

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10882

Port of MIDDLESBRO Date of First Survey Aug Date of Last Survey whilst building No. of Visits 1  
 No. in on the Iron Steel As "Citta di Messina" Port belonging to Naples  
 Reg. Book 49054 (Sep) Built at Avanton Hill - on - Yess By whom Hurness Shipbuilding Co. Ltd. When built 1920  
 Owners Paice Bros. Owners' Address Naples  
 Yard No. 2 Electric Light Installation fitted by Hurness Shipbuilding Co. Ltd. When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Open type dynamo, with interpoles, Sunderland Forge No. 26644  
do engine, with steam trap separator, do do No. 26544.  
 Capacity of Dynamo 85 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Starboard side of main engine room Whether single or double wire system is used double  
 Position of Main Switch Board near dynamo in main engine room, having switches to groups A, B, C, D, & E of lights, &c., as below  
 Positions of auxiliary fuse boards and numbers of switches on each A. Chart House, B. Saloon, C. Crew space aft, D. Engine room, E. Engine room entrance (B.I. Engine room entrance)

If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary fuse 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 50 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 150 arranged in the following groups:—

A Navigation	5 lights each of	32	candle power requiring a total current of	6.5	Amperes
B Accommodation	62 lights each of	30 watt M.E.	candle power requiring a total current of	15	Amperes
C Crew aft	33 lights each of	16	candle power requiring a total current of	12.8	Amperes
D Engine Room	(16 lights each of)	(20 watt M.E.)	candle power requiring a total current of	13.6	Amperes
E Chart House	24 lights each of	16	candle power requiring a total current of	15	Amperes
2 Mast head light with	1 lamps each of	32	candle power requiring a total current of	2.4	Amperes
2 Side light with	1 lamps each of	32	candle power requiring a total current of	2.4	Amperes
5 Cargo lights of		80	candle power, whether incandescent or arc lights	incandescent	

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

Where are the switches controlling the masthead and side lights placed Chart House

## DESCRIPTION OF CABLES.

Main cable carrying 85 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area  
 Branch cables carrying 19.8 Amperes, comprised of 19 wires, each .052 S.W.G. diameter, .058 square inches total sectional area  
 Branch cables carrying 13.6 Amperes, comprised of 7 wires, each .064 S.W.G. diameter, .025 square inches total sectional area  
 Leads to lamps carrying 2.4 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area  
 Cargo light cables carrying 3.6 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .007 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered cables in all cabins, accommodation etc.  
Armoured & braided cables in tween decks, engine room & all exposed places.

Joints in cables, how made, insulated, and protected Porcelain extensions, covered by cast iron boxes where exposed to damage

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Solder not used, joints being mechanical. 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 Through beams in tween decks, clipped to underside of deck, protected by being armoured & braided.



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**DESCRIPTION OF INSULATION, PROTECTION, ETC.** continued.

Are they in places always accessible *Yes, except when tween decks are full of cargo.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Armoured cable used in some cases, & iron pipe in others, such as deck lights, etc.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *none*

What special protection has been provided for the cables near boiler casings *armoured cable used*

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

How are cables carried through beams *lead bushes for lead covered cables* through bulkheads, &c. *W. T. Admiralty patt. glands.*

How are cables carried through decks *iron deck pipes*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *yes - tween decks*

If so, how are they protected *armoured & braided cable used*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *yes. Forecastle*

If so, how are the lamp fittings and cable terminals specially protected *cast iron covers hinged on fittings*

Where are the main switches and fuses for these lights fitted *fuses box in saloon pantry.*

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 *—*

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 *Surfboard*

**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, *—*

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.

*P. S. Glover.*

Electrical Engineer

Date *30<sup>th</sup> Nov 1920*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass

*150 ft approx.*

Distance between dynamo or electric motors and steering compass

*150 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	inside	feet from standard compass	feet from steering compass
<i>3</i>			<i>3</i>	
<i>6.5</i>		<i>15</i>	<i>10</i>	
<i>—</i>		<i>—</i>	<i>—</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

*nil*

degrees on

*all*

course in the case of the

standard compass and

*nil*

degrees on

*all.*

course in the case of the steering compass.

FOR FURNESS SHIPBUILDING CO. LIMITED,

*Wm Quarrie*

Builder's Signature.

Date

*30<sup>th</sup> Nov. 1920*

**GENERAL REMARKS.**

Secretary.

*This installation has been efficiently fitted on board and tried under working conditions and found satisfactory.*

*Wm Coates*

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

Committee's Minute *TUE. DEC. 14 1920*



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