—

Cable	Amperes	feet from standard compass	feet from steering compass
<i>branch</i> A cable carrying <i>3.12</i>	<i>6</i>	<i>6</i>	<i>6</i>
A cable carrying <i>6.4</i>			<i>12</i>
A cable carrying <i>4.8</i>		<i>15</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 *none* degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

John James V. L. Builder's Signature. Date *22nd Feb. 1898*

GENERAL REMARKS.

This installation appears to be fitted in a satisfactory manner and in accordance with the Rules.

R. F. R. Lewis
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute _____

This installation appears to be fitted in accordance with the Rules.

so only left



11th 28/2/98
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