

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 692

Port of *Frieste* Date of First Survey *18 Jan 92* Date of Last Survey *8 April 02* No. of Visits *12*
 No. in on the ~~Iron or~~ Steel *S. S. 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 Elettrica Foulsham* When fitted *1902-1*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Dynamo compound mount, coupled direct to one compound Engine 8 1/4 x 13 1/8 R. 320 H.P.

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 1/2 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 *on the switchboard*

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*

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*

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

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.

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:—

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

Ernest J. Wolfe Builder's Signature. Date *8th April 1902*

GENERAL REMARKS.

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

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

Committee's Minute

This installation appears to be fitted in accordance with the Rules

