

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11030

Port of Southampton Date of First Survey 31.9.21 Date of Last Survey 13.9.21 No. of Visits 3  
 No. in Reg. Book on the Iron or Steel S.S. LISCARD Port belonging to  
 Built at Woolston, Southampton By whom Messrs. J.I. Thornycroft & Co. L<sup>td</sup> When built 1921  
 Owners Owners' Address  
 Yard No. 1004 Electric Light Installation fitted by Messrs. J.I. Thornycroft & Co. L<sup>td</sup> When fitted 1921

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Generating machinery consists of 2 sets, each comprising a compound wound continuous current dynamo direct coupled to a vertical open type engine. The engine and dynamo being mounted on a combined bedplate.

Capacity of Dynamo <sup>no 1</sup> 120 <sup>no 2</sup> 120 Amperes at 100 Volts, whether continuous or alternating current Continuous Current

Where is Dynamo fixed In Engine Room Whether single or double wire system is used Double wire

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

includes 2 switches to control "Sirocco" fan circuits  
A Change Over Switch is fitted to prevent both dynamos supplying current to the board at the same time.

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 No

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

Total number of lights provided for 70 arranged in the following groups:—

A	After Circuit	23 lights each of	16	candle power requiring a total current of	13.8	Amperes
B	Forward Circuit	27 lights each of	16	candle power requiring a total current of	16.2	Amperes
C	Navigation Circuit	11 lights each of	32	candle power requiring a total current of	1.2	Amperes
			16	candle power requiring a total current of	6.6	Amperes
D	Gangway Lights	8 lights each of	200	candle power requiring a total current of	80	Amperes
E		lights each of		candle power requiring a total current of		Amperes
1	Must head light with	1 lamps each of	16	candle power requiring a total current of	.6	Amperes
2	Side light with	1 lamps each of	32	candle power requiring a total current of	1.2	Amperes
			16	candle power requiring a total current of	.6	Amperes
		Cargo lights of		candle power, whether incandescent or arc lights		

If arc lights, what protection is provided against fire, sparks, &c. No Arc lights fitted

Where are the switches controlling the masthead and side lights placed In Wheel house on Bridge

## DESCRIPTION OF CABLES.

Main cable carrying	<sup>100</sup> <u>82</u> Amperes, comprised of	<u>19</u> wires, each	<u>.083</u> S.W.G. diameter,	<u>.1</u> square inches total sectional area
Branch cables carrying	<u>13.8</u> Amperes, comprised of	<u>7</u> wires, each	<u>.036</u> S.W.G. diameter,	<u>.007</u> square inches total sectional area
Branch cables carrying	<u>16.2</u> Amperes, comprised of	<u>7</u> wires, each	<u>.044</u> S.W.G. diameter,	<u>.01</u> square inches total sectional area
Leads to lamps carrying	<u>8.0</u> Amperes, comprised of	<u>3</u> wires, each	<u>.036</u> S.W.G. diameter,	<u>.003</u> square inches total sectional area
Cargo light cables carrying	<u>✓</u> Amperes, comprised of	<u>✓</u> wires, each	<u>✓</u> S.W.G. diameter,	<u>✓</u> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables to be insulated with 1 layer of pure + 2 layers of vulcanised India Rubber, taped and lead covered on circuits C & D. cables on circuits A.B and to "Sirocco" ventilating fans to be as above, armoured with single layer of galvanised iron wire and braided overall.

Joints in cables, how made, insulated, and protected No joints allowed or made.

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

How are the cables led through the ship, and how protected clipped to Ships structure, cables protected by Armour and lead casing, + where required by Iron piping + plating (See overleaf)

\* 200 candle power  $\frac{1}{2}$  Watt lamps fitted in these positions  
 1 - 17 $\frac{1}{2}$ " dia. exhaust & 2 - 12 $\frac{1}{2}$ " dia supply type "Sirocco" centrifugal, electrically driven fans fitted in Engine Room for ventilation  
 2 - 12" dia Supply & 2 - 12" dia propeller type electrically driven fans fitted for ventilating the Officer and crew spaces forward.

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**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 Lead covered cable used.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat None, cables kept clear

What special protection has been provided for the cables near boiler casings Cables run in piping where necessary

What special protection has been provided for the cables in engine room Armoured cable + plating where required to lead across bulkheads.

How are cables carried through beams Through lead bushes through bulkheads, &c. Through W.T. glands or lead bushes.

How are cables carried through decks Through watertight Deck Tubes

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

If so, how are they protected By heavy galvanised iron piping

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 --- 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 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 2500 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.



Electrical Engineers Date ---

**COMPASSES.**

Distance between dynamo or electric motors and standard compass No Standard compass fitted

Distance between dynamo or electric motors and steering compass Minimum 40'-0" Maximum 60'-0" (approx)

The nearest cables to the compasses are as follows:—

A cable carrying	8.0	Amperes	left from standard compass	6'-6"	from steering compass
A cable carrying	.6	Amperes	left from standard compass	On each	steering compass
A cable carrying	1.2	Amperes	left from standard compass	4'-0"	from steering compass

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

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

JOHN L. THORNYCROFT & CO. LTD



Builder's Signature. Date 1/10/1921

**GENERAL REMARKS.**

*This installation of electric light has been well fitted. The materials and workmanship are good. It has been tried under full working conditions and found satisfactory.*

Kilowatts = 19.75  
 Fee £17:10:0  
 It is submitted that this vessel is eligible for the RECORD. Elec. Light 26/10/21  
 J. Mackillop  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

2m.11.10—Transfer.



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