

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of Gothenburg Date of First Survey Nov 11-22 Date of Last Survey March 10, 1923 No. of Visits 15
No. in on the Iron or Steel M/S "Luossa" Port belonging to Stockholm
~~Reg. Book~~ Supplement Gothenburg By whom A/B Götaverken When built 1922
79774 Built at
Owners Trafik A/B Grängesberg-Oxelösund Owners' Address Stockholm
Yard No. M/S 359 Electric Light Installation fitted by Nya Luth & Roséns Elektriska A/B When fitted 1922-23.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Converter from 220 volts continuous to 110 volts continuous current. This converter is delivered by Allmänna Svenska Elektriska A/B, Vesterås. *This motor generator is driven from the main dynamo.*

Capacity of Dynamo 125 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 *9* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each one (A) of 6 gr. in the after-accommodation, one (B) of 6 gr. on stern-mast, one (C) of 7 gr. in the officers-accommodation, one (D) of 4 gr. on deck midships, one (E) of 4 gr. and one (F) of 4 gr. in the saloon-accommodation, one (G) of 4 gr. in the chart-room, one (H) of 6 gr. on fore-mast, one (J) of 3 gr. in fore-castle, one (K) of 12 gr. in the engine-room.

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 240 arranged in the following groups :—

AX	A	33	lights each of	16 - 25	candle power requiring a total current of	8	Amperes
	B	22		25 - 1000		15	
BX	C	41	lights each of	16 - 25	candle power requiring a total current of	9	Amperes
	D	11		25 - 1000		7.5	
CX	E	25	lights each of	16 - 25	candle power requiring a total current of	6	Amperes
	F	15		" "		4	
DX	G	4	lights each of	32	candle power requiring a total current of	4	Amperes
	H	22		25 - 1000		15	
EX	J	9	lights each of	16 - 25	candle power requiring a total current of	2	Amperes
	K	58		25 - 160		17	
2	Mast head light with		" 1 " lamps each of	32	" " " " " " "	2	Amperes
2	Side light with		1 lamps each of	32	candle power requiring a total current of	2	Amperes

10	Cargo lights of	125	candle power, whether incandescent or arc lights	incandescent
5	" " "	1000	" " " " "	" " " "

If arc lights, what protection is provided against fire, sparks, &c. in the chart-room

Where are the switches controlling the masthead and side lights placed?

DESCRIPTION OF CABLES.

Main cable carrying 91 Amperes, comprised of 19 wires, each 2.17 mm. S.W.G. diameter, 70 mm² square inches total sectional area

Branch cables carrying 15 Amperes, comprised of 7 wires, each 1.35 " S.W.G. diameter, 10 " square inches total sectional area

Branch cables carrying 10 Amperes, comprised of 7 wires, each 1.05 " S.W.G. diameter, 6 " square inches total sectional area

Leads to lamps carrying 2 Amperes, comprised of 7 wires, each 0.52 " S.W.G. diameter, 1.5" ☒ square inches total sectional area

Cargo light cables carrying 4.5 Amperes, comprised of 7 wires, each 0.67 S.W.G. diameter, 2.5" square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables are insulated with vulcanized rubber, lead armour covered with rubber tape. Where necessary rubber tape and steel armour is used.

Joints in cables, how made, insulated, and protected by porcelain boxes and, where required, by watertight metal 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 by steel clips, screwed fast and where required protected by ironpipes.

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 lead and steel armour.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat lead and steel armoured,

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 and steel armoured

How are cables carried through beams cables carried through beams and are steel armoured

How are cables carried through decks through ironpipes

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 armoured and ironpipes 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 switchboard

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 per statute kilometer at 15 Celsius 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.

NYA LUTH & ROSÉNS ELEKTRISKA AKTIEBOLAG

Electrical Engineers

Date 8/1 1923.

COMPASSES.

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

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

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 GÖTTNER & SÖDERSTRÖM

Builder's Signature.

Date 10.3.23

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.

J. H. Kaye Surveyor to Lloyd's Register of Shipping.

Fee: 618.80 kr. Applied for 9th March 1923.

Committee's Minute FRI. 23 MAR. 1923