

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11509

Port of *Hamburg* Date of First Survey *3<sup>rd</sup> May* Date of Last Survey *11<sup>th</sup> June 10* No. of Visits *8*  
 No. in Reg. Book on the *Iron* Steel *L. S. "Rendsburg"* Port belonging to *Hamburg*  
 Built at *Flensburg* By whom *Thursb. Schiffbau-Ges.* When built *1910*  
 Owners *Deutsche-Mechan. Werke - Ges.* Owners' Address *Hamburg*  
 Yard No. *288* Electric Light Installation fitted by *Thursb. Schiffbau-Ges.* When fitted *1910*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*Compound Steam Engine coupled direct to Siemens-Schuckert Dynamo running at 380 revolutions per minute.*

Capacity of Dynamo *102* Amperes at *110* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Engine room* Whether single or double wire system is used *Double throughout*

Position of Main Switch Board *2<sup>nd</sup> 2<sup>nd</sup>* having switches to groups *A, B, & C* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *1 in Storing Engine Space with 6 switches, 1 in passage of Deckhouse with 9 switches, 1 under foremast with 3 switches and 1 in Chartroom with 5 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 vessel 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 *25* 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*

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *yes*

Total number of lights provided for *106* arranged in the following groups:— *except portable lights*

A *Eng. & St. Sp.* *24* lights each of *16* candle power requiring a total current of *12* Amperes

B *After Ship* *24* lights each of *16* candle power requiring a total current of *12* Amperes

C *Midd. & Fore* *52* lights each of *48 of 16 - 4 of 25* candle power requiring a total current of *22* Amperes

D *lights each of* *—* candle power requiring a total current of *—* Amperes

E *lights each of* *—* candle power requiring a total current of *—* Amperes

*2* Mast head light with *1* lamps each of *25* candle power requiring a total current of *1.5* Amperes

*2* Side light with *1* lamps each of *25* candle power requiring a total current of *1.5* Amperes

*5* Searchlights *1* " *5x6x16 = 480* candle power, whether incandescent or arc lights *both*

*2* Deck lights of *8* incandescents each. *Glas globes*

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

Where are the switches controlling the masthead and side lights placed *In Chartroom*

## DESCRIPTION OF CABLES.

Main cable carrying *102* Amperes, comprised of *7* wires, each *—* L.S.G. diameter, *84* square inches total sectional area

Branch cables carrying *25* Amperes, comprised of *1* wires, each *—* L.S.G. diameter, *16* square inches total sectional area

Branch cables carrying *12* Amperes, comprised of *1* wires, each *—* L.S.G. diameter, *6* square inches total sectional area

Leads to lamps carrying *4.5* Amperes, comprised of *1* wires, each *—* L.S.G. diameter, *1.5* square inches total sectional area

Cargo light cables carrying *24* Amperes, comprised of *19* wires, each *—* L.S.G. diameter, *1.8* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Main & Branch Cables: Copper braided, covered with India Rubber, coated with impregnated jute tape, lead covered, spun with jute band, double iron bound and spun with jute tape as before. Circuits and lamp leads: Tinned copper wire, coated with caulkhouse, and rubber, tape invarious.*

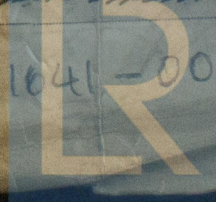
Joints in cables, how made, insulated, and protected *Soldered and coated with caulkhouse and tape for lamp circuits and leads, metallic cross joints in watertight boxes on incombustible base for main and branch cables.*

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 *Main and branch cables carried clear, except where exposed to heat and wear from iron pipes, when they are led in iron pipes. Searchlights and lamp leads are protected by wood batten.*

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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 *Iron painted, lead covered cables protected by iron pipes where exposed to heat.*

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

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

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

How are cables carried through beams *hard wood bunks* through bulkheads, &c. *varnished brass bunks*

How are cables carried through decks *Iron galvanized steel pipes, 12" high, filled with non-conducting lag or pitch.*

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

If so, how are they protected *yes*

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 *yes*

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

If in the spaces, how are they specially protected *yes*

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *yes*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *double wired throughout*

How are the returns from the lamps connected to the hull *yes*

Are all the joints with the hull in accessible positions *yes*

The installation is *yes* supplied with a voltmeter and *yes* an amperemeter, fixed *thin inside 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 *yes*

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 *50 Millions Siemens units* per *Kilometer* ~~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.

*The builders are the* Electrical Engineers Date *yes*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *94 ft.*

Distance between dynamo or electric motors and steering compass *87 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying *.6* Amperes *close to* feet from standard compass *close to* feet from steering compass

A cable carrying *.45* Amperes *yes* feet from standard compass *close to* feet from steering compass

A cable carrying *yes* Amperes *yes* feet from standard compass *yes* 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 *yes* course in the case of the

standard compass and *nil* degrees on *yes* course in the case of the steering compass.

*Flensburger Schiffbau-Gesellschaft*

Builder's Signature. Date *10<sup>th</sup> June 1910*

**GENERAL REMARKS.** *The Electric light installation on board of this vessel is in my opinion fitted according to the Lloyds' Rules and eligible to be recorded "Elec. light" in the Register Book.*

*It is submitted that the notation "Elec. light" be now recorded in the Register Book.*

*Mr. [Signature]*  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute