

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28004

Port of Glasgow Date of First Survey 6 July Date of Last Survey 14 Aug No. of Visits 9
 No. in Reg. Book 769 on the Iron or Steel S/S "Glenhiel" Port belonging to Glasgow
 Built at Sawston, Glasgow By whom Messrs Charles Connell & Co When built 1909
 Owners Messrs James Gardiner & Co Owners' Address 14 St. Vincent Place
 Yard No. 328 Electric Light Installation fitted by H. J. Robertson & Co When fitted 1909

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo Compound wound of multipolar {4 pole} type, coupled direct to a vertical Engine having cylinder 6 1/2" dia x 6" stroke at 300 rpm
 Capacity of Dynamo 100 Amperes at 65 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine-room, starting platform Whether single or double wire system is used Single wire
 Position of Main Switch Board " " near dynamo having switches to groups R. B. C. D. E of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each none

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
 Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 90 per cent over the normal current
 Are all cut outs fitted in easily accessible positions yes Are the fuses of standard dimensions wire 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 80 arranged in the following groups :-

A Fore cargo	10	lights each of	32	candle power requiring a total current of	18	Amperes
B aft "	10	lights each of	"	candle power requiring a total current of	18	Amperes
C Saloon	14	lights each of	16	candle power requiring a total current of } 23	Amperes	
Bridge	4	" " "	32			
D Engineers	19	lights each of	16	candle power requiring a total current of	14	Amperes
E Engine Room	18	lights each of	16	candle power requiring a total current of	16	Amperes
Two Mast head lights with	1	lamp each of	32	candle power requiring a total current of	included in (C)	Amperes
Two Side lights with	1	lamp each of	32	candle power requiring a total current of	" " "	Amperes
Four Cargo lights of			160	candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. no arcs
 Where are the switches controlling the masthead and side lights placed in chart-Room

DESCRIPTION OF CABLES.

Main cable carrying 92 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .0956 square inches total sectional area
 Branch cables carrying 23 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0225 square inches total sectional area
 Branch cables carrying 16 Amperes, comprised of 4 wires, each 14 L.S.G. diameter, .0142 square inches total sectional area
 Leads to lamps carrying .86 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area
 Cargo light cables carrying 8.5 Amperes, comprised of 119 wires, each 38 L.S.G. diameter, .00404 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

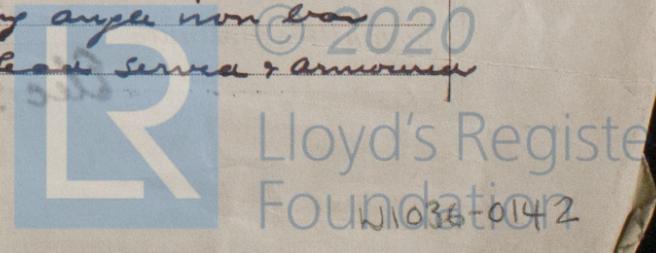
Pure India rubber then vulcanizing india rubber, india-rubber coated tape, the whole vulcanized together; Lead covered in accommodation, Lead served & armoured elsewhere.

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

Are all the joints of cables thoroughly soldered, resin only having been used as a flux no 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 no

How are the cables led through the ship, and how protected Under bridge deck along angle iron bar & for aft - two twin decks above I girder, Lead served & armoured



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible Yes except cargo spaces
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead, covered & armoured in iron pipes.
 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 Lead covered & armoured
 What special protection has been provided for the cables in engine room Lead covered & armoured
 How are cables carried through beams in fibre or lead bushes through bulkheads, &c. W. Y. Glands or bushes
 How are cables carried through decks in galv iron pipes bushed with lead or fibre
 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 Lead covered & armoured
 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 cut outs for these lights fitted —
 If in the spaces, how are they specially protected —
 Are any switches or cut outs 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 By large brass stud on dynamo pole piece.
 How are the returns from the lamps connected to the hull By 3/8" brass screw.
 Are all the joints with the hull in accessible positions yes
 The installation is also supplied with a voltmeter and with an amperemeter, fixed on switch board

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 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.

A. J. Poulton & Co Electrical Engineers Date 21st August 09

COMPASSES.

Distance between dynamo or electric motors and standard compass 105 Feet
 Distance between dynamo or electric motors and steering compass " "
 The nearest cables to the compasses are as follows:—
 A cable carrying 23 Amperes 16 feet from standard compass 16 feet from steering compass
 A cable carrying 1.8 Amperes 5 feet from standard compass 5 feet from steering compass
 A cable carrying .86 Amperes into feet from standard compass into 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 nie degrees on any course in the case of the standard compass and nie degrees on any course in the case of the steering compass.

CHARLES CONNELL & CO., Limited, Builder's Signature. Date Aug 25th 1909

GENERAL REMARKS.

This installation has been fitted on board under special survey & tested under full working conditions & found satisfactory

Wm Gordon-Muclun

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

Committee's Minute GLASGOW 31 AUG. 1909

Elec. light.



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.