

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 225 D.

Port of *Helsingborg* Date of First Survey *Oct. 10 1927* Date of Last Survey *Jan 12 1928* No. of Visits *11*
 No. in *on the Iron or Steel Screw Steamer "NEVA"* Port belonging to *Helsingborg*
 Reg. Book *48023* Built at *Helsingborg* By whom *Helsingborgs Varfs & Suckew. A.-B.* When built *1928*
 Owners *Skibbolaget Transmarin* Owners' Address *Helsingborg*
 Yard No. *46* Electric Light Installation fitted by *Skibbolaget Hallberg & Co. Helsingborg* When fitted *1928*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Direct current dynamo driven by a steam engine

Capacity of Dynamo *46* 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 *11* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *One (A) of 2 groups in the saloon house. One (B) in the deck house aft of 2 groups. One (C) direct to accommodations amidships stbd. One (D) ditto accomod. amid. port. One (E) direct to Eng. room & funnel. One (F) direct to B-room. One (G) to cargo lights fwd. One (H) ditto. One (I) to cargo lights aft. One (K) ditto. One (L) of 5 groups in the chart room including mast head, side lights etc.*
 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 *104* arranged in the following groups:—

Group	Description	Number of Lights	Wattage	Candle Power	Current (Amperes)
A	lights each of 10 " 25 + 6 of 15 "	16	5 of 40, 11 of 25 + 5 of 15 watt	"	4.72 Amperes
B	lights each of 10 " 25 + 6 of 15 "	16	"	"	3.10 Amperes
C	lights each of 10 " 25 + 6 of 15 "	16	"	"	1.50 "
D	lights each of 10 " 25 + 6 of 15 "	16	"	"	1.42 Amperes
E	lights each of 10 " 25 + 6 of 15 "	16	"	"	3.64 "
F	lights each of 10 " 25 + 6 of 15 "	16	"	"	2.91 Amperes
G	lights each of 10 " 25 + 6 of 15 "	16	"	"	3.28 "
H	lights each of 10 " 25 + 6 of 15 "	16	"	"	2.18 Amperes
I	lights each of 10 " 25 + 6 of 15 "	16	"	"	2.18 "
J	lights each of 10 " 25 + 6 of 15 "	16	"	"	2.18 Amperes
K	lights each of 10 " 25 + 6 of 15 "	16	"	"	2.18 Amperes
L	lights each of 10 " 25 + 6 of 15 "	16	"	"	4.10 Amperes

1 Mast head light with 1 lamps each of 50 " candle power requiring a total current of 4.10 Amperes
 1 Side light with 1 lamps each of 50 " candle power requiring a total current of 4.10 Amperes
 5 compass Cargo lights of " " 40 " 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 chart room*

DESCRIPTION OF CABLES.

Main cable carrying *31.2* Amperes, comprised of *7* wires, each *1.71* S.W.G. diameter, *16* square inches total sectional area
 Branch cables carrying *4.72* Amperes, comprised of *7* wires, each *0.86* S.W.G. diameter, *4* square inches total sectional area
 Branch cables carrying *3.28* Amperes, comprised of *7* wires, each *0.67* S.W.G. diameter, *2.5* square inches total sectional area
 Leads to lamps carrying *3.64* Amperes, comprised of *7* wires, each *0.52* S.W.G. diameter, *1.5* square inches total sectional area
 Cargo light cables carrying *1.82* Amperes, comprised of *30* wires, each *0.25* S.W.G. diameter, *1.5* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables are insulated with vulcanized rubber, lead covered and armoured with braiding over the armour

Joints in cables, how made, insulated, and protected by *porcelain and watertight metal boxes*

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances *no joints of cables except in joining boxes* 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 metal clips and in the holds protected by steel channels*



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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 *armoured cables*

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

What special protection has been provided for the cables near boiler casings *armoured cables*

What special protection has been provided for the cables in engine room *armoured cables*

How are cables carried through beams *Cables not carried through beams through bulkheads, &c. watertight glands*

How are cables carried through decks *watertight glands and steel pipes*

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 *armoured cables*

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 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 1000 megohms ^{per kilometre at 15° Celsius} 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 ¹⁰⁰⁰ 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.

Aktiebolaget Hallberg & Co

Electrical Engineers

Date

28/1/1928

COMPASSES.

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

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
<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 *✓*

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.

Helsingborgs Varf- & Sjöfartnings Aktiebolag

Builder's Signature.

Date

28. 1. 1928.

GENERAL REMARKS.

This electric lighting installation has been fitted onboard under my 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.

Fee No. 91.00

Paid 4/2/28

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES 7 FEB 1928

Electric Light



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