

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1062

Port of Copenhagen Date of First Survey 3/11 97 Date of Last Survey 30/11 97 No. of Visits 4  
 No. in on the Steel 5/8 Perakles Port belonging to Stockholm - Sweden  
 from main g. Book Built at Elsinore By whom Helsingfors Jernskibs & Maskinfabrik When built 1897  
 Thickness 1/2 Owners Dycker & Bergningsbolaget "Kiptun" Owners' Address Stockholm  
 Pitch of riv 68 Electric Light Installation fitted by Hans Mannstädt - Stockholm When fitted 1897  
 Stays to do.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Des Vertical Engine direct coupled to the dynamo. shunt.  
 shell by rules Alt meter 80 Volts. Amperemeter 120 Amperes fitted on Switchboard.  
 tubes Capacity of Dynamo 100 Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed On Maindeck in Portside of Engine room casing.  
 Position of Main Switch Board at the side of Dynamo having switches to groups 4 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each group in Berths and Cabins with one  
switch for each group; cut outs for flow & return for each individual  
wire on switchboard.

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 100 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 - near Main Switchboard.

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 54 Lights, 23 Volts arranged in the following groups:—

A	40 lights each of 16	candle power requiring a total current of 29.6	Amperes
B	2 off 2 4 lights each of 25	candle power requiring a total current of 5 each 2-3	Amperes
C	5 lights each of 16	candle power requiring a total current of 3.7	Amperes
D	5 lights each of 16	candle power requiring a total current of 3.7	Amperes
E	lights each of	candle power requiring a total current of	Amperes

Mast head light with lamps each of candle power requiring a total current of Amperes

Side light with lamps each of candle power requiring a total current of Amperes

2 Cargo lights of 3000 candle power, whether incandescent or arc lights are

If are lights, what protection is provided against fire, sparks, &c. Lanterns with plate guards down to  
bottom of Lanterns.

Where are the switches controlling the masthead and side lights placed near Main Switchboard in Engine room - one  
for each light.

## DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 0.0041 "fully" 0.078 square inches total sectional area

Branch cables carrying 3.7 Amperes, comprised of 1 wires, each 0.0041 "fully" 0.0041 square inches total sectional area

Branch cables carrying 29.6 Amperes, comprised of 7 wires, each 0.0041 "fully" 0.0206 square inches total sectional area

Leads to lamps carrying Amperes, comprised of wires, each 0.0041 "fully" 0.0159 square inches total sectional area

Cargo light cables carrying 25 Amperes, comprised of 7 wires, each 0.0037 "fully" 0.0256 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned, insulated with pure vulcanizing india-rubber, taped or fitted.  
The whole vulcanized together, then braided with yarn and compounded.

Joints in cables, how made, insulated, and protected Soldered and insulated.

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 all accessible.

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 under Maindeck, protected with wood.



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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 *protected by wood*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *✓*

What special protection has been provided for the cables near boiler casings *protected by wood*

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

How are cables carried through beams *about pipes in holes through the beams* through bulkheads, &c. *india-rubber boxes*

How are cables carried through decks *✓*

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

If so, how are they protected *by wood*

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 cut outs for these lights fitted *✓*

If in the spaces, how are they specially protected *✓*

Are any switches or cut outs 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 *✓*

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 *97-98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *950* 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.

COMPASSES.

Distance between dynamo or electric motors and standard compass *36 feet to Dynamo. - 50 feet to the Gun*

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>3/4</i>	<i>7 1/2</i>	<i>14</i>	<i>14</i>
<i>3/4</i>	<i>7 1/2</i>	<i>14</i>	<i>14</i>
<i>7</i>	<i>14</i>	<i>14</i>	<i>14</i>

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

The maximum deviation due to electric currents, etc., was found to be *without* degrees on *without* course in the case of the standard compass and *without* degrees on *without* course in the case of the steering compass.

*SEW PRINCE* Builder's Signature. Date *2<sup>nd</sup> December 1899*

GENERAL REMARKS. *The whole electric Light Installation is as above described, the protection of Cables, fitting of Cut-outs &c &c is as required by the Rules, the Material & Workmanship is good throughout.*

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

Committee's Minute *FRI. 7 JAN 1898* *FRI. 10 MAR 1899* *FRI. 24 MAR 1899* *This installation appears to be fitted in accordance with the Rule*

*TUES. 20 AUG 1898*

*Lloyd's Register Foundation*

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