

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2685.

Port of Göteborg Date of First Survey 8th Novemb. Date of Last Survey 17th Dec. 1913 No. of Visits 7
 No. in on the Iron or Steel Oscar Port belonging to Göteborg
 Reg. Book 39 Built at Oscarshamn By whom Oscarsh. Mek. & Skropps. AB When built 1913
 Owners Hug. & Abiel. Gileborg - Sandholm Owners' Address Göteborg
 Yard No. 247 Electric Light Installation fitted by Hjalmar Löfgren, Stockholm When fitted 1913

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo: One compound wound continuous current, for 40 amperes at 110 volts.

Engine: 2 cylinder reciprocating steam engine.

Capacity of Dynamo 40 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in engine room Whether single or double wire system is used double wire

Position of Main Switch Board in engine room having switches to groups 11 groups of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One in steering engine house with 15 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-oxidisable metal Yes 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 Yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 755 arranged in the following groups:—

No.	Description	Number of lights	Candle power	Current (Amperes)
1.	10 lights each of 16	16	160	1.5
2.	2 lights each of 16	32	320	3.1
3.	11 " 10 " 16, & 1 of 32	111	1110	3.2
4.	11 lights each of 3 of 16, & 8 of 32	110	1100	3.2
5.	10 " each of 32	320	3200	3.2
6.	10 lights each of 32	320	3200	3.2
7.	10 " " " 32	320	3200	3.2
8.	10 lights each of 32	320	3200	3.2
9.	11 " 6 " 16, & 5 of 32	111	1110	2.6
10.	10 lights each of 32	320	3200	3.2
11.	10 " " " 16, & 1 of 32	110	1100	2.0
12.	Mast head light with 1 lamp each of 32	32	320	0.6
13.	Side light with 1 lamp each of 32	32	320	0.6
14.	Cargo lights of with 10 lamps each of 32	320	3200	incandescent

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

Where are the switches controlling the masthead and side lights placed in the chart house.

DESCRIPTION OF CABLES.

Description	Amperes	Wires	S.W.G. diameter	Area (sq. in.)
Main cable carrying	40	7	1/16 in.	1.5
Branch cables carrying	30	7	1/10 in.	1.5
Branch cables carrying	✓	✓	✓	✓
Leads to lamps carrying	4	2 x 7	2 x 1/5 in.	2.0
Cargo light cables carrying	3.2	2 x 7	2 x 1/5 in.	2.0

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Armoured cables as per rule have been used except in the cabins where wires insulated with pure rubber have been used. In the holds and bunks and all exposed spaces the cables have been led through strongly secured steel tubes, fitted as per rule. Joints in cables, how made, insulated, and protected soldered with tin and insulated watertight with rubber covered ribbons and fitted in cast steel boxes with covers screwed on.

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 bunks, 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 Armoured cables led through strong steel pipes.

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 Armoured cables in steel pipes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured cables in steel pipes

What special protection has been provided for the cables near boiler casings Armoured cables in steel pipes

What special protection has been provided for the cables in engine room Armoured cables

How are cables carried through beams in isolated steel pipes through bulkheads, &c. through watertight doors

How are cables carried through decks in armoured cables inside the masts

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 Armoured cables in isolated steel 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 watertight mountings

Where are the main switches and fuses for these lights fitted in steering engine house

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 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 1000 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.

Spencer Lofquist Certified Electrical Engineer Date 20 Dec. 1913

COMPASSES.

Distance between dynamo or electric motors and standard compass Engine room to flying bridge

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
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 Yes

The maximum deviation due to electric currents, etc., was found to be None degrees on course in the case of the standard compass and degrees on course in the case of the steering compass.

Builder's Signature Date Dec 22nd 1913

GENERAL REMARKS.

This electric lighting installation has been fitted on board under my inspection and has been tested and found satisfactory. All rule requirements have been complied with.

It is submitted that this vessel is eligible for

THE RECORD. Elec. light.

JWD
30/12/13

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

Committee's Minute

TUE. JAN. 6 1914

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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