

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 72986

Port of Newcastle on Tyne Date of First Survey 2/3/20 Date of Last Survey 24/3/20 No. of Visits 3  
 No. in on the Iron Steel Camilla Gilbert Port belonging to Bergen  
 Reg. Book 31930 Built at Howden By whom Northumbrian Ship Co. When built 1920  
 Owners Gilbert Dampskibs A/S. Owners' Address \_\_\_\_\_  
 Yard No. 278 Electric Light Installation fitted by Campbell Isherwood & Co When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo four pole compound wound, coupled direct to a Robey engine

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed engine room starboard side Whether single or double wire system is used double

Position of Main Switch Board engine room, off bulkhead side having switches to groups 6 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Wheelhouse 2-3 way O.B. for navigation circuits 1-3 way O.B. for compasses. Engine room 2-8 way dis boxes + 2-3 way section boxes, saloon passage 1-8 way O.B. 1-6 way off passage crew quarters.

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 yes

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

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

A Engine Room 33 lights each of 20 watt M.F. candle power requiring a total current of 15.6 Amperes

B Accommodation 89 lights each of 20 watt M.F. candle power requiring a total current of 44.5 Amperes

C Cargo 35 lights each of 5-6 light, 5-1/2 watt lamps candle power requiring a total current of 21.0 Amperes

D Navigation 6 lights each of 32 candle power requiring a total current of 7.2 Amperes

E Compass & Telegraph 5 lights each of 16 candle power requiring a total current of 3.0 Amperes

F Watches 2 Mast head light with 2 lamps each of 32 candle power requiring a total current of 2.4 Amperes

2 Side light with 2 lamps each of 32 candle power requiring a total current of 2.4 Amperes

5-1/2 watt + 5-6 light Cargo lights of 5-200 c.p., 30-20 watt candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. \_\_\_\_\_

Where are the switches controlling the masthead and side lights placed in chart house

## DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each .083 S.W.G. diameter, .1000 square inches total sectional area

Branch cables carrying 15.6 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .007 square inches total sectional area

Branch cables carrying 44.5 Amperes, comprised of 7 wires, each .064 S.W.G. diameter, .0225 square inches total sectional area

Leads to lamps carrying 2.4 Amperes, comprised of 1 wires, each .044 S.W.G. diameter, .0015 square inches total sectional area

Cargo light cables carrying 17.6 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .007 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main cables are lead covered armoured & braided cables. Cabins, saloon and crew quarters lead covered & taped over V.I.R.

Joints in cables, how made, insulated, and protected none made.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances \_\_\_\_\_ 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 \_\_\_\_\_

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 lead covered armoured & braided clipped close to underside of deck secured by strong iron clips.



**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 armoured + braided, sheet iron casings where necessary.

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

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

What special protection has been provided for the cables in engine room lead covered armoured.

How are cables carried through beams bushed holes fibre through bulkheads, &c. waterlight glands where necessary.

How are cables carried through decks steel deckpipes secured by flange with nut + washers on underside

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected sheet iron casing

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 fuses for these lights fitted

If in the spaces, how are they specially protected

Are any switches or fuses fitted in bunkers

Cargo light cables, whether portable or permanently fixed portable. How fixed Cast iron watertight boxes.

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 yes, and with an amperemeter yes, fixed on 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 1000 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.

CAMPBELL & ISHERWOOD, LTD.

Electrical Engineers

Date 12th April 1920

**COMPASSES.**

Distance between dynamo ~~on electric motors~~ and standard compass 92 feet (about)

Distance between dynamo ~~on electric motors~~ and steering compass 88 feet (about)

The nearest cables to the compasses are as follows:—

A cable carrying	6	Amperes	on the	feet from standard compass	4' 6"	feet from steering compass
A cable carrying	6	Amperes	4' 6"	feet from standard compass	on the	feet from steering compass
A cable carrying		Amperes		feet from standard compass		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 nil degrees on all course<sup>s</sup> in the case of the standard compass and nil degrees on all course<sup>s</sup> in the case of the steering compass.

FOR THE NORTHUMBERLAND SHIPBUILDING COMPANY, LIMITED.

Builder's Signature.

Date 19/4/20

**GENERAL REMARKS.**

The above installation is in accordance with the Society's Rules. It has been tested & found satisfactory

It is submitted that this vessel is eligible for

**THE RECORD.** ELEC. LIGHT. 6/5/20

W.T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.