

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3188

Port of Kobe Date of First Survey Feb. 18<sup>th</sup> 1921 Date of Last Survey Apr. 13<sup>th</sup> 1921 No. of Visits 7  
 No. in Reg. Book 5/s. "SHINAI MARU" Port belonging to Osaka  
 Built at Osaka By whom Fujinagata Shipyard Co. When built 1921  
 Owners Kishimoto Kisen Kaishiki Kaisha Owners' Address Osaka  
 Yard No. 43 Electric Light Installation fitted by Fujinagata Shipyard When fitted 1921

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

1-Set Direct current Dynamo direct coupled to vertical single cylinder engine

Capacity of Dynamo 10 K.W. 100 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine Room stbd. side 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. + F. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One for forward, One for navigation + bridge, One for midship, One for aftward, One for engine + boiler room, One for wireless (circuit only)

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 none 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 50 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 185 arranged in the following groups:—

A Circuit	18	lights each of 14 x 16 <sup>CP</sup>	5 x 32	candle power requiring a total current of	6	Amperes
B "	55	lights each of 45 x 16 <sup>CP</sup>	10 x 32	candle power requiring a total current of	14	Amperes
C "	48	lights each of 43 x 16 <sup>CP</sup>	5 x 32	candle power requiring a total current of	12	Amperes
D "	14	lights each of 9 x 16 <sup>CP</sup>	5 x 32	candle power requiring a total current of	4	Amperes
E "	49	lights each of 49 x 16 <sup>CP</sup>	2 x 100	candle power requiring a total current of	15	Amperes
F. " only	2	Mast head light with <u>Double</u> lamps each of	32	candle power requiring a total current of	0.4	Amperes
	2	Side light with <u>Double</u> lamps each of	32	candle power requiring a total current of	0.4	Amperes
	5	Cargo lights of	5 x 32	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

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

## DESCRIPTION OF CABLES.

Main cable carrying	100	Amperes, comprised of	2-7	wires, each #12	S.W.G. diameter, <u>0.112</u> ✓	square inches total sectional area
Branch cables carrying	14	Amperes, comprised of	7	wires, each #17	S.W.G. diameter, <u>0.016</u> ✓	square inches total sectional area
Branch cables carrying	12	Amperes, comprised of	7	wires, each #17	S.W.G. diameter, <u>0.016</u> ✓	square inches total sectional area
Leads to lamps carrying	0.2	Amperes, comprised of	Single	wires, each #17	S.W.G. diameter, <u>0.002</u> ✓	square inches total sectional area
Cargo light cables carrying		Amperes, comprised of		wires, each	S.W.G. diameter,	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vacuumized rubber of best quality lead covered + armoured.

Joints in cables, how made, insulated, and protected Joint + distribution boxes with fuses for lamps are used

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 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 Holds + engine room armoured, Saloon + berths lead covered.



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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 armoured.

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

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

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

How are cables carried through beams with lead tube through bulkheads, &c. Water tight gland.

How are cables carried through decks with deck tube

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 Lead covered + armoured

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.

COMPASSES.

Y. Furukawa Electrical Engineers Date 14 June 1921

Distance between dynamo or electric motors and standard compass about 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	Amperes	feet from standard compass	feet from steering compass
<u>1.511</u>	<u>13</u>	<u>15</u>	<u>15</u>
<u>0.2</u>	<u>5</u>	<u>15</u>	<u>15</u>
<u>A cable carrying</u>	<u>Amperes</u>	<u>feet from standard compass</u>	<u>feet from steering compass</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 ✓ degrees on ✓ course in the case of the standard compass and ✓ degrees on ✓ course in the case of the steering compass.

GENERAL REMARKS.

This installation has been fitted in accordance with the requirements of the Rules and worked satisfactorily on trial.

It is submitted that this vessel is eligible for THE RECORD & Electric Light

Roll 15/8/21

R. S. Patchett & Y. Jo.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 16 AUG. 1921

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.