

F.E. No. Two 29543

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10544

Port of MIDDLESBRO' Date of First Survey 1911 Date of Last Survey Repairing No. of Visits  
 No. in on the Iron or Steel S.S. Magister ex Casimira Port belonging to London  
 Reg. Book 1919 Built at Newcastle By whom Hawthorn Leslie & Co. Ltd. When built 1893-12  
 Owners Blue Star Line Owners' Address Holland House, Buny Street, London E.C. 3  
 Yard No. ✓ Electric Light Installation fitted by Messrs. J. N. Holmes & Co When fitted 1919

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

One 8 1/2" x 8" open single cylinder Robey engine, coupled direct to one Holmes dynamo  
(Also one existing engine & dynamo giving 100 volts at 115 amperes)

Capacity of Dynamo 145 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed 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 switch boards and numbers of switches on each  
See separate sheet.

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 194-16CP (48-METAL FIL.)  
5-32CP: 15 FANS. arranged in the following groups:-  
2 FANS 2 LHT. 60WATT.

A	{ 11 lights each of 16	candle power requiring a total current of	Approx. 9.42	Amperes
B	{ 4 lights each of 32	"	"	"
C	{ 33 lights each of 16	candle power requiring a total current of	19.68	Amperes
D	{ 2 lights each of 20	"	"	"
E	{ 48 lights each of 16	candle power requiring a total current of	22.12	Amperes
	{ 12 FANS 48 lights each of 32	"	"	"
	{ 48 lights each of 16	candle power requiring a total current of	23.34	Amperes
	{ 1 FAN	"	"	"
	{ 60 lights each of 16	candle power requiring a total current of	33.6	Amperes
2 Mast head lights with 1 lamp each of 32		candle power requiring a total current of	2.24	Amperes
2 Side lights with 1 lamp each of 32		candle power requiring a total current of	2.24	Amperes

CARGO CLUSTERS NOT SUPPLIED BY US.  
 Cargo lights of \_\_\_\_\_ candle power, whether incandescent or arc lights

If arc lights, what protection is provided against fire, sparks, &c. ✓

Where are the switches controlling the masthead and side lights placed in Wheelhouse

**DESCRIPTION OF CABLES.**

2 DYNAMOS.  
 Main cable carrying { 115 Amperes, comprised of 34 wires, each 16 S.W.G. diameter, .114 square inches total sectional area  
 Branch cables carrying 9.42 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, .009 square inches total sectional area  
 Branch cables carrying 19.68 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Leads to lamps carrying .56 Amperes, comprised of 1 wire, each 18 S.W.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 5.6 Amperes, comprised of 7 wires, each 2 1/2 S.W.G. diameter, .005 square inches total sectional area

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

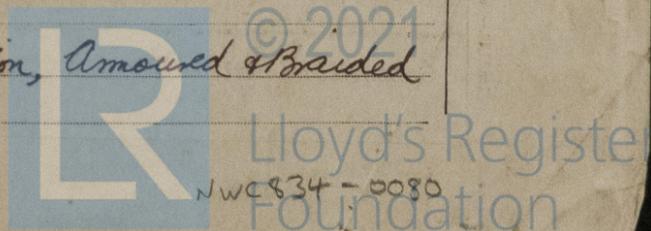
Conductors composed of H.C. Copper wire insulated with pure vulcanized India Rubber, taped, armoured with galv. steel wires, taped & Braided overall.

Joints in cables, how made, insulated, and protected None, looping in system carried out.

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, Armoured & Braided throughout holds, & Engine & Boiler Spaces.



**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 Armoured & Braided.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured & Braided.

What special protection has been provided for the cables near boiler casings Armoured & Braided.

What special protection has been provided for the cables in engine room Armoured & Braided.

How are cables carried through beams Bushed with fibre. through bulkheads, &c. stuffing glands.

How are cables carried through decks in lead or iron deck tubes, flanged & made watertight.

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage ✓

If so, how are they protected Armoured & Braided.

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 socket connection.

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 (two), fixed on main 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 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.

*2/11/19*

*J. Holmes & Co*

Electrical Engineers

Date 10-12-19.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass Approx. 110 ft.

Distance between dynamo or electric motors and steering compass " 104 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Location	feet from standard compass	Location	feet from steering compass
.56		inside		inside	
9.42		approx. 15	feet from standard compass	approx. 12	feet from steering compass
23		" 20	feet from standard compass	" 14	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 no degrees on any course in the case of the standard compass and no degrees on any course in the case of the steering compass.

For SMITH'S BOOK COMPANY, LD

*J. Watson*

Builder's Signature.

Date 11- Dec 19.

**GENERAL REMARKS.**

*Docks Manager,*  
This installation has been fitted according to the Rules. The material and workmanship are good, and on completion was examined under full working conditions, and found satisfactory.

It is submitted that this vessel is eligible for

THE RECORD. Elec. light. *J.W.D. 22/12/19*

*Gloofmann*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 1.18—Transfer.



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