

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6242.

Port of Copenhagen Date of First Survey 12th Sept. Date of Last Survey 12th Novr. No. of Visits 19.
 No. in Reg. Book 38043. on the ~~Iron or~~ Steel Twin Screw Motor Vessel "Kedoe" Port belonging to Copenhagen
 Built at Copenhagen By whom Akt. Burmeister & Wain's Maskin- & Støbtø. When built 1921.
 Owners Rotterdamsche Lloyd (Wm. Ruys & Zonen) Owners' Address Rotterdam
 Yard No. 317 Electric Light Installation fitted by Akt. Burmeister & Wain's Maskin- & Støbtø. When fitted 1921.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One compound wound dynamo driven by a shunt wound motor taking current from one of the three compound wound dynamos, - each driven by an auxiliary Diesel oil engine.

Capacity of Dynamo 150 Amperes at 110 Volts, whether continuous or alternating current Continuous.

Where is Dynamo fixed In the engine room Whether single or double wire system is used Double wire system.

Position of Main Switch Board In the engine room. having switches to groups 7 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 2 switch boards in the engine room each having 10 switches. One do in the chart room having 3 switches. - One switch board in the crew space forward, - one do. in the pantry to saloon, - 2 do. in the alleyways to the officers' accommodations, - and one do. in the stores room aft each having no switches. -

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 100 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 Edison tools used.

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

Total number of lights provided for 157 arranged in the following groups:—

A	18	lights each of	16	candle power requiring a total current of	9	Amperes	
B	12	lights each of	16-32	candle power requiring a total current of	8	Amperes	
C	39	lights each of	16-25	candle power requiring a total current of	18	Amperes	
D	32	lights each of	16-25	candle power requiring a total current of	16	Amperes	
E	16	lights each of	16	candle power requiring a total current of	8	Amperes	
	42	" " "	16-100	" " " " " "	29	" "	
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

10 Cargo lights of 100 candle power, whether incandescent or are lights incandescent.

5 Cargo lights of 6 amperes are lamps.

If arc lights, what protection is provided against fire, sparks, &c. The arcs are entirely enclosed with glass globes and the lamps provided with wire guarded lanterns.

Where are the switches controlling the masthead and side lights placed In the chartroom.

DESCRIPTION OF CABLES.

Main cable carrying	150	Amperes, comprised of	19	wires, each	2.52	m/m S.W.G. diameter,	95	square inches total sectional area
Branch cables carrying	29	Amperes, comprised of	7	wires, each	1.35	m/m S.W.G. diameter,	10	square inches total sectional area
Branch cables carrying	18	Amperes, comprised of	7	wires, each	1.05	m/m S.W.G. diameter,	6	square inches total sectional area
Branch " "	8	Amperes, " "	7	wires, each	0.85	m/m S.W.G. diameter,	4	square inches total sectional area
Leads to lamps carrying	6	Amperes, comprised of	one	wire, each	1.38	m/m S.W.G. diameter,	1.5	square inches total sectional area
Cargo light cables carrying	6	Amperes, comprised of	flexible	wires, each	✓	m/m S.W.G. diameter,	1.5	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

I The copper wires are tinned and insulated with pure and vulcanized india rubber, then taped and lead covered.

II The copper wires are tinned and insulated with pure and vulcanized india rubber, taped and lead covered, then taped and armoured with galvanized wire, or armoured with two layers of steel tape according to the Rule requirement.

Joints in cables, how made, insulated, and protected In watertight junction boxes with screwed connections and covers. -

Are all the joints of cables thoroughly soldered, and the 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 In cargo spaces and in spaces used for carrying stores or baggage made in watertight junction boxes with screwed connections and covers.

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 Secured by screwed clips, cables armoured and where necessary protected by iron tubes or casings.

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 *The cables are wire or steel tape armoured and where necessary protected by iron tubes or casings.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Wire or steel tape armoured cables used.*

What special protection has been provided for the cables near boiler casings *No boiler casing.*

What special protection has been provided for the cables in engine room *Wire or steel tape armoured cables used.*

How are cables carried through beams *The cables are wire or steel tape armoured through bulkheads, &c. If watertight, screwed glands used.*

How are cables carried through decks *Through iron tubes.*

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

If so, how are they protected *Wire or steel tape armoured cables used, and where necessary protected by iron casings or tubes.*

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

If so, how are the lamp fittings and cable terminals specially protected *Lamps wire guarded, cable terminals protected by screwed metal caps.*

Where are the main switches and fuses for these lights fitted *Switches fitted where not exposed to damage, - the fuses are fitted outside the spaces.*

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

Are any switches or fuses fitted in bunkers *No bunkers.*

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 *Double wire system used.*

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

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

Is the installation supplied with a voltmeter *yes*, and with an amperemeter *yes*, fixed *On main switch board.*

VESSELS BUILT FOR CARRYING PETROLEUM.

The vessel is fitted for liquid fuel.

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

Are any switches, fuses, or joints of cables fitted in the pump room or companion *No special pump room.*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *In the engine room protected by glass globes.*

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.

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 52 feet.*

Distance between dynamo or electric motors and steering compass *~ 40 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>6</i>	Ampères	<i>6</i>	feet from standard compass	<i>12</i>	feet from steering compass
A cable carrying	<i>0.5</i>	Ampères	<i>to lamp in the</i>	<i>feet from standard compass</i>	<i>and to lamp in the</i>	<i>feet from steering compass</i>
A cable carrying	<i>✓</i>	Ampères	<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 *none* degrees on *all* course in the case of the standard compass and *none* degrees on *all* course in the case of the steering compass.

GENERAL REMARKS.

The whole electric lighting installation as above described, - and the electric power installation are fitted in accordance with the Rules, - the approved plan and the requirements contained in London Letter E dated 14th March 1916. The workmanship and the material used are of good description in every respect, - the whole installation has been tested under working condition and found satisfactory. -

Recommend the Vessel to have notation of "Electric Light" in the Register Book. -

It is submitted that this vessel is eligible for Elec. Light &c. *A. J. Johnson, W. J. H. J. H.*
(The fee is charged on the Mach. Report). *30/11/21.* Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. JAN. 27 1922

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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