

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6177.

Port of Gothenburg Date of First Survey 23rd June Date of Last Survey 22nd Aug No. of Visits 8
 No. in on the Iron or Steel m/s Axel Johnson Port belonging to Stockholm
 Reg. Boat 37904 Built at Gothenburg By whom Skid. Götaverken When built 1925
 Owners Rederiakt. Nordstjärnan Owners' Address Stockholm
 Yard No. 391 Electric Light Installation fitted by Elektriska ABol. AEG Gothenburg When fitted 1925

DESCRIPTION OF DYNAMO, ENGINE, ETC. Motor-generator from 220 volts continuous current to 110 volts continuous current. This motor-generator is driven from the main-dynamos, 3 in number, one of 66 kW, 220 volts, 300 amp. and two each of 100 kW, 220 volts, 455 amp. ✓

Capacity of Dynamo 185 ✓ 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 " " having switches to groups thirteen of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each /A/ 13 gr. engine room, /B/ 5 gr. fore-castle, /C/ 4 gr. captain's house, /D & E/ each 5 gr. passengers' accommod. /F & G/ each 10 gr. off. accommod. /H/ 4 gr. after-accommod. /I/ 4 gr. need-lights and one of 5 gr. for navigation-lights, chartroom.

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 400 arranged in the following groups:—

Group	No. of lights	Each of	Candle power	Requiring a total current of	Amperes
A	8 resp. 86	400 resp. 25		35	
B	28	16 - 32		8	Amperes
C	16	16 - 50		4	
D	34	16 - 50		10	Amperes
E	32	16 - 50		10	
F	60	16 - 32		18	Amperes
G	65	16 - 32		18	
H	29	16 - 32		10	Amperes
I	22	16 - 50		6	Amperes
2	Mast head light with 1 lamps each of 32		candle power requiring a total current of	2	Amperes
2	Side light with 1 lamps each of 32		candle power requiring a total current of	2	Amperes
10 resp. 5	Cargo lights of 150 resp. 1000		candle power, whether incandescent or arc lights	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 chartroom

DESCRIPTION OF CABLES.

Main cable carrying 185 Amperes, comprised of 37 wires, each 2.27 mm S.W.G. diameter, 150 square mm total sectional area
 Branch cables carrying 35 Amperes, comprised of 7 wires, each 1.7 " S.W.G. diameter, 16 square " total sectional area
 Branch cables carrying 20 Amperes, comprised of 7 wires, each 1.05 " S.W.G. diameter, 6 square " total sectional area
 Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 1.38 " S.W.G. diameter, 1.5 square " total sectional area
 Cargo light cables carrying 4.5 Amperes, comprised of 30 wires, each 0.25 " S.W.G. diameter, 1.5 square " total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables are insulated with vulcanized rubber and lead covered. The main cable and the branch cables to each auxiliary switchboard are armoured cables. The cables in engine room, galley etc are steel wired cables.

Joints in cables, how made, insulated, and protected by porcelains boxes and where required, by watertight 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 The cables are lead in channel-bars.



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003162-03174-0266

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 covered armoured cables used.

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 --

What special protection has been provided for the cables in engine room Lead covered, steel-wired cables used.

How are cables carried through beams through bulkheads, &c. Through watertight glands

How are cables carried through decks Through watertight glands

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 with iron-pipes, 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 on main switchboard yes

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 ^{kilometer} ~~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.

ELEKTRISKA AKTIEBOLAGET A. E. G.

FILIAL GÖTEBORG.

Electrical Engineers

Date 26/8. 1925.

COMPASSES.

Distance between dynamo or electric motors and standard compass About 15 meter

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

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 GÖTEBORG

P. S. J. J. J.

Builder's Signature.

Date 26. 8. 1925

GENERAL REMARKS.

This electric installation has been fitted on board under our inspection and has been tested and found satisfactory.

All the Rule requirements have been complied with.

It is submitted that

this vessel is eligible for

THE RECORD

Elec. light.

Paulou

G. S. J. J. J.

FEE: Kr 694:33.

Paid 7. 10. 25

TUES. 8 SEP 1925

3/9/25

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

elec. lt.



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