

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8027.

Port of GENOA Date of First Survey 21. 4. 21 Date of Last Survey 29. 6. 21 No. of Visits 8.
 No. in Reg. Book 69366 on the ~~Iron~~ Steel motor vessel "PRIMULA" Port belonging to SAVONA.
 Built at Savona. By whom Highlandi When built 1921.
 Owners Edoardo Mazza. Owners' Address Via Quanda Superiore 18, Savona.
 Yard No. 1. Electric Light Installation fitted by Highlandi & Compagnie When fitted 1921.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo: Compound cont. current 4 polesEngine Direct coupled single cylinder petrol motorCapacity of Dynamo 54 Amperes at 110 Volts, whether continuous or alternating current continuousWhere is Dynamo fixed Engine Room Star. Side Whether single or double wire system is used doublePosition of Main Switch Board do. adjacent dynamo having switches to groups 4 of lights, &c., as belowPositions of auxiliary switch boards and numbers of switches on each Engine Room Group in E.R. = 4 switches; Cabin group in Engine Hatch = 4 switches; Saloon group in Saloon = 3 switches; Navigation light in Chart room = 6 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 To each 3 lampIf 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 YesAre the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal currentAre 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 YesAre all switches and fuses constructed of incombustible materials and fitted on incombustible bases YesTotal number of lights provided for 151 arranged in the following groups:—

A Engine Room	28 lights each of	50	candle power requiring a total current of	7	Amperes
B Accommodation	61 lights each of	25	candle power requiring a total current of	7	Amperes
C Navigation	12 lights each of	25	candle power requiring a total current of	8	Amperes
D Marconi	lights each of		candle power requiring a total current of	6.6	Amperes
E Cargo Lights	40 lights each of	$\frac{1}{2}$ watt	candle power requiring a total current of	21	Amperes
2 Mast head lights with	2 lamps each of	25	candle power requiring a total current of	2	Amperes
2 Side lights with	2 lamps each of	25	candle power requiring a total current of	1	Amperes

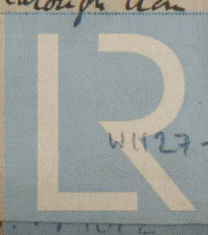
10 Cargo lights comprising 8 groups of 5 at 16 CP candle power, whether incandescent or arc lights incandescentIf arc lights, what protection is provided against fire, sparks, &c. YesWhere are the switches controlling the masthead and side lights placed Chart Room

DESCRIPTION OF CABLES.

Main cable carrying	54 Amperes, comprised of	48 wires, each	.87 S.W.G. diameter,	24	sq. inches total sectional area
Branch cables carrying	15 Amperes, comprised of	19 wires, each	.55 S.W.G. diameter,	4.48	sq. inches total sectional area
Branch cables carrying	8 Amperes, comprised of	2 wires, each	1.1 S.W.G. diameter,	1.96	sq. inches total sectional area
Leads to lamps carrying	2 Amperes, comprised of	1 wires, each	1.6 S.W.G. diameter,	2.08	sq. inches total sectional area
Cargo light cables carrying	21 Amperes, comprised of	7 wires, each	1.1 S.W.G. diameter,	6.75	sq. inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All main and secondary wiring: Rubber tape, tar, lead, oiled paper, tar and armoured. Leads to lamps: Rubber, tape and lead covered.

Joints in cables, how made, insulated, and protected In water tight boxes.Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances soldered 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 YesAre there any joints in or branches from the cable leading from dynamo to main switch board NoHow are the cables led through the ship, and how protected Under bulwark rail - all armoured (see above).
 Branches to cargo lights lead from boxes under rail under deck and up through air tubes to position as usual.

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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 *all armoured and heavily insulated & lead covered.*

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

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 *do.*

How are cables carried through beams *not carried through beams through bulkheads, &c. water tight gland.*

How are cables carried through decks *iron tubes*

Are any cables run through coal bunkers *no* or cargo spaces *20 ft lead for cargo light only.* or spaces which may be used for carrying cargo, stores, or baggage *no.*

If so, how are they protected *armoured & wood cased.*

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 *no.*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *Plugs in mast & deck end*

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 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 *dynamo - distant - Mareconi accumulators - 30'*

Distance between dynamo or electric motors and steering compass *do - 24'*

The nearest cables to the compasses are as follows:—

Cable	Amperes	feet from standard compass	feet from steering compass
<i>Twin</i> cable carrying	2	8	4
<i>Mareconi</i> cable carrying	6.6	12	6
A cable carrying			

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 *All* degrees on *each* course in the case of standard compass and *2* degrees on *each* course in the case of the steering compass.

GENERAL REMARKS.

This installation has been installed under special survey and the materials and workmanship are good. It has been tested under working conditions with satisfactory results.

Fee - £6 - lit 456. Elee light
Expense - Lit. 60. pd 19/7/21. Bell 21/7/21
Committee's Minute *FRI. 21 OCT. 1921* *FRI. 10 MAR. 1922* *TUE. 16 AUG. 1921*