

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 13072

Port of HAMBURG Date of First Survey 21st Decr 12 Date of Last Survey 3rd Decr 12 No. of Visits 7
 No. in on the Iron or Steel S.S. "Australia" Port belonging to Hamburg
 Reg. Book 60 Supp. Built at Flensburg By whom Fleisbomgen Schiffs. Ges. When built 1912
 Owners Deutsch-Austral. Dampfschiff. Ges. Owners' Address Laeisglof Hamburg
 Yard No. 326 Electric Light Installation fitted by the Builders When fitted 1912

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Compound Steam Engines made by Mr. J. Frenishes Ostergod-Saarumbeck, coupled direct to two Siemens Schuckert Dynamos running at 300 rev. per min.

Capacity of Dynamo each 145 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

Position of Main Switch Board Engine Room 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 1 in Engine Room with 10 switches, 1 in Steam Steering Enginehouse with 11 switches, 1 in Salon gangway with 13 switches, 1 under Forecastle with 7 switches, 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 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 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 buses yes

Total number of lights provided for 251 arranged in the following groups:—

A	Eng. & Boiler space	43 lights each of	16	candle power requiring a total current of	20	Amperes
B	Midship Acc.	32 lights each of	16	candle power requiring a total current of	14	Amperes
C	" Fore "	48 lights each of	16	candle power requiring a total current of	22	Amperes
D	Forecastle	16 lights each of	16	candle power requiring a total current of	7	Amperes
E	Chartroom	5 lights each of 2 of 32, 2 of 25, 1 of 16		candle power requiring a total current of	4	Amperes
F	2 Mast head light, with 1 lamps each of	25		candle power requiring a total current of	2	Amperes
	26 Hand lamps 14 Bunk Dargo lights of 14x6=84+26=	16		candle power, whether incandescent or are lights	55	"
	2 " " " "			" " each 8		"

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

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

DESCRIPTION OF CABLES.

Main cable carrying	145 Amperes, comprised of	19 wires, each	L.S.G. diameter,	95	square inches total sectional area	.15	96
Branch cables carrying	42 Amperes, comprised of	19 wires, each	L.S.G. diameter,	35	square inches total sectional area	.019	12
Branch cables carrying	51 Amperes, comprised of	19 wires, each	L.S.G. diameter,	50	square inches total sectional area	.028	18
Leads to lamps carrying	.5 Amperes, comprised of	1 wires, each	L.S.G. diameter,	1.5	square inches total sectional area	.0009	.58
Cargo light cables carrying	8 Amperes, comprised of	7 wires, each	L.S.G. diameter,	16	square inches total sectional area	.0027	1.4

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main & Branch cables: Copper tinned, coated with Para Rubber, coated with impregnated jute tape, lead bound, spun with jute band, double iron bound and spun with jute and asphalted.

Circuit & Lamp leads: Copper tinned coated with cottonlinc & Rubber, spun with tape insulation.

Joints in cables, how made, insulated, and protected Soldered and covered with cottonlinc and tape for lamp circuits and leads, metallic screw joints in water tight boxes on incombustible bases 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 & Branch cables carried open except where they are exposed to heat and moisture, where they are protected by iron casings. Circuits and lamp leads are protected by wood. battens.

Handwritten notes:
 Elec. Standard
 2" m/m
 .15 96
 .019 12
 .028 18
 .0009 .58
 .0027 1.4



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 bound leads covered cables, protected by iron casings where exposed to heat and moisture.*

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

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

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

How are cables carried through beams *hard wood bushes* through bulkheads, &c. *screwed brass bushes*

How are cables carried through decks *Iron galvanized stand pipes 10" high fitted with non-conducting as-phalt.*

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 *—*

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 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 *yes* supplied with a voltmeter and *yes* an amperemeter, fixed *Main Switchboard*

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 *50* ^{Kilometers} ~~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 *Flensburger Schiffsbau-Gesellschaft* Electrical Engineers Date *—*

COMPASSES.

Distance between dynamo or electric motors and standard compass *150 ft.*

Distance between dynamo or electric motors and steering compass *140 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying <i>.5</i> Amperes <i>close to</i> feet from standard compass <i>close to</i> feet from steering compass
A cable carrying <i>—</i> Amperes <i>—</i> feet from standard compass <i>—</i> feet from steering compass
A cable carrying <i>—</i> Amperes <i>—</i> feet from standard compass <i>—</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 *imperceptible* degrees on *—* course in the case of the standard compass and *imperceptible* degrees on *—* course in the case of the steering compass.

Flensburger Schiffsbau-Gesellschaft

Builder's Signature. Date *—*

GENERAL REMARKS.

The Elec. Light installation on board of this vessel is in my opinion fitted in accordance with the Society's Rules and eligible to be recorded "Elec. Light" in the Society's Register Book.

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

J.W.D. Surveyor to Lloyd's Register of British and Foreign Shipping. *J. Köhler*

Committee's Minute FRI. DEC. 13. 1912

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.