

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No 28637

Port of *Glasgow* Date of First Survey *11th Feb* Date of Last Survey *2nd March* No. of Visits *8*  
 No. in Reg. Book *Ed. Sup.* on the Iron or Steel *S.S. "Amethyst"* Port belonging to *Glasgow*  
 Built at *Bowling* By whom *Scott & Sons* When built *1910*  
 Owners *W. Robertson* Owners' Address *Glasgow*  
 Yard No. *319* Electric Light Installation fitted by *James Espe* When fitted *1910*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*One 5½ x 5" open fronted vertical engine, coupled direct to Compound wound multipolar dynamo, running at 1100 rev. per min.*  
 Capacity of Dynamo *33* Amperes at *110* Volts, whether continuous or alternating current *Continuous*  
 Where is Dynamo fixed *Engine Room* Whether single or double wire system is used *double wire system*  
 Position of Main Switch Board *at dynamo* having switches to groups *A.B.C.D.* of lights, &c., as below  
 Positions of auxiliary *fuse* boards and numbers of switches on each *Forecastle, Capt. room, Engine Rm. Engineer's Rm. App.*

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits  
 Are the cut outs of non-oxidizable metal *yes* and constructed to fuse at an excess of *100* per cent over the normal current  
 Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases *yes*

Total number of lights provided for *56* arranged in the following groups:—  
 A *Two Masthead* *16* lights each of *16* candle power requiring a total current of *7* Amperes  
 B *Cargo Cluster* *16* lights each of *16* candle power requiring a total current of *7* Amperes  
 C *Aft* *8* lights each of *16* candle power requiring a total current of *3.5* Amperes  
 D *Eng. Rm.* *12* lights each of candle power requiring a total current of *5.1* Amperes  
 E lights each of candle power requiring a total current of Amperes  
*Two* Mast head light with *one* lamps each of *32* candle power requiring a total current of *1.8* Amperes  
*Two* Side light with *one* lamps each of *32* candle power requiring a total current of *1.8* Amperes  
*Two* Cargo lights of *128* candle power, whether incandescent or arc lights *incandescent*

If arc lights, what protection is provided against fire, sparks, &c. *none*

Where are the switches controlling the masthead and side lights placed *Chart Room*

## DESCRIPTION OF CABLES.

Main cable carrying *26* Amperes, comprised of *19* wires, each *18* L.S.G. diameter, *.0344* square inches total sectional area  
 Branch cables carrying *10.5* Amperes, comprised of *7* wires, each *18* L.S.G. diameter, *.0127* square inches total sectional area  
 Branch cables carrying *7* Amperes, comprised of *7* wires, each *20* L.S.G. diameter, *.0074* square inches total sectional area  
 Leads to lamps carrying *.5* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *.0018* square inches total sectional area  
 Cargo light cables carrying *3.1* Amperes, comprised of *119* wires, each *38* L.S.G. diameter, *.00335* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Pure or vulcanized india rubber, taped & braided, 600 megohms, enclosed in screwed iron tubing in H/Ws etc, lead covered in Accommodation*

Joints in cables, how made, insulated, and protected

*Properly interlaced, soldered. rosin being used as flux. insulated with pure rubber, and adhesive strip.*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *yes* 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 *none in such places.*

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 *under deck, along ship side, enclosed in iron tubing.*



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *yes, except in Hold or Coal Bunkers.* ✓  
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *screwed iron tubing.* ✓  
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *screwed iron tubing.* ✓  
 What special protection has been provided for the cables near boiler casings *screwed iron tubing.* ✓  
 What special protection has been provided for the cables in engine room *screwed iron tubing.* ✓  
 How are cables carried through beams *in Keel wood plugs.* through bulkheads, &c. *screwed iron tubing. Watertight.* ✓  
 How are cables carried through decks *screwed iron tubing, standing at least 18" above deck.* ✓  
 Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes* ✓  
 If so, how are they protected *screwed iron tubing.* ✓  
 Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *none in such places.* ✓  
 If so, how are the lamp fittings and cable terminals specially protected \_\_\_\_\_  
 Where are the main switches and cut outs for these lights fitted \_\_\_\_\_  
 If in the spaces, how are they specially protected \_\_\_\_\_  
 Are any switches or cut outs 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 \_\_\_\_\_  
 The installation is *also* ✓ supplied with a voltmeter *and* ~~an amperometer, fixed~~ *on Main Switch Board.* ✓

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas \_\_\_\_\_  
 Are any switches, cut outs, 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 *100* ✓ per cent. that of pure copper.  
 Insulation of cables is guaranteed to have a resistance of not less than *600* ✓ megohms per statute mile after 24 hours' immersion in seawater.

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.

*James Espe*

Electrical Engineers

Date *23<sup>rd</sup> Feb 1910*

COMPASSES.

Distance between dynamo or electric motors and standard compass *20 ft*  
 Distance between dynamo or electric motors and steering compass *100 ft*  
 The nearest cables to the compasses are as follows:—  
 A cable carrying *33* Amperes *20* feet from standard compass *100* feet from steering compass  
 A cable carrying *5* Amperes *4* feet from standard compass *1* feet from steering compass  
 A cable carrying *10* Amperes *20* feet from standard compass *5* 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 *0* degrees on *each* ✓ course in the case of the standard compass and *0* degrees on *each* ✓ course in the case of the steering compass.

*Scott Duns*

Builder's Signature.

Date *22 Feb. 1910.*

GENERAL REMARKS.

*The installation has been well fitted and ran well on trial*

*It is submitted that this vessel is eligible for THE RECORD. Elec. light*

*A. J. Thomas.*

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

GLASCOW 15 MAR. 1910

*Elec. Lights.*



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

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