

WED: 16 NOV 1921

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6236.

Port of Copenhagen Date of First Survey 29th Sept. Date of Last Survey 27th Oct. 21 No. of Visits 6.
 No. in on the ~~Iron or Steel~~ St. St. " Stal" Port belonging to Copenhagen
 Reg. Book 39262 Built at Copenhagen By whom W. Baltica Værft When built 1921.
 Owners Dampskibsselskabet Storebelt Owners' Address Copenhagen
 Yard No. 2 Electric Light Installation fitted by Nic. Schultz, Elsinore When fitted 1921.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

I One compound wound dynamo directly coupled to a de Laval turbine, running when at sea, and
 II One compound wound dynamo directly coupled to a single cylinder steam engine, running when lying at port.
 Capacity of Dynamo I 217 II 68 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.Position of Main Switch Board in the engine room.having switches to groups A, B, C, D, E of lights, &c., as belowPositions of auxiliary switch boards and numbers of switches on each no auxiliary switchboards, light only being fitted in engine & boiler space.

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 ✓ and at each position where a cable is branched or reduced in size ✓ 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 Edison's tools used.

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes.Total number of lights provided for 23 arranged in the following groups:—

A	<u>2</u>	lights each of	<u>200</u>	candle power requiring a total current of	<u>2</u>	Amperes
B	<u>7</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>1.75</u>	Amperes
C	<u>5</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>1.25</u>	Amperes
D	<u>9</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>2</u>	Amperes
E	<u>bilge & sanitary pump</u>	lights each of	<u>✓</u>	candle power requiring a total current of	<u>45</u>	Amperes
	<u>Mast head light with</u>	lamps each of	<u>✓</u>	candle power requiring a total current of	<u>✓</u>	Amperes
	<u>Side light with</u>	lamps each of	<u>✓</u>	candle power requiring a total current of	<u>✓</u>	Amperes
	<u>Cargo lights of</u>		<u>✓</u>	candle power, whether incandescent or arc lights	<u>✓</u>	

If are lights, what protection is provided against fire, sparks, &c. No arc lights.Where are the switches controlling the masthead and side lights placed ✓

DESCRIPTION OF CABLES.

I Main cable carrying	<u>217</u>	Amperes, comprised of	<u>37</u>	wires, each	<u>2.52</u>	<u>in/in.</u> S.W.G. diameter,	<u>185</u>	<u>in/in.</u> square inches total sectional area
II Branch cables carrying	<u>52</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>2.13</u>	<u>in/in.</u> S.W.G. diameter,	<u>25</u>	<u>in/in.</u> square inches total sectional area
Branch cables carrying	<u>45</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>1.70</u>	<u>in/in.</u> S.W.G. diameter,	<u>16</u>	<u>in/in.</u> square inches total sectional area
Leads to lamps carrying	<u>2</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>1.38</u>	<u>in/in.</u> S.W.G. diameter,	<u>1.5</u>	<u>in/in.</u> square inches total sectional area
Cargo light cables carrying	<u>✓</u>	Amperes, comprised of	<u>✓</u>	wires, each	<u>✓</u>	<u>in/in.</u> S.W.G. diameter,	<u>✓</u>	<u>in/in.</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The upper wires are insulated with pure and vulcanized india rubber, taped and lead covered, then taped and armoured with two layers of steel tape and braided.

Joints in cables, how made, insulated, and protected in watertight cast iron junction boxes with screwed covers.

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 secured by screwed clips armoured cables used, where necessary led through galvanized iron tubes.



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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 *No such cables.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *No such cables.*

What special protection has been provided for the cables near boiler casings } *armoured cables used, where necessary*
 What special protection has been provided for the cables in engine room } *they are led through galvanized iron tubes.*

How are cables carried through beams *armoured cables used.* through bulkheads, &c. *armoured cables used.*

How are cables carried through decks *No cables carried through decks.*

Are any cables run through coal bunkers *No.* or cargo spaces *No.* or spaces which may be used for carrying cargo, stores, or baggage *No.*

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 *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 *None.* 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.

Nic. Selmer

Electrical Engineers

Date *2/11/1921*

COMPASSES.

Distance between dynamo ~~or electric motors~~ and standard compass *ca. 76'*

Distance between dynamo ~~or electric motors~~ and steering compass *ca. 70'*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>
<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>
<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>

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 *0* degrees on *all* course in the case of the standard compass and *0* degrees on *all* course in the case of the steering compass.

AKTIESELSKABET

KJØBENHAVNS FLYDEKØB OG SKIBSVÆRFT

Builder's Signature. Date

GENERAL REMARKS. The Electric Light & power Installation as above described is in accordance with the Rule requirements, the enclosed plan and letter E dated 30th Nov. 1920.

The material used is of good description and the workmanship high class. On the trial trip the whole Installation was tested under full working power and found satisfactory.

Recommend the Vessel to have notation of "Electric Light" in the Register Book.

The fee charged on the *THIS VESSEL IS ELIGIBLE FOR* *RECORD. Elec. Light.* *23/11/21.* *Surveyor to Lloyd's Register of Shipping.*

Committee's Minute *16 DEC. 1921*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

