

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 1685

Port of Bergen Date of First Survey Decbr. 8<sup>th</sup> Date of Last Survey December 20<sup>th</sup> No. of Visits 5  
 No. in Reg. Book 89494 on the Steel S.S. "Kovda" (206) Port belonging to Bergen  
 Built at Bergen By whom Bergens Mek. Værksted When built 1924  
 Owners Norsk Russisk Dampskibsselsk. Owners' Address Bergen  
 Yard No. 206 Electric Light Installation fitted by A. E. G., Bergen When fitted 1924

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting open type vertical direct coupled to a continuous current compound wound dynamo  
 Capacity of Dynamo 36 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  
 Position of Main Switch Board near Dynamo having switches to groups  
 Positions of auxiliary switch boards and numbers of switches on each each light group of lights provided with switches as required of lights, &c., as below

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 50 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 porcelain

Total number of lights provided for 90 arranged in the following groups:—

Group	Description	Number of Lights	Current (Amperes)
A	Saloon & forward	16	2.8
B	Engine room & officers	16	6
C	Engine room	25	4
D	Wireless room	16	2.2
E	Navigation	16	0.15
	Mast head light with 4 lamps each of	25	1.4
	Side light with 1 lamp each of	25	0.6
	Cargo lights of	16	0.6

incandescent  
26.75

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed In Chart Room

## DESCRIPTION OF CABLES.

Main cable carrying	<u>20</u> Amperes, comprised of <u>single</u> wires, each <u>4</u> S.W.G. diameter,	square inches total sectional area
Branch cables carrying	Amperes, comprised of <u>—</u> wires, each <u>2.5</u> S.W.G. diameter,	square inches total sectional area
Branch cables carrying	Amperes, comprised of <u>—</u> wires, each <u>2.5</u> S.W.G. diameter,	square inches total sectional area
Leads to lamps carrying	Amperes, comprised of <u>19</u> wires, each <u>1.5</u> S.W.G. diameter,	square inches total sectional area
Cargo light cables carrying	Amperes, comprised of <u>—</u> wires, each <u>1.5</u> S.W.G. diameter,	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead armoured cable

Joints in cables, how made, insulated, and protected

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 Lead & armoured cables run through bridge space & in underside of decks in way of holds with strong galv. iron clips

**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible *no.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered & steel armoured*

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

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

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

How are cables carried through beams *in lead bushes* through bulkheads, &c. *in W.I. glands*

How are cables carried through decks *in galv. 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 & steel armoured*

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 *-* and with an amperemeter *-*, fixed *-*

**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.

Electrical Engineers Date *-*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *-*

Distance between dynamo or electric motors and steering compass *-*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>0.6</i>	Amperes	<i>12</i>	feet from standard compass	<i>6</i>	feet from steering compass
A cable carrying	<i>0.6</i>	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 *Yes*

The maximum deviation due to electric currents, etc., was found to be *nil* degrees on *all* course in the case of the standard compass and *nil* degrees on *all* course in the case of the steering compass.

FOR A/S BERGENS MEKANISKE VÆRKSTED Elektricitets-Akieselskabet A. E. O.

*Norj Welsen*

Bergen's Signature. Date *-*

**GENERAL REMARKS.**

*The installation has been fitted in a satisfactory manner & in accordance with rule requirements & tried under working conditions with satisfactory results.*

It is submitted that this vessel is eligible for THE RECORD. Elec light-

*AD*  
*7/1/25*

*S. A. Eide*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI, 9 JAN 1925

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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