

Received at London Office
MON 29 FEB. 1921
No. 6074.

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of Copenhagen Date of First Survey 7th Novbr. 1919 Date of Last Survey 10th Febr. 21 No. of Visits 10
 No. in 80500 on the Iron or Steel s/s. "Moland" Port belonging to Arendal. Norway.
 Built at Kalundborg By whom Akt. Kalundborg Skibsvarft When built 1920-21.
 Owners Aktieselskabet Rundtur (Olas Christensen) Owners' Address Arendal, Norway
 Yard No. 10 Electric Light Installation fitted by Akt. Kalundborg Skibsvarft When fitted 1920-21.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

A compound wound dynamo, directly coupled to a vertical single cylinder 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 5 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One in chart room with 5 switches for the navigation lights).

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
 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 91 arranged in the following groups:—

Group	No. of lights	Each of	Candle power	Requiring a total current of	Amperes
A	20	lights each of	16	5	
B	23	lights each of	16	5.7	
C	21	lights each of	16	5.3	
D	9	lights each of 8 of 16 and 1 of 32		2.5	
E	18	lights each of	16	4.5	
2	Mast head light with 1 lamp each of	16	1.6		
2	Side light with 1 lamp each of	16	1.6		
4	Cargo lights of each with 6 lamps of 16 g. = 96				

 candle power, whether incandescent or arc lights incandescent.

If arc lights, what protection is provided against fire, sparks, &c. No arc light.

Where are the switches controlling the masthead and side lights placed In the chart room.

DESCRIPTION OF CABLES.

Description	Amperes	Comprised of	Wires, each	S.W.G. diameter	Square inches total sectional area
Main cable carrying	33.55	14	2.02	44	
Branch cables carrying	2.5 to 5.7	1	1.38	1.5	
Branch cables carrying					
Leads to lamps carrying	0.25	1	1.38	1.5	
Cargo light cables carrying	1.5	2x24	0.2	2x1.51	

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Timed and insulated with pure and vulcanized india rubber, taped and lead covered then taped and armoured with galvanized steel wire or with steel tape and braided.

Joints in cables, how made, insulated, and protected No joints in cables.

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 ✓

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 ~~armoured~~ clips and where necessary protected by 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 *The cables are lead covered and armoured with galvanized wire and where necessary led through iron tubes.*

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

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 *No cables carried through beams through bulkheads, &c. watertight screwed glands*

How are cables carried through decks *Through iron tubes.*

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 *Lead covered, armoured with steel wire and led through iron tubes.*

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 *Lamps, wire guarded, cable terminals protected by iron boxes with covers.*

Where are the main switches and fuses for these lights fitted *On main switch board.*

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 *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.

KALUNDBORG SKIBSVÆRFT

AKTIESELSKAB

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *44 feet*

Distance between dynamo or electric motors and steering compass *38 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
33, 55	44	38	
4, 5	12	6	
0, 25	for illumination of the	feet from standard compass for illumination of the	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 *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.

KALUNDBORG SKIBSVÆRFT

AKTIESELSKAB

Builder's Signature.

Date

GENERAL REMARKS. The whole electric lighting installation as above described is carried out in accordance with the Rules, the approved plan and the requirement contained in letter E dated the 13th Novr. 1920.

The workmanship and the material are of good description in every respect, and the installation has been tested under full working condition and found satisfactory. —

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

It is submitted that this vessel is eligible for THE RECORD. Elec Light Regd 3/3/21

A.E. J. J. J.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. MAR. 22 1921

TUE. MAY. 10 1921



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