

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 79652

Port of Liverpool Date of First Survey Aug 20 Date of Last Survey September 20 1919 of Visits 6  
 on the Iron on Steel s/s Colon Port belonging to London  
 Book 756 Built at Barston By whom H. C. Ingram & Co. When built 1919  
 Owners MacAndrew & Co. Ltd. Owners' Address Campbell & Isherwood Ltd When fitted Sept/19  
 Ord No. 108 Electric Light Installation fitted by

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Vertical, single cylinder type engine direct to compound wound  
multipolar type dynamo, both mounted on cast iron baseplate  
 Capacity of Dynamo 50 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Under floor in engine room Whether single or double wire system is used single  
 Position of Main Switch Board near dynamo having switches to groups one of lights, etc., as below  
 Positions of auxiliary switch boards and numbers of switches on each 1. 7 way in Engine room 1. 10 way with  
switches in chart room remainder near respective groups of lights

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

Are the fuses of non-oxidisable 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 150 1685 arranged in the following groups:

A Saloon 12	lights each of	16	candle power requiring a total current of	4	Amperes
B Bridge 19	lights each of	16	candle power requiring a total current of	9	Amperes
C Forecastle 25	lights each of	16	candle power requiring a total current of	10	Amperes
D Engine Room 23	lights each of	16	candle power requiring a total current of	8	Amperes
E Cargo 48	lights each of	16	candle power requiring a total current of	20	Amperes
2 Mast head light with 1 lamp each of		32	candle power requiring a total current of	2	Amperes
2 Side light with 1 lamp each of		32	candle power requiring a total current of	2	Amperes
8-6 light blue tin	Cargo lights of	96	candle power, whether incandescent or arc lights		
2 Cargo lanterns		300			

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

Where are the switches controlling the masthead and side lights placed in chart room.

## DESCRIPTION OF CABLES.

Main cable carrying	50	Amperes, comprised of	19	wires, each	14	S.W.G. diameter, .093 square inches total sectional area
Branch cables carrying	10	Amperes, comprised of	7	wires, each	18	S.W.G. diameter, .0735 square inches total sectional area
Branch cables carrying	20	Amperes, comprised of	7	wires, each	18	S.W.G. diameter, .0735 square inches total sectional area
Leads to lamps carrying	1	Amperes, comprised of	3	wires, each	20	S.W.G. diameter, .053 square inches total sectional area
Cargo light cables carrying	26	Amperes, comprised of	173	wires, each	38	S.W.G. diameter, .035 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Armoured Braided Thread covered wires thro cargo & bunkers & Engine  
room. & thro deck in heavy gauge galvanised pipe

Joints in cables, how made, insulated, and protected none

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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

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 thro beams on armoured lead covered

Armoured wire Engine lighting in heavy gauge galvanised pipe

Fore cable into



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 *cables run in heavy gauge galvanized screwed iron*

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

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

What special protection has been provided for the cables in engine room *ditto*

How are cables carried through beams *in hard bushes through bulkheads, &c. in galleys*

How are cables carried through decks *in heavy gauge galvanized screwed iron*

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

If so, how are they protected *Armoured and lead covered wire clipped to Deck Head*

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

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 *to connection boxes on bulkheads or screw in dynamo*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *to brass tap screw terminal*

How are the returns from the lamps connected to the hull *to brass tap screw terminal*

Are all the joints with the hull in accessible positions *yes*

Is the installation supplied with a voltmeter *yes* and with an amperemeter *yes* fixed on *Beam Smith board*

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 *500* 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.

CAMPBELL & ISHERWOOD, LTD.

Electrical Engineers

Date

*Sept 30/19*

COMPASSES.

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

Cable	Ampères	feet from standard compass	feet from steering compass
A cable carrying $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	6 ft 0"
A cable carrying $\frac{1}{2}$	$\frac{1}{2}$	on	5
A cable carrying $\frac{1}{2}$	$\frac{1}{2}$	5 ft	on

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 *degrees on* course in the case of the steering compass.

H. & G. GRAYSON, LIMITED

Builder's Signature.

Date

*2nd Oct 1919*

GENERAL REMARKS.

General Manager.

The Electric Lighting Installation has been fitted in accordance with the Rules and when tried under full working conditions was found satisfactory in every respect. In my opinion it is eligible to be recorded "Electric Light" in the Register Book

*John Dykes*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

LIVERPOOL

7 OCT 1919

*Electric Light*



© 2020

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.