

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 692

Port of *Frieste* Date of First Survey *18 Jan 902* Date of Last Survey *8 April 02* No. of Visits *12*  
 No. in on the *Iron or Steel* *S. J. Bucovina* Port belonging to *Frieste*  
 eg. Book Built at *Frieste* By whom *Lloyd Arsenal* When built *1902-1*  
 Owners *Lloyd Austriaco* Owners' Address   
 Card No. *65* Electric Light Installation fitted by *Unione Elettricit  Foulchapp* When fitted *1902-1*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*One Dynamo compound wound, coupled direct to one compound Engine 8 1/4 x 13 1/8 R. 320000*

Capacity of Dynamo *225* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *in Engine Room, starting platform, Starboard side*

Position of Main Switch Board *near Dynamo* having switches to groups *A, B, C, D, E* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *3 switch boards placed on different parts of the ship, having altogether 9 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 *50* 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 *271* arranged in the following groups:—

A *30* lights each of *16* candle power requiring a total current of *15* Amperes

B *46* lights each of *16* candle power requiring a total current of *23* Amperes

C *120* lights each of *16* candle power requiring a total current of *60* Amperes

D *35* lights each of *16* candle power requiring a total current of *17.5* Amperes

E *36* lights each of *16* candle power requiring a total current of *18* Amperes

*2* Mast head light with *1* lamps each of *32* candle power requiring a total current of *2* Amperes

*2* Side light with *1* lamps each of *32* candle power requiring a total current of *2* Amperes

*4* Cargo lights of *5 Amp* requiring a total current of *20* candle power, whether incandescent or arc lights

If arc lights, what protection is provided against fire, sparks, &c. *by means of large glass globes and metal guards.*

Where are the switches controlling the masthead and side lights placed *15 feet*

## DESCRIPTION OF CABLES.

Main cable carrying *153.5* Amperes, comprised of *2137* wires, each *16* L.S.G. diameter, *.222* square inches total sectional area

Branch cables carrying *23* Amperes, comprised of *19* wires, each *18* L.S.G. diameter, *.038* square inches total sectional area

Branch cables carrying *60* Amperes, comprised of *37* wires, each *18* L.S.G. diameter, *.074* square inches total sectional area

Leads to lamps carrying *0.5* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *.0020* square inches total sectional area

Cargo light cables carrying *20* Amperes, comprised of *7* wires, each *17* L.S.G. diameter, *.0175* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Wires carried through metal & iron tubes where exposed to weather & through wood casing inside*

Joints in cables, how made, insulated, and protected *India rubber tape, India solution compound tape and varnished with india rubber solution*

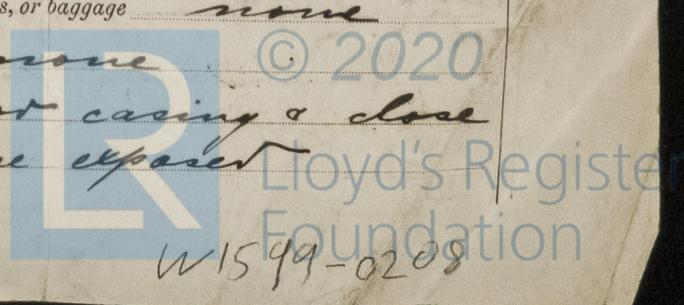
Are all the joints of cables thoroughly soldered, resin only having been used as a flux *yes* Are all joints in accessible positions, none being

made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage *none*

Are there any joints in or branches from the cable leading from dynamo to main switch board *none*

How are the cables led through the ship, and how protected *in heavy wood casing & close to the deck & through iron tubes where exposed*

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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 *in teak casing & through iron tubes*

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

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

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

How are cables carried through beams *teak ferrules* through bulkheads, &c. *glands*

How are cables carried through decks *glands & iron tubes*

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 *through iron tubes*

Are any lamps fitted in ~~coal bunkers~~ or spaces which may at times be used for cargo, ~~stores,~~ or baggage *yes*

If so, how are the lamp fittings and cable terminals specially protected *strong glass & metal guards*

Where are the main switches and cut outs for these lights fitted *in Engine room & on deck houses*

If in the spaces, how are they specially protected *none*

Are any switches or cut outs fitted in bunkers *none*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *by bolts on deck house*

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

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

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

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 installation is *also* supplied with a voltmeter and *one Volt & Amp* amperemeter, fixed *on the switchboard*

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 *600* 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.

*O. Stahl*

Electrical Engineers

Date *12 April 1902*

COMPASSES.

Distance between dynamo or electric motors and standard compass *43 feet*

Distance between dynamo or electric motors and steering compass *69 feet*

The nearest cables to the compasses are as follows:—

A cable carrying <i>28</i> Amperes	<i>18</i> feet from standard compass	<i>25</i> feet from steering compass
A cable carrying <i>6.8</i> Amperes	<i>9</i> feet from standard compass	<i>16</i> feet from steering compass
A cable carrying <i>2</i> Amperes	<i>—</i> feet from standard compass	<i>3</i> 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 *any* course in the case of the standard compass and *nil* degrees on *any* course in the case of the steering compass.

*Ernst J. Stöck*

Builder's Signature.

Date *9 April 1902*

GENERAL REMARKS.

*The complete electric lighting installation including dynamo has been supplied & fitted by the Union Electrician, Portland, Maine. The workmanship is of a good description & in accordance with the Rules & in my opinion worthy of the Committee's consideration.*

*R. D. ...*

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

Committee's Minute

*This installation appears to be fitted in accordance with the Rules*



*15/4/02*  
Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 11.