

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 1249

Port of NAGASAKI Date of First Survey 24th July Date of Last Survey 12th Aug. 1919 No. of Visits 4
 No. in Reg. Book on the Iron or Steel s. s. "Kohyo Maru" Port belonging to Kobe
 Built at Nagasaki By whom Matsuo Iron Works Dockyard When built 1919
 Owners Kobe Sanbashi Kaisha Owners' Address Kobe
 Yard No. 61 Electric Light Installation fitted by B. Hara When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One set of a shunt continuous current dynamo on the same bed plate with a vertical single cylinder engine
 Capacity of Dynamo 70 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed On starboard side of engine room platform
 Position of Main Switch Board On bulkhead aft of dynamo having switches to groups 10 to 31 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One in fore part and one in after part of upper deck, three on Bridge deck, and two in engine room.
 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 Yes.
 Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 50 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 4 Circuits arranged in the following groups :-

Group	Location	Lights	Notes	Current (Amperes)
A	Bridge deck	lights each of 3, 16, —	8 cp. 16 cp. 32 cp. candle power requiring a total current of	3.78
B	Fore deck	lights each of — 11 —	candle power requiring a total current of	2.2
C	after deck	lights each of 4 - 8 —	candle power requiring a total current of	2.4
D	Engine room	lights each of — 31 —	candle power requiring a total current of	10.96
E	Stem lamp	lights each of 1	candle power requiring a total current of	1.15
	Two Mast head lights with filament lamps	each of 2 @ 32	candle power requiring a total current of	2.3
	Two Side light with do lamps	each of 2 @ 32	candle power requiring a total current of	2.3
	Six Cargo lights	of 4 @ 32	candle power, whether incandescent or arc lights	25.09

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

Where are the switches controlling the masthead and side lights placed In chart room on navigating bridge.

DESCRIPTION OF CABLES.

Main cable carrying 95 Amperes, comprised of 7 wires, each 10 L.S.G. diameter, .09571 square inches total sectional area
 Branch cables carrying 8.2 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .0085 square inches total sectional area
 Branch cables carrying Amperes, comprised of wires, each L.S.G. diameter, square inches total sectional area
 Leads to lamps carrying 2.5 Amperes, comprised of 3 wires, each 20 L.S.G. diameter, .00305 square inches total sectional area
 Cargo light cables carrying 20 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0256 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Wires and cables are composed of tinned copper insulated with pure india rubber, vulcanizing india rubber coated tape, and the whole vulcanized together.
 Joints in cables, how made, insulated, and protected Joints in cable are made in brass pieces fitted on porcelain bases, distributing board in shop case, or extension box of porcelain base and some joints in cast iron box soldered and insulated with pure rubber or rubber coated tape.
 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 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 On the double wire distribution system, and cables are protected by lead cover.



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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 Galvanized iron pipes.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Galvanized iron pipes.

What special protection has been provided for the cables near boiler casings Galvanized iron pipes.

What special protection has been provided for the cables in engine room Galvanized iron pipes.

How are cables carried through beams Through galvanized iron tubes through bulkheads, &c. Watertight packing gland.

How are cables carried through decks Galvanized iron deck tubes.

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 Galvanized iron pipes.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes.

If so, how are the lamp fittings and cable terminals specially protected By strong cast iron cover

Where are the main switches and cut outs for these lights fitted On Bridge deck passage.

If in the spaces, how are they specially protected In Shoji case

Are any switches or cut outs fitted in bunkers No.

Cargo light cables, whether portable or permanently fixed Portable How fixed With fibre fork & connector.

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

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 installation is _____ supplied with a voltmeter and _____ an amperemeter, fixed on Switchboard.

The copper used is guaranteed to have a conductivity of 99.5 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.

B. Kapa. Electrical Engineers Date 13th Sept. 1919.

COMPASSES.

Distance between dynamo or electric motors and standard compass 72 feet from dynamo.

Distance between dynamo or electric motors and steering compass 62 feet from dynamo.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>2.5</u>	Amperes	<u>10</u>	feet from standard compass	<u>12</u>	feet from steering compass
A cable carrying	<input checked="" type="checkbox"/>	Amperes	<input checked="" type="checkbox"/>	feet from standard compass	<input checked="" type="checkbox"/>	feet from steering compass
A cable carrying	<input checked="" type="checkbox"/>	Amperes	<input checked="" type="checkbox"/>	feet from standard compass	<input checked="" type="checkbox"/>	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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

M. Matsuo, Matsuo Iron Works & Dockyard Builder's Signature. Date 13th Sept. 1919.

GENERAL REMARKS. This Electric Installation has been fitted in accordance with the Rules, tested, and found satisfactory.

It is submitted that this vessel is eligible for THE RECORD. Elect. Light. S.F.D. 13/11/19. A.S. Williamson Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



REPORT FORM NO. 15.