

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 129.

Port of Malmö Date of First Survey 5<sup>th</sup> Nov. Date of Last Survey 30<sup>th</sup> Nov. 1919 No. of Visits 3  
 No. in Reg. Book on the Iron or Steel S.S. "Copenhagen" Port belonging to Copenhagen.  
 Built at Landskrona By whom A.B. Öresundsvarvet When built 1919-11  
 Owners A/S Det Oversøiske Compagnie Owners' Address Copenhagen.  
 Yard No. 3 Electric Light Installation fitted by Messrs. Luth & Rosins Elk. A.B. When fitted 1919.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dr Laval steam turbine, about 30 HP, direct coupled dynamo compound wound.  
 Capacity of Dynamo 180 Amperes at 110 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed in the engine room Whether single or double wire system is used double wire  
 Position of Main Switch Board in the engine room having switches to groups 5 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each F 2 groups in poop, B 6 groups Officers' & Engineers' accommodations, C 6 groups saloon, D 4 groups in engine room, E 5 groups chart-house.  
 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 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 158 arranged in the following groups:—  

A	<u>21</u>	lights each of	<u>16-25</u>	candle power requiring a total current of	<u>4</u>	Amperes
B	<u>45</u>	lights each of	<u>16-25</u>	candle power requiring a total current of	<u>10</u>	Amperes
C	<u>64</u>	lights each of	<u>16-25</u>	candle power requiring a total current of	<u>14</u>	Amperes
D	<u>23</u>	lights each of	<u>16-25</u>	candle power requiring a total current of	<u>5</u>	Amperes
E	<u>5</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>5</u>	Amperes
	<u>2</u>	Mast head light with	<u>1</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
	<u>2</u>	Side light with	<u>1</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
	<u>10</u>	Cargo lights of	<u>125</u>	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 Chart house

## DESCRIPTION OF CABLES.

Main cable carrying 180 Amperes, comprised of 37 wires, each 2.26 mm S.W.G. diameter, 0.2325 square inches total sectional area  
 Branch cables carrying 14 Amperes, comprised of 7 wires, each 1.05 mm S.W.G. diameter, 0.0093 square inches total sectional area  
 Branch cables carrying 10 Amperes, comprised of 7 wires, each 0.86 mm S.W.G. diameter, 0.0062 square inches total sectional area  
 Leads to lamps carrying 5 Amperes, comprised of 7 wires, each 0.52 mm S.W.G. diameter, 0.0023 square inches total sectional area  
 Cargo light cables carrying 3 Amperes, comprised of 7 wires, each 0.52 mm S.W.G. diameter, 0.0023 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

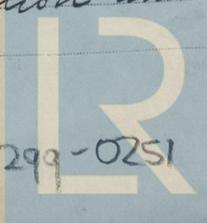
Vulcanized india rubber, tape, lead armoured, tape and steel wire armoured where required.

Joints in cables, how made, insulated, and protected Watertight iron or metal joint boxes.

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 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 screw-clips, protection and armouring as above & iron tubes where required.



**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 armouring & steel wire armouring.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead armouring and steel wire armouring.

What special protection has been provided for the cables near boiler casings do.

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

How are cables carried through beams protected by steel wire armouring through bulkheads, &c. watertight glands.

How are cables carried through decks iron tubes

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 Steel wire armouring, Iron tubes where required.

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.

LUTN & ROSÉNS ELEKTRISKA AKTIEBOLAG

Axel Hallman  
Electrical Engineers Date

**COMPASSES.**

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

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

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 ✓ degrees on ✓ course in the case of the standard compass and ✓ degrees on ✓ course in the case of the steering compass.

AKTIEBOLAGET ÖRESUNDSVARVET

Builder's Signature. Date 13/12 1919.

**GENERAL REMARKS.**

This electric lighting installation is in my opinion in accordance with the requirements of the Rules, workmanship and materials being good and it is recommended the record of "Elec. light." be made in the Register Book in the case of this vessel.

Form No. 150:-

Elec. light. JWD 30/4/20

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. MAY. 4 1920

See 17, -1 Transfer.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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