

REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

(Received at London Office)

Date of writing Report 19 DECEMBER When handed in at Local Office HULL Port of HULL
 No. in Reg. Book. 72966 Survey held at Hull. Date: First Survey 20. 8. 52, Last Survey 18. 11. 1952.
 (No. of Visits 21)

on the Refrigerating Machinery and Appliances of the M.S. "PLASSY" Tons { Gross 585 2/3 Net 259
 Vessel built at Beverley. By whom built Cook, Welton & Gemmell Yard No. - When built 1941
 Owners Limerick S.S. Co. Ltd. Port belonging to London. Voyage -
 Refrigerating Machinery made by L. Sterne & Co. Ltd. Machine Nos. 4349 & 4350 When made 1952
 Insulation fitted by Drypool Eng. Co. Ltd. When fitted 1952 System of Refrigeration Freon 12
 Method of cooling Cargo Chambers Air. T DIR EXP Insulating Material used Slab Cork & Fibre glass
 Number of Cargo Chambers insulated 2 Total refrigerated cargo capacity 24,600 cubic feet.

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed Engine Room

Refrigerating Units, No. of two No. of machines two Is each machine independent Yes

Total refrigeration or ice-melting capacity in tons per 24 hours 17.2 Are all the units connected to all the refrigerated chambers Yes

Compressors, driven by single belts Compressors, single or double acting Single If multiple effect compression No

Are relief valves or safety discs fitted Yes No. of cylinders to each unit three Diameter of cylinders 5"

Diameter of piston rod - Length of stroke 4" No. of revolutions per minute 600

Motive Power supplied from Electric generators, three. STB FORD, STB ART, PORT.
(State number of boilers, oil engines or electric generators supplying the motive power.)

Steam Engines, high pressure, compound, or triple expansion, surface condensing. No. of cylinders - Diameter -

Length of stroke - Working pressure - Diameter of crank shaft journals and pins -

Breadth and thickness of crank webs - No. of sections in crank shaft - Revolutions of engines per minute -

Oil Engines, type R.A. Lister 4234JPM2 2 or 4 stroke cycle See Brs. Rpt. SC2168. Single or double acting Single B.H.P. 38

No. of cylinders 4 Diameter 4 1/2" Length of stroke 5 1/2" Span of bearings as per Rule 14 5/16"

Maximum pressure in cylinders 800 lbs. Diameter of crank shaft journals and pins 3"

Breadth and thickness of crank webs 4 1/2 x 3 1/2 No. of sections in crank shaft - Revolutions of engine per minute 1000

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes, Original.

Can the internal surfaces of the receivers be examined - What means are provided for cleansing their inner surfaces -

Is there a drain arrangement fitted at the lowest part of each receiver - If made under survey -

No. of Receivers two Cubic capacity of each - Internal diameter - thickness -

Seamless, lap welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure by Rules -

Electric Motors, type Compound Wound. No. of two Rated Continuous Kilowatts -

Volts at 220 1000 revolutions per minute. Diameter of motor shafts at bearings See London Cert. No. 28261.

Reduction Gearing - Pitch circle diameter, pinion - Main wheel - Width of face -

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings, pinion - Main wheel -

Pinion shafts, diameter at bearings - Main wheel shaft, diameter at bearings -

Gas Condensers, No. of two Cast iron or steel casings Steel Cylindrical or rectangular Cylindrical Are safety valves fitted -

As tubes No. of 60 Material of coils Brass. Can each coil be readily shut off or disconnected -

Water Circulating Pumps, No. and size of pumps available two 63G/M hot worked Electric Motor Gas Separators, No. of One

Gas Evaporators, No. of None Cast iron or steel casings - Pressure or gravity type - If pressure type, are safety valves fitted -

No. of coils in each casing - Material of coils - Can each coil be readily shut off or disconnected -

Direct Expansion or Brine Cooled Batteries, No. of two Are there two separate systems, so that one may be in use while the other is being cleared of snow Yes

