

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4629

Port of Hong Kong Date of First Survey 4/12/17 Date of Last Survey 10/1/18 No. of Visits 4  
 No. in on the Iron or Steel Screw Steamer "HERMELIN" Port belonging to Hong Kong  
 Reg. Book Built at Hong Kong By whom Hong Kong & Whampoa Dock Co. Ltd. When built 1,1918  
 Owners Bruusgaard Kjoesterud & Co. Owners' Address Drammen, Norway  
 Yard No. 548 Electric Light Installation fitted by Hong Kong & Whampoa Dock Co. Ltd. When fitted 1,1918

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 12 K.W. Multipolar dynamo direct coupled to a single cylinder steam engine.

Capacity of Dynamo 109 ✓ Amperes at 110 ✓ Volts, whether continuous or alternating current continuous ✓  
 Where is Dynamo fixed Engine room starboard Whether single or double wire system is used double ✓  
 Position of Main Switch Board Engine room starboard having switches to groups 5 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Chart room 8 switches, steering house 2 switches

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 and constructed to fuse at an excess of 30 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 197 arranged in the following groups:—

	lights each of		candle power requiring a total current of	Amperes
A Wireless converter	-		-	
B Saloon	56	16	28	Amperes
C Main Deck	39	16	19.5	Amperes
D Tween Decks	19	16	9.5	Amperes
E Engine Room	23	16	11.5	Amperes
2 Mast head light with 1 lamps each of	32		1	Amperes
2 Side light with 1 lamps each of	32		1	Amperes
6 Cargo lights of	80			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	154	Amperes, comprised of	37	wires, each	15	S.W.G. diameter,	•15415	square inches total sectional area
Branch cables carrying	35.14	Amperes, comprised of	19	wires, each	18	S.W.G. diameter,	•03514	square inches total sectional area
Branch cables carrying	22.99	Amperes, comprised of	7	wires, each	16	S.W.G. diameter,	•02299	square inches total sectional area
Leads to lamps carrying	3.21	Amperes, comprised of	1	wires, each	16	S.W.G. diameter,	•0032	square inches total sectional area
Cargo light cables carrying	3.21	Amperes, comprised of	135	wires, each	40	S.W.G. diameter,	10032	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

All conductors are insulated with pure para rubber, two coats vulcanising rubber and I.R. taped and the whole vulcanised, lead covered, braided and armoured with galvanized iron wire except in protected places where it is lead covered only.

Joints in cables, how made, insulated, and protected in junction boxes and distribution boxes and protected by suitable covers.

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 No soldered joint.

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 armoured with galvanized iron wire.



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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 galvanized iron armoured

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

What special protection has been provided for the cables near boiler casings Lead covered & galvanized iron armoured

What special protection has been provided for the cables in engine room Lead covered & galvanized iron armoured

How are cables carried through beams In lead bushes through bulkheads, &c. Brass stuffing boxes ✓

How are cables carried through decks In galvanized iron deck tubes. ✓

Are any cables run through coal bunkers - or cargo spaces - or spaces which may be used for carrying cargo, stores, or baggage -

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 -

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 -

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 On 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.

HONGKONG & WHAMPOA DOCK CO., Ltd.

R. H. Dyer

Electrical Engineers

Date January 31st. 1918

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 70 feet

Distance between dynamo or electric motors and steering compass 60 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>5</u>	Amperes	<u>7½</u>	feet from standard compass	<u>5½</u>	feet from steering compass
A cable carrying	<u>2.5</u>	Amperes	<u>17½</u>	feet from standard compass	<u>11½</u>	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 Yes

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

HONGKONG & WHAMPOA DOCK CO., Ltd.

R. H. Dyer

Builder's Signature.

Date January 31st. 1918

**GENERAL REMARKS.** Installation tested January 18th. 1918 with good results.

It is submitted that this vessel is eligible for THE RECORD. Elec. light. SWD. 12/4/18.

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.