

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 232

Port of *Bremen* Date of First Survey *12th Feb 1913* Date of Last Survey *26th March 1913* No. of Visits *6*
 No. in Reg. Book *Sup 102* on the Iron or Steel *4 Met. ALDA* Port belonging to *Bremen*
 Built at *Geestemünde* By whom *Joh. F. Tichlerberg & Co.* When built *1913*
 Owners *Nordland Linie Akt. Ges.* Owners' Address *Bremen*
 Yard No. *252* Electric Light Installation fitted by *Hauschild & Siemens Schuckert Werke* When fitted *1913*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One compound-wound-dynamo type Siemens Schuckert directly coupled to one compound steam engine

Capacity of Dynamo *150* 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 *in the engine room* having switches to groups *4 for groups* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *one aft with 4 switches, one midship with 10 switches, one in the engine room with 10 switches, one foreship with 6 switches.*

If cut outs 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 cessel is wired on the double wire system are cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits *yes*

Are the cut outs of non-oxidizable metal *yes* and constructed to fuse at an excess of *100* per cent over the normal current

Are all cut outs 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, on fuse plugs*

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *yes, on porcelain & marble.*

Total number of lights provided for *234* arranged in the following groups:—

A engine, boiler etc.	22 lights each of	10	candle power requiring a total current of	20	Amperes
B aft	23 lights each of	16	candle power requiring a total current of	12.5	Amperes
C midship	49 lights each of	10	candle power requiring a total current of	24.5	Amperes
D mess room	68 lights each of	10	candle power requiring a total current of	34	Amperes
E foreship	37 lights each of	10	candle power requiring a total current of	18.5	Amperes
2 Mast head light with	2 lamps each of	25	candle power requiring a total current of	1.6	Amperes
2 Side light with	2 lamps each of	32	candle power requiring a total current of	2.2	Amperes
2 Arc. Cargo lights of	about 6000		candle power, whether incandescent or arc lights	arc light	

If arc lights, what protection is provided against fire, sparks, &c. *glass globes, enclosed in wire with ashes trays.*

Where are the switches controlling the masthead and side lights placed *in the chart-house*

DESCRIPTION OF CABLES.

Main cable carrying	150 Amperes, comprised of	19 wires, each	2.52 L.S.G. diameter,	95 square inches	total sectional area
Branch cables carrying	40 Amperes, comprised of	19 wires, each	1.53 L.S.G. diameter,	35 square inches	total sectional area
Branch cables carrying	35 Amperes, comprised of	7 wires, each	2.13 L.S.G. diameter,	25 square inches	total sectional area
Leads to lamps carrying	0.5 Amperes, comprised of	1 wires, each	1.38 L.S.G. diameter,	1.5 square inches	total sectional area
Cargo light cables carrying	8 Amperes, comprised of	1 wires, each	2.26 L.S.G. diameter,	10 square inches	total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main and branch cables are insulated by vulcanized rubber lead sheathed and double steel armed.

Joints in cables, how made, insulated, and protected *in watertight boxes.*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *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 *Cables are partly laid in channels of iron plates, partly fastened with screwed clips. All cables rubber insulated, lead covered and steel armed.*

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 *cables are laid in iron.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *they are covered by steel.*

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 *iron pipes* through bulkheads, &c. *stiffing boxes*

How are cables carried through decks *iron pipes partly brass stiffing boxes.*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage

If so, how are the lamp fittings and cable terminals specially protected

Where are the main switches and cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs 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

The installation is *no* supplied with a voltmeter and *no* an amperemeter, fixed *on main switch board.*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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 *98* per cent, that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *500 Siemens Units* megohms per statute mile after 24 hours' immersion in seawater.

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.

HANSEATISCHE
SIEMENS-SCHUCKERT-WERKE

Electrical Engineers

Date

March 17th 1913

COMPASSES.

Distance between dynamo or electric motors and standard compass *110'-0*

Distance between dynamo or electric motors and steering compass *100'-0*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>95</i>	<i>35</i>	<i>30</i>	
<i>25</i>	<i>15</i>	<i>8</i>	
<i>8</i>	<i>10</i>	<i>10</i>	

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 *none* degrees on *any* course in the case of the standard compass and *none* degrees on *any* course in the case of the steering compass.

JOH. C. TECKLENBORG A.-G.
Schiffswart und Maschinenfabrik

Builder's Signature. Date

GENERAL REMARKS.

This installation has been tried on a 6 hour trial trip and has been found to work well so that in my opinion the notation 'Electric light' might be added to the vessels class in the Register Book.

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

J. H. & A. M.

8/11/13

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



Lloyd's Register
Foundation