

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4888.

Port of Amsterdam Date of First Survey 6 March Date of Last Survey 22 July 1911 No. of Visits 14
 No. in on the Iron on Steel Twin Screw S.S. Varingin du Nederland Port belonging to Amsterdam
 Reg. Book 673 Built at Amsterdam By whom Ned Scheepbouw Maats When built 1911
 Owners Stoom Maats Nederland Owners' Address Amsterdam
 Yard No. 100 Electric Light Installation fitted by Groeneveld & Co. Poll & Co. When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two turbo-dynamos and One dynamo direct coupled up with vertical steam engine

Capacity of Dynamo 2 x 450 ✓ Amperes at 115 ✓ Volts, whether continuous or alternating current Continuous ✓
1 x 350

Where is Dynamo fixed in Engine room ✓ Whether single or double wire system is used double ✓

Position of Main Switch Board in Engine room ✓ having switches to groups 20 lights, motors, ventilators lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 11 panel boards fitted in corridors and 56 distribution boxes (main types) ✓

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 No ✓

Are the cut outs of non-oxidizable metal Yes ✓ and constructed to fuse at an excess of 100 ✓ 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 1223 + 30 arc lamps arranged in the following groups:—

A	<u>215</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>100</u>	Amperes
B	<u>603</u> ^{metallic filament}	lights each of	<u>16</u>	candle power requiring a total current of	<u>150</u>	Amperes
C	<u>285</u>	lights each of	<u>25</u>	candle power requiring a total current of	<u>150</u>	Amperes
D	<u>6</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>6</u>	Amperes
E	<u>3 arc lamps</u>	lights each of	<u>1200</u>	candle power requiring a total current of	<u>65</u>	Amperes
	<u>two</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2</u> Amperes
	<u>two</u>	Side light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2</u> Amperes
	<u>22</u>	Cargo lights of <u>5</u> & <u>16</u> each		candle power, whether incandescent or arc lights	<u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. 3 Arc lights of which two in globe glasses with nothing and one ditto for search light ✓

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

DESCRIPTION OF CABLES.

Main cable carrying <u>3</u> & <u>350</u> Amperes, comprised of <u>37</u> wires, each	L.S.G. diameter, <u>140</u> ²⁰¹ / ₆₄ square inches total sectional area	<u>325</u> ²⁰¹ / ₆₄ square inches
Branch cables carrying <u>50</u> Amperes, comprised of <u>19</u> wires, each	L.S.G. diameter, <u>35</u> ²⁰¹ / ₆₄ square inches total sectional area	<u>32</u>
Branch cables carrying <u>55</u> Amperes, comprised of <u>19</u> wires, each	L.S.G. diameter, <u>25</u> ²⁰¹ / ₆₄ square inches total sectional area	<u>325</u>
Leads to lamps carrying <u>1/2</u> Amperes, comprised of <u>1</u> wires, each	L.S.G. diameter, <u>1 1/2</u> ²⁰¹ / ₆₄ square inches total sectional area	<u>32</u>
Cargo light cables carrying <u>2 1/2</u> Amperes, comprised of <u>37</u> wires, each	L.S.G. diameter, <u>4 1/2</u> ²⁰¹ / ₆₄ square inches total sectional area	<u>1.6</u>

DESCRIPTION OF INSULATION, PROTECTION, ETC.

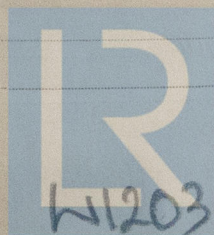
Main cables, tinned copper, pure para. 2 coats of vulcanized rubber, India Rubber Coated tape, the whole vulcanized together, double lead covered, impregnated paper, armoured by two steel tapes with final sewing of jute yarn, well compounded. Branch cables ditto armoured by braided cotton, impregnated with rubber compound.

Joints in cables, how made, insulated, and protected None ✓

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 trunk boxes and tubing ✓



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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 *galvanized iron tubing*
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *galvanized tubing*
 What special protection has been provided for the cables near boiler casings *tubing*
 What special protection has been provided for the cables in engine room *tubing*
 How are cables carried through beams *wood linings* through bulkheads, &c. *screwed brass nipples*
 How are cables carried through decks *galvanized tubing*
 Are any cables run through coal bunkers *No* or cargo spaces *No* or spaces which may be used for carrying ~~cargo~~ stores, or baggage *Cooling room*
 If so, how are they protected *Steel tubing*
 Are any lamps fitted in ~~coal bunkers or~~ spaces which may at times be used for ~~cargo, scale, or~~ baggage *Stores or Cooling rooms, Yes*
 If so, how are the lamp fittings and cable terminals specially protected *in glass covers screwed watertight*
 Where are the main switches and cut outs for these lights fitted *in iron boxes in 1/2" decks*
 If in the spaces, how are they specially protected
 Are any switches or cut outs fitted in bunkers *None*
 Cargo light cables, whether portable or permanently fixed *portable* How fixed *plug sockets*
 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 *permanently* supplied with *2* voltmeters and *three* amperemeters fixed *on 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 *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.

prodr. Groeneveld, Van der Poll & Co

C. Bijmeling

Electrical Engineers

Date *25 July 1911*

COMPASSES.

Distance between dynamo or electric motors and standard compass *162 ft and from motor 72 ft*

Distance between dynamo or electric motors and steering compass *150 ft " " 60 ft*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>10</i>	Amperes	<i>24</i>	feet from standard compass	<i>18</i>	feet from steering compass
A cable carrying	<i>12</i>	Amperes	<i>36</i>	feet from standard compass	<i>30</i>	feet from steering compass
A cable carrying	<i>1/2</i>	Amperes		feet from standard compass	<i>14</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 *Nihil* degrees on *—* course in the case of the standard compass and *—* degrees on *—* course in the case of the steering compass.

NEDERLANDSCHE SCHIPBOUW-MAATSCHAPPIJ

D. O. O. O. O.

Builder's Signature. Date *25 July 1911*

GENERAL REMARKS. *This electric light installation has been fitted in an efficient manner. Engine & dynamo working during 24 hours satisfactory. It is submitted that this vessel is eligible for THE RECORD Elec. light.*

J. W. D. 21/7/11

J. H. H. H.

F. W. B. B.

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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