

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1797

Port of Kobe Date of First Survey 28 Mar Date of Last Survey 26 Apr No. of Visits 6
 No. in on the Iron or Steel S.S. 'Kifunozan Maru' Port belonging to Nagasaki
 Reg. Book Built at Osaka By whom The Osaka Iron Works Ltd When built 1916
 Owners K. Hashimoto Owners' Address
 Yard No. 869 Electric Light Installation fitted by The Osaka Iron Works, Ltd. When fitted 1916

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound wound six pole continuous current open type dynamo.

Vertical single cylinder engine directly coupled to the dynamo.

Capacity of Dynamo 60 Amperes at 100 Volts, whether continuous or alternating current ContinuousWhere is Dynamo fixed on starboard side in engine room. Double wire system is used.Position of Main Switch Board on starboard side in engine room having switches to groups of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One in crew space in fore-castle with 3 switches, One in chart room on upper bridge with 6 switches, One in Saloon pantry on bridge deck with 5 switches, One in mess room on bridge deck with 4 switches, One on starboard side of engine casing in bridge space with 6 switches and one on inside of poop front bulkhead with one switch.

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 about 20 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 no.

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes.Total number of lights provided for Signal, living quarters it arranged in the following groups:—

6	lights each of	16	candle power requiring a total current of	32.2	Amperes
4	lights each of	38	candle power requiring a total current of	4.24	Amperes
4	lights each of	10	candle power requiring a total current of	1.32	Amperes
2	lights each of	6	candle power requiring a total current of	1.33	Amperes
	lights each of		candle power requiring a total current of		Amperes
2	Mast head light with <u>one</u> lamps each of	32	candle power requiring a total current of	8.12	Amperes
2	Side light with <u>one</u> lamps each of	32	candle power requiring a total current of	8.12	Amperes
4	Cargo lights of <u>5 lamps each, each lamp of 16</u> candle power, whether incandescent or are lights <u>incandescent</u>				

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 upper bridge deck.

DESCRIPTION OF CABLES.

Main cable carrying 52.3 Amperes, comprised of 60 wires, each 20 L.S.G. diameter, 0.061074 square inches total sectional area
 Branch cables carrying 27.2 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, 0.022519 square inches total sectional area
 Branch cables carrying 13.1 Amperes, comprised of 11 wires, each 20 L.S.G. diameter, 0.0111967 square inches total sectional area
 Cables to lamps carrying Amperes, comprised of wires, each L.S.G. diameter, square inches total sectional area
 Cargo light cables carrying 13 Amperes, comprised of 11 wires, each 20 L.S.G. diameter, 0.0111967 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

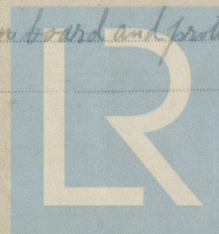
Insulated by using lead cable.

Joints in cables, how made, insulated, and protected

Cables are jointed in joint box made of porcelain and protected by wooden boxes where necessary.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux no Are all joints in accessible positions, none beingmade in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage yes, all joints in accessible positionsAre 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 by brass band fixed on wooden board and protected by wooden board on pipe where necessary and elsewhere by using lead cable



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DESCRIPTION OF INSULATION, PROTECTION, ETC.,—continued.

Are they in places always accessible *Yes, they are in places always accessible.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *By iron pipes.*

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

What special protection has been provided for the cables near boiler casings *By iron pipes or by armouring galvanized wire cable.*

What special protection has been provided for the cables in engine room *By iron pipes or by armouring galvanized wire cable.*

How are cables carried through beams *Holes bushed with lead sheet* through bulkheads, &c. *through water tight metal flanges.*

How are cables carried through decks *Through brass or iron sockets.*

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 cut outs for these lights fitted *on Starboard Side bunker wall in Engine room.*

If in the spaces, how are they specially protected *By higher insulating material which is called "Marble"*

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

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

The copper used is guaranteed to have a conductivity of *99* 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.

Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *115 ft*

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>20</i>		<i>10</i>	
A cable carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying	Amperes	feet from standard compass	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power

The maximum deviation due to electric currents, etc., was found to be degrees on course in the case of the standard compass and degrees on course in the case of the steering compass.

OSAKA IRON WORKS, LTD.

Electrical Engineers

Builder's Signature.

Date *2nd May 1916*

GENERAL REMARKS.

The installation is fitted in accordance with the requirements of the Rules & worked satisfactorily on trial

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

Committee's Minute TUE 13 JUN. 1916

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.



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