

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5138

Port of Hong Kong Date of First Survey Mar. 28th. Date of Last Survey May 8th. No. of Visits 5
 No. in Reg. Book on the Iron Steel Twin Screw Tug "HENRY KESWICK" Port belonging to Hong Kong
 Built at Hong Kong By whom Hong Kong & Whampoa Dock Co. Ltd. When built 1921
 Owners Hong Kong & Whampoa Dock Co. Ltd. Owners' Address Hong Kong
 Yard No. 575 Electric Light Installation fitted by Hong Kong & Whampoa Dock Co. Ltd. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

13 K.W. Multipolar dynamo driven by a geared De Laval turbine running at 2000 R.P.M.

Capacity of Dynamo 125 Amperes at 105 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Port Side Engineer room Whether single or double wire system is used Double
 Position of Main Switch Board Port Side Engineer room having switches to groups 5 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One chartroom 3 switches. One wireless room to be fitted later. Search light to be fitted later.

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, tin 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 None used
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes, porcelain.

Total number of lights provided for 103 arranged in the following groups :-
 A Engine Room 24 lights each of 16 candle power requiring a total current of 12 Amperes
 B Staterooms 45 lights each of 16 candle power requiring a total current of 22.5 Amperes
 etc.
 C lights each of candle power requiring a total current of Amperes
 D lights each of candle power requiring a total current of Amperes
 E lights each of candle power requiring a total current of Amperes
 2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 2 Amperes
 2 Side light with 1 lamps each of 32 candle power requiring a total current of 2 Amperes
 6 Cargo lights of 80 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 Chart Room

DESCRIPTION OF CABLES.

Main cable carrying 48 Amperes, comprised of 19 wires, each 13 S.W.G. diameter, .1649 square inches total sectional area
 Branch cables carrying 22.5 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .0229 square inches total sectional area
 Branch cables carrying 12 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0129 square inches total sectional area
 Leads to lamps carrying 1 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area
 Cargo light cables carrying 4 Amperes, comprised of 135 wires, each 40 S.W.G. diameter, .0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All conductors insulated with a thick lap of para rubber two coats vulcanising rubber, taped and the whole vulcanised together, lead covered and armoured with galvanised iron wire, lead covered only in protected places.

Joints in cables, how made, insulated, and protected All joints made in suitable junction boxes

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 Yes

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 and galvanised wire armoured.



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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 Lead covered and galvanised iron wire armoured.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered and armoured

What special protection has been provided for the cables near boiler casings Lead covered and armoured

What special protection has been provided for the cables in engine room Lead covered and armoured

How are cables carried through beams Bushed holes through bulkheads, &c. Brass stuffing boxes

How are cables carried through decks Galvanised deck tubes.

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

If so, how are they protected -

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 Main Switch 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.

R. M. Dyer Electrical Engineers Date May 21st. 1921.
Chief Manager

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 feet

Distance between dynamo or electric motors and steering compass 70 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>6</u>	Amperes	<u>9</u>	feet from standard compass	<u>8</u>	feet from steering compass
A cable carrying	<u>-</u>	Amperes	<u>-</u>	feet from standard compass	<u>-</u>	feet from steering compass
A cable carrying	<u>-</u>	Amperes	<u>-</u>	feet from standard compass	<u>-</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.

R. M. Dyer Builder's Signature. Date May 21st. 1921.
Chief Manager

GENERAL REMARKS. A searchlight and wireless set to be installed later.
 A 59 K.W. dynamo and four submersible electric pumps to be installed later.
 Installation tested on May 8th. 1921 with good results.

It is submitted that this vessel is eligible for THE RECORD. Elec Light
Ret
23/7/21

W. Morrison
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 26 JUL. 1921

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.