

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11848

Port of Antwerp Date of First Survey 18-10-21 Date of Last Survey 6-1-22 No. of Visits eight
 No. in on the Iron or Steel Twin S.S. Elisabethville Port belonging to Antwerp
 Reg. Book 14849 Built at Hoboken By whom M^r John Cockerill When built 1921
 Owners C^{ie} Belge Maritime du Congo Owners' Address 67. Rempart St. Catherine, Antwerp
 Yard No. 562 Electric Light Installation fitted by Chantier Naval John Cockerill When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

3 Sets of dynamo engines composed each of 1 compound wound dynamo coupled to a 2 crank compound steam engine

Capacity of Dynamo 300 Amp. each Amperes at 100 Volts, ~~whether continuous or alternating~~ current

Where ^{are} ~~is~~ Dynamos fixed down in engine room Whether single or double wire system is used

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

Positions of auxiliary switch boards and numbers of switches on each 36 switchboards (total) having from 3 to 9 switches each and situated inside corridors and passages or engine room

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 85 per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 886 arranged in the following groups:— including 245 on emergency circuit (see separate sheet)

A	51	lights each of	30 (metal)	candle power requiring a total current of	15	Amperes
A'	67	lights each of	"	"	20	Amperes
B	84	lights each of	"	"	25	Amperes
B'	43	lights each of (Emergency)	"	"	13	Amperes
C	245	lights each of	"	"	74	Amperes
C'	132	lights each of	"	"	40	Amperes
D	70	lights each of	"	"	21	Amperes
D'	105	lights each of	"	"	32	Amperes
E	57	lights each of	"	"	17	Amperes
E'	32 of 25c.p. & 2,500 W.	lights each of	"	"	34	Amperes
Group C	2	Mast head light with 1 lamps each of	32 (carbon)	candle power requiring a total current of	1	Amperes
Group B	2	Side light with 1 lamps each of	32 (carbon)	candle power requiring a total current of	1	Amperes
Group B		Cargo lights of	8 x 25 = 200	candle power, whether incandescent or arc lights		carbon filament

If arc lights, what protection is provided against fire, sparks, &c. no arc lights

Where are the switches controlling the masthead and side lights placed in wheelhouse

DESCRIPTION OF CABLES.

Main cable carrying	300 Amperes, comprised of	37 wires, each	12 S.W.G. diameter,	.3221 square inches total sectional area
" " emergency	74	19	14	.0976
Branch cables carrying	13 & 17 Amperes, comprised of	7 wires, each	16 S.W.G. diameter,	.0229 square inches total sectional area
Branch cables carrying	20 & 34 Amperes, comprised of	19 wires, each	18 S.W.G. diameter,	.0351 square inches total sectional area
Leads to lamps carrying	40 & 30 Amperes, comprised of	19 wires, each	16 S.W.G. diameter,	.0624 square inches total sectional area
Cargo light cables carrying	6 Amperes, comprised of	3 wires, each	21 S.W.G. diameter,	.0025 square inches total sectional area
		7 wires, each	20 S.W.G. diameter,	.0072 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables of high conductivity - Twisted copper wires insulated with one coat pure india rubber, and 2 coats of vulc. india rubber, taped braided and comp^d throughout accomodation & living rooms - whilst for mesh spaces, after being taped, the strand is lead covered, double taped, compounded, armoured with single layer of galvanized steel wires, braided & compounded overall - Joints in cables, how made, insulated, and protected Soldered & insulated with rubber & insulating tape.

Are all the joints of cables thoroughly soldered, and the ^{resin} ~~flux~~ used not containing acids or other corrosive substances 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 In wooden cases when inside accomodations - & lead covered & armoured when in engine & boiler rooms & outside decks.



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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 *lead covered and armoured as described above*

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

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

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

How are cables carried through beams *fibre bushes* through bulkheads, &c. *W. T. glands*

How are cables carried through decks *W. T. deck tubes*

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, except baggage*

If so, how are they protected *wooden cases in baggage rooms*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *no, except baggage*

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

Where are the main switches and fuses for these lights fitted *in corridors*

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

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *screwed plugs*

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 } *double wire system*

Are all the joints with the hull in accessible positions

Is the installation supplied with a voltmeter *yes*, and with an amperemeter *yes (3)*, fixed main switchboard

VESSELS BUILT FOR CARRYING PETROLEUM.

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

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *110 feet*

Distance between dynamo or electric motors and steering compass *110 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>25</i>	Amperes	<i>in the</i> feet from standard compass <i>self.</i> — <i>dito</i> feet from steering compass
A cable carrying	<i>4</i>	Amperes	<i>8</i> feet from standard compass <i>7</i> feet from steering compass
A cable carrying	<i>25</i>	Amperes	<i>3</i> feet from standard compass <i>5</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 *one* degrees on *all* courses in the case of the standard compass and *one* degrees on *all* courses in the case of the steering compass.



Builder's Signature. Date *10-11-1921*

GENERAL REMARKS. *This installation has been fitted, and tried under my supervision, the materials and workmanship are good, and eligible in my opinion to be recorded "Electric light" and "Wireless" in the Register's Book (see also sheet N:2.)*

See. Trans. 2551 (applied for 12/1/22.)
paid 31/1/22/ll

J. L. Rabaez
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 7 FEB. 1922

