

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10727

Port of Middlesbro' Date of First Survey and Date of Last Survey while building No. of Visits
 No. in Reg. Book on the Iron or Steel S. S. "Erros" Port belonging to Athens
 Built at U. tochtou By whom Messrs Craig Taylor & Co. Ltd When built 1920
 Owners National Ship Harbours of Greece Owners' Address Athens
 Yard No. 194 Electric Light Installation fitted by Messrs. Falconar Erros & Co. When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Newcastle-on-Tyne.

1. 4" x 6" Open Type Engine coupled direct to a compound wound multipolar dynamo. steam pressure 100 lbs per sq. in. 330 R.P.M.

Capacity of Dynamo 100 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 wire

Position of Main Switch Board In engine room having switches to groups A, B, C, D & E of lights, &c., as below

Positions of auxiliary ^{fuse} boards and numbers of ^{fuses} on each 3-way section Box:- Steering Engine 1.

2-way section Boxes:- Steering Eng: 1, Saloon Accom: 1. 10-way Fuse Board:- Wheel

House 1. 6-way Fuse Boards:- Eng. Room 1, Saloon Accom: 1, Aft Accom: 1, Steer:

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 145 arranged in the following groups:-

A Navigation. 18 lights each of 6-32 candle power requiring a total current of 14.4 Amperes

B Accom: 66 lights each of (20 w) 16 candle power requiring a total current of 13.2 Amperes

C Cargo. 36 lights each of 16 candle power requiring a total current of 19.6 Amperes

D Wireless. — lights each of — candle power requiring a total current of 15.0 Amperes

E Engine and Boiler Rooms. 25 lights each of 16 candle power requiring a total current of 18.0 Amperes

2 Mast head light with 2 lamps each of 32 candle power requiring a total current of 2.4 Amperes

2 Side light with 2 lamps each of 32 candle power requiring a total current of 2.4 Amperes

6 Cargo lights of 6-16 candle power, whether incandescent or arc lights incandescent

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

Where are the switches controlling the masthead and side lights placed In Wheel House

DESCRIPTION OF CABLES.

Main cable carrying 80.2 Amperes, comprised of 19 wires, each .053 S.W.G. diameter, .1000 square inches total sectional area

Branch cables carrying 19.6 Amperes, comprised of 4 wires, each .044 S.W.G. diameter, .0100 square inches total sectional area

Branch cables carrying 15.0 Amperes, comprised of 4 wires, each .036 S.W.G. diameter, .0040 square inches total sectional area

Leads to lamps carrying .6 Amperes, comprised of 1 wires, each .044 S.W.G. diameter, .0015 square inches total sectional area

Cargo light cables carrying 3.6 Amperes, comprised of 114 wires, each .0060 S.W.G. diameter, .0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered and armoured & braided cables. Tinned copper conductors insulated with pure para rubber vulcanised india rubber taped and braided

Joints in cables, how made, insulated, and protected

no joints made

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 steel armoured & braided cables led on underside of decks, through beams and on bulkheads. all in sight

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 (1) steel armoured and braided cables (2) Carried in G. I pipes.

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 steel armoured & braided.

What special protection has been provided for the cables in engine room steel armoured & braided.

How are cables carried through beams Bushed holes through bulkheads, &c. Watertight glands.

How are cables carried through decks Watertight deck tubes

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 armoured cables led between 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

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.

Galeasas Crosslee Electrical Engineers Date July 1st 1920

COMPASSES.

Distance between dynamo or electric motors and standard compass 95 ft.

Distance between dynamo or electric motors and steering compass 90 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>14.4</u>	<u>16</u>	<u>9</u>	<u>9</u>
<u>3</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u></u>	<u></u>	<u></u>	<u></u>

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 all course in the case of the standard compass and no degrees on all course in the case of the steering compass.

A. Payton Builder's Signature. Date 6 July 1920

GENERAL REMARKS. This installation has been fitted in accordance with the Rules; is of good materials and workmanship, 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

Geo. Foreman for W. Morrison
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.