

Merak

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1124

Port of *Rotterdam* Date of First Survey *29-3-20* Date of Last Survey *15-5-20* No. of Visits *4*
 on the Iron or Steel *S/S "Merak"* Port belonging to *Rotterdam*
 Built at *Bolnes* By whom *A. V. Hoek's Scheepswerf* When built *1920*
 Owners' Address *Rotterdam*
 No. *116* Electric Light Installation fitted by *W. A. Hoos & Co* When fitted *1920*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Steamdynamo, Sunderland

Capacity of Dynamo *65* Amperes at *110* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *Top Engineer room* Whether single or double wire system is used *double wire*
 Position of Main Switch Board *Top Engineer room* having switches to groups *7* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *Foreship, Chart room, Saloon*
Messroom, Officers, Engineer room and After ship
 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*
 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 there 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 *165* arranged in the following groups :-

Location	Lights	Candle power	Amperes
<i>Foreship</i>	lights each of <i>13 of 32</i>	candle power requiring a total current of <i>5</i>	<i>5</i> Amperes
<i>Chart room</i>	lights each of <i>11 of 32, 5 of 50</i>	candle power requiring a total current of <i>7</i>	<i>7</i> Amperes
<i>Saloon</i>	lights each of <i>37 of 32</i>	candle power requiring a total current of <i>12</i>	<i>12</i> Amperes
<i>Messroom, Officers</i>	lights each of <i>30 of 32</i>	candle power requiring a total current of <i>12</i>	<i>12</i> Amperes
<i>Engineer room</i>	lights each of <i>4 of 200, 26 of 32</i>	candle power requiring a total current of <i>17</i>	<i>17</i> Amperes
<i>After ship</i>	lights each of <i>21 of 32</i>	candle power requiring a total current of <i>7</i>	<i>7</i> Amperes
Mast head light with <i>1</i> lamps each of <i>32</i>		candle power requiring a total current of <i>2</i>	<i>2</i> Amperes
Side light with <i>1</i> lamps each of <i>32</i>		candle power requiring a total current of <i>2</i>	<i>2</i> Amperes
Cargo lights of <i>5</i> lamps of <i>32</i>		candle power, whether incandescent or gas lights	

Where are the switches controlling the masthead and side lights placed *in Chart room*

DESCRIPTION OF CABLES.

Cable carrying	Amperes	Wires	S.W.G. diameter	Square inches total sectional area
<i>65</i>	<i>65</i>	<i>7</i>	<i>14</i>	<i>0.035</i>
<i>20</i>	<i>20</i>	<i>7</i>	<i>17</i>	<i>0.017</i>
<i>16</i>	<i>16</i>	<i>7</i>	<i>18</i>	<i>0.0125</i>
<i>1</i>	<i>1</i>	<i>1</i>	<i>16</i>	<i>0.00322</i>
<i>48</i>	<i>48</i>	<i>48</i>		

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized India rubber Insulation

Are all joints in cables, how made, insulated, and protected *eto joints*
 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 *Yes*
 Are there any joints in or branches from the cable leading from dynamo to main switch board *None*
 Are the cables led through the ship, and how protected *by galvanized iron tubes*

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

Scrub galvanized tubes

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

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

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

How are cables carried through beams *in iron tubes* through bulkheads, &c.

How are cables carried through decks *in 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 *iron tubes*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *None*

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

Where are the main switches and fuses for these lights fitted

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 *water-tight*

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

Is the installation supplied with a voltmeter *one Voltmeter* and with an amperemeter *one Amperemeter*, fixed on 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.

ELECTROTECHNICAL BUREAU
W. H. ROSS & Co.

H. J. P. O'Keefe Electrical Engineers

Date *Mar 18th 1920*

COMPASSES.

Distance between dynamo or electric motors and standard compass *88 feet*

Distance between dynamo or electric motors and steering compass *102*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>12</i>	<i>11</i>	<i>16</i>	
<i>7</i>	<i>6</i>	<i>9</i>	
<i>1</i>	<i>3</i>	<i>7</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 *skihil* degrees on course in the case of the standard compass and degrees on course in the case of the steering compass.

N. V. Boesjes Scheepswerven
en Machinefabriek

H. J. P. O'Keefe Builder's Signature. Date

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules and was found in a good working condition when tried and I am of opinion that same merits the Committee's approval

this vessel is eligible for
THE RECORD. ELEC: LIGHT

16/6/20 J.M.

G. E. O'Keefe
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE JUN 29 1920

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.