

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 40679

Port of Glasgow Date of First Survey 22.9.20 Date of Last Survey 8/12/20 No. of Visits 3
 No. in Reg. Book 8/326 on the Iron or Steel SS Rawanpark Port belonging to Grunock
 Built at Grangemouth By whom Messrs The Grangemouth Dock When built 1920
 Owners Messrs The Denholm Line Owners' Address _____
 Yard No. 403 Electric Light Installation fitted by W. C. Martin & Co. When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 8kw compound wound dynamo direct coupled to an open type vertical single cylinder double acting steam engine
 Capacity of Dynamo 73 Amperes at 110 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed starting platform in Engine Room Whether single or double wire system is used double
 Position of Main Switch Board near dynamo having switches to groups A, B, C, D & E of lights, &c., as below
 Positions of auxiliary ^{fuses} switch boards and numbers of ^{fuses} switches on each Chart Room 6 way, Saloon 6 way, Steering gear house 1-2 way & 2-4 ways, Crew space 4 way, Engine Room 4 way.

If fuses are fitted on main switch board to the cables of main circuit yes and on each auxiliary ^{fuse} 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 yes
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 107 arranged in the following groups:—

Group	Description	Number of Lights	Watts per Light	Total Watts	Total Current (Amperes)
A	Saloon & Navigation	32	16	512	18
B	Midships & Aft	24	16	384	14.3
C	Clusters	24	16	384	12.0
D	Engine Room	19	16	304	9.5
E	Wireless Telegraphy	—	—	—	4.5
	2 Mast head light with 2 lamps each of	2	32	64	1
	2 Side light with 2 lamps each of	2	32	64	1
	4 Cargo lights of	4	24	96	—

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

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

DESCRIPTION OF CABLES.

Description	Amperes	Wires	S.W.G. diameter	Total sectional area (square inches)
Main cable carrying	73	19	14	0.094
Branch cables carrying	18	4	16	0.022
Branch cables carrying	14.3	4	16	0.022
Leads to lamps carrying	2.5	1	16	0.0032
Cargo light cables carrying	3.36	108	38	0.0048

DESCRIPTION OF INSULATION, PROTECTION, ETC.

H.C. Copper wire binned, insulated with pure & vulcanised rubber & tape, the whole vulcanized together, taped, braided & compounded or sheathed with lead or steel armour
 Joints in cables, how made, insulated, and protected no joints except on terminals

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances _____ 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 Lead covered in accommodation and steel armour in Holds, Engine Room & Boiler Room.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *yes, except when cargo in Holds*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead Covering*

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

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

What special protection has been provided for the cables in engine room *Steel Armour or metal tubes*

How are cables carried through beams *bushed where unarmoured through bulkheads, &c. W. Y. Glands*

How are cables carried through decks *metal tubes fitted watertight to decks*

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 *steel armour cables clipped openly protected by beams*

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 *Fork Connectors*

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.

W. C. Martin & Co. Electrical Engineers Date *4th Dec 1920*

COMPASSES.

Distance between dynamo or electric motors and standard compass *60ft from Dynamo*

Distance between dynamo or electric motors and steering compass *56ft from Dynamo*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>.28</i>	Amperes	<i>6</i>	feet from standard compass	<i>1</i>	feet from steering compass
A cable carrying	<i>.28</i>	Amperes	<i>1</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 *Nil* degrees on *a certain* course in the case of the standard compass and *Nil* degrees on *the same* course in the case of the steering compass.

FOR THE GRANGEMOUTH DOCKYARD CO., LTD.

Aspner Miller Builder's Signature. Date _____

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for THE RECORD.

Elec Light Bell 28/12/20

J. S. Raudin

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*Glasgow 21 DEC 1920
Elec Light*



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

*HZ
18.12.20*

15.116—Transfer.