

JAN. 1920
 No. 3952H

Port of Glasgow Date of First Survey 3/11/19 Date of Last Survey 23/12/19 No. of Visits 11

No. in on the Iron or Steel *S.S. BALFE* Port belonging to

Reg. Book 2/5238 Built at *Meadowside* By whom *Mrs. O. W. Henderson & Co. Ltd* When built *1920*

Owners' Name *Devers Lambert & Co. Ltd.* Owners' Address

Yard No. 592 Electric Light Installation fitted by Messrs W. C. Martin & Co When fitted 1919.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 12 K.W. compound wound multipolar dynamo direct coupled to an enclosed vertical double acting steam engine.

Capacity of Dynamo 120 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed bottom platform in engine room Whether single or double wire system is used double

Position of Main Switch Board beside dynamo having switches to groups A, B, C, D, E & F of lights, &c., as below

Positions of ~~switch~~^{Fuse} boards and numbers of switches on each Crew space aft 5 way, Engineers Mess 2-2 way
1-3 way & 1-6 way, Engine Room 8 ways, Saloon Pantry 1-3 way & 1-10 way, Chart Room
8 way.

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 100 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 165 arranged in the following groups :—

A Aft 24 lights each of 16 candle power requiring a total current of 14.0 Amperes

Bridships & For^{wd} 70. lights each of 32 & 16 candle power requiring a total current of 39.7 Amperes

C largo 22 lights each of 500 watt 8/16 candle power requiring a total current of 21.2 Amperes

D ³⁵ Engine & Boiler lights each of 16 candle power requiring a total current of 14.6 Amperes

E Navigation 14 lights each of 32, 16, 8 & 6 candle power requiring a total current of 7.7 Amperes

F Marconi
2 Mast head light with 2 lamps each of 32 candle power requiring a total current of 1.12 Amperes.

2. Side light with 2 lamps each of 32 candle power requiring a total current of 1.12 Amperes.

5. Cargo lights of 64 candle power, whether incandescent or arc lights incandescent
2 " " " " " " " " " " " "

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 chart room

DESCRIPTION OF CABLES.

Main cable carrying 120 Amperes, comprised of 19 wires, each 13 S.W.G. diameter, .125 square inches total sectional area

Branch cables carrying 14 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, 0.22 square inches total sectional area

Branch cables carrying 39.7 Amperes, comprised of 19 wires, each 18 S.W.G. diameter, .034 square inches total sectional area

Leads to lamps carrying 2.8 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area

Cargo light cables carrying 214 Amperes, comprised of 108 wires, each 38 S.W.G. diameter, 0048 square inches total sectional area.

DESCRIPTION OF INSULATION, PROTECTION, ETC.

4. 6. Copper wire tinned, insulated with pure & vulcanised rubber & tape, the whole vulcanised 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
armoured cable in Engine & Boiler Rooms & Cargo Spaces.

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.

How are cables carried through beams bushed where unarmoured. through bulkheads, &c. W.T. glands

How are cables carried through decks metal deck tubes fitted watertight to deck.

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 clipped to underside of deck 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 Tork connections

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° Farhenheit 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 21st Jan 1920

COMPASSES.

Distance between dynamo or electric motors and standard compass 98 ft from Dynamo.

Distance between dynamo or electric motors and steering compass 96 ft from Dynamo.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
28	1	6	
28	6	1	

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.

DAVID & WILLIAM HENDERSON & CO., LIMITED

W. C. Martin Director

Builder's Signature. Date January 23rd 1920.

GENERAL REMARKS.

This Installation has been fitted on board under special survey. Tested under full working conditions and satisfactory in every way.

It is submitted that this vessel is suitable for

ELEC. LIGHT. 29/1/20

J. Stanley Rankin
Surveyor to Lloyd's Register of Shipping.

Committee's Minute. GLASGOW 27 JAN 1920

Elec. Light



© 2020

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

HC.
26.1.20

100.116—Transfer.