

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10726

Port of MIDDLESBRO' Date of First Survey \_\_\_\_\_ Date of Last Survey \_\_\_\_\_ No. of Visits \_\_\_\_\_  
 No. in Reg. Book on the ~~Iron~~ Steel S.S. H.H. Asquith Port belonging to \_\_\_\_\_  
 Built at Stockton By whom Thos. Rapner S.B. & Rhy. Co. Ltd When built 1920  
 Owners \_\_\_\_\_ Owners' Address \_\_\_\_\_  
 Yard No. 522 Electric Light Installation fitted by Thos. G. Reed & Co. - Sunderland When fitted 1920.

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

Multipolar compound wound Dynamo direct coupled to open type inverted engine.

Capacity of Dynamo 80 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Bottom of E. Room S. Side Whether single or double wire system is used double

Position of Main Switch Board Close to dynamo, having switches to groups four of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One in Chartroom having switches for 2 Side Lights, 2 Mastheads, 2 Compasses, 2 Telegraphs and Morse Lamp.

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 no 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 141 arranged in the following groups:—

A	<u>65</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>23.5</u>	Amperes
B	<u>49</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>15.2</u>	Amperes
C	<u>27</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>5.4</u>	Amperes
D	<u>Wireless</u>	lights each of	<u>33</u>	candle power requiring a total current of	<u>25</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<u>2</u>	Mast head light with	<u>1</u> lamps each of <u>32 c.p. D.F.</u>	candle power requiring a total current of	<u>2.24</u>	Amperes
	<u>2</u>	Side light with	<u>1</u> lamps each of <u>32 c.p. D.F.</u>	candle power requiring a total current of	<u>2.24</u>	Amperes
	<u>5</u>	Cargo lights of	<u>5 x 16</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. None Fitted.

Where are the switches controlling the masthead and side lights placed In Chartroom

**DESCRIPTION OF CABLES.**

Main cable carrying	<u>80</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>.064</u> S.W.G. diameter,	<u>.0600</u> square inches total sectional area
Branch cables carrying	<u>23.5</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>.046</u> S.W.G. diameter,	<u>.0125</u> square inches total sectional area
Branch cables carrying	<u>15.2</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>.036</u> S.W.G. diameter,	<u>.0070</u> square inches total sectional area
Leads to lamps carrying	<u>1</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>.044</u> S.W.G. diameter,	<u>.0018</u> square inches total sectional area
Cargo light cables carrying	<u>2.8</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>.044</u> S.W.G. diameter,	<u>.0018</u> square inches total sectional area

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

In accommodation etc Pure rubber Nule. India Rubber taped & lead covered. In machinery space. Pure Rubber Nule. L.R. taped armoured & braided overall. Main cables, Pure Rubber U.S.R. taped & braided

Joints in cables, how made, insulated, and protected There are none.

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 Cables run in iron pipe through Shelter deck.



**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 Iron Pipes  
or Lead covered cables used

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

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

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

How are cables carried through beams Holes bushed with fibre through bulkheads, &c. W.T. glands fitted

How are cables carried through decks through W.T. Decktubes

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

If so, how are they protected By Iron Pipes

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

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 main S'bd

**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.

G. B. Reed & Co. 27, Frederick St. Sunderland. Electrical Engineers Date 16/6/20.

**COMPASSES.**

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

Distance between dynamo or electric motors and steering compass About 100 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>10</u> Amperes	<u>10</u> feet from standard compass	<u>10</u> feet from steering compass
A cable carrying	<u>2</u> Amperes	<u>10</u> feet from standard compass	<u>led into</u> feet from steering compass
A cable carrying	<u>2</u> Amperes	<u>Led into</u> feet from standard compass	<u>10</u> 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 — course in the case of the standard compass and nil degrees on — course in the case of the steering compass.

**FOR THE ROPNER SHIPBUILDING AND REPAIRING CO. (STOKTON) LIM.**

H. J. ... Builder's Signature. Date

**GENERAL REMARKS.**

This installation has been fitted in accordance with the Rules; the materials and workmanship are good and on completion the installation was tested under full working conditions and found satisfactory

It is submitted that this vessel is eligible for THE RECORD. ELEC. LIGHT. 28/6/20

Wm Morrison Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



Im. 11.18—Transfer.