No. of coils in each battery 4 Material of coils Gal. Steel Can each coil be readily shut off or disconnected Yes

Total cooling surface of battery coils 1,935 sq. ft. Is a watertight tray fitted under each battery Yes

Air Circulating Fans, Total No. of two each of 7000 cu. ft./min. revolutions per minute -

Steam or electrically driven Electric Where spare fans are supplied are these fitted in position ready for coupling up -

Brine Circulating Pumps, No. and size of, including the additional pump - how worked -

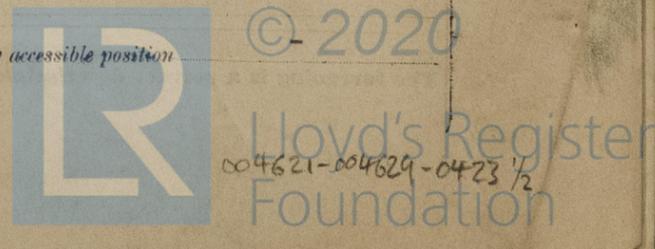
Brine Cooling System, closed or open - Are the pipes and tanks galvanised on the inside -

No. of brine sections in each chamber -

Can each section be readily shut off or disconnected - Are the control valves situated in an easily accessible position -

NOTE.—THE WORDS WHICH DO NOT APPLY SHOULD BE DELETED.

Im. 11. 57.—T. (MADE IN ENGLAND.)



Are thermometers fitted to the outflow and to each return brine pipe Where the tanks are closed are they ventilated as per Rule
 Where the tanks are not closed is the compartment in which they are situated efficiently ventilated
 Are the number and capacity of the machines and the number of pumps and sea connections in accordance with Section 2, Clause 1 of the Rules
 Is the exhaust steam led to the main and auxiliary condensers

HYDRAULIC AND OTHER TESTS.

DESCRIPTION.	Date of Test.	Working Pressure.	Hydraulic Test Pressure.	Air Test Pressure.	Stamped.	REMARKS.
ENGINE CYLINDERS (IF TESTED)						
GAS COMPRESSORS						
" SEPARATORS						
" MULTIPLE EFFECT RECEIVERS						
" CONDENSER COILS						
" EVAPORATOR COILS						
" CONDENSER HEADERS AND CONNECTIONS						
" CONDENSER CASINGS						
" EVAPORATOR CASINGS						
NH ₃ CONDENSER, EVAPORATOR AND AIR COOLER COILS AFTER ERECTION IN PLACE						
BRINE PIPING AFTER ERECTION IN PLACE						

SEE GLASGOW REPORT NO. 79475.

Have important steel castings and forgings been tested in accordance with the Rules SEE GLASGOW REPORT No. 79475.
 Cooling Test. Has the refrigerating machinery been examined under full working conditions, and found satisfactory Yes
 Dates of test 18th November, 1952. Density of Brine by hydrometer
 Temperatures (when the cargo chambers are cooled down to the required test temperatures) of delivery and return air at direct expansion or brine cooled batteries
 atmosphere 42°F to 46°F cooling water inlet and discharge 41°F & 45°F gas in condensers 65°F and evaporators -25°F
 the average temperature of the refrigerated chambers 11.5°F and the rise of temperature in these chambers upon the expiration of 12 hours
 time after the machinery and cooling appliances have been shut off 22°F: 10½ F rise.

SPARE GEAR.

Are the working parts of the machines, pumps and motors respectively, interchangeable Yes
 Has the spare gear required by the Rules been supplied Yes
 Additional Spare Gear Supplied: None.

The foregoing is a correct description of the Refrigerating Machinery.

W. Stone & Co Ltd Manufacturer.

DESCRIPTION OF INSULATION.

	IN LOWER HOLD CHAMBERS.					IN TWEEN DECK CHAMBERS.				
	Air Space.	Outer Lining.	Non-conducting Material.	Thickness of ditto.	Inner Lining.	Air Space.	Outer Lining.	Non-conducting Material.	Thickness of ditto.	Inner Lining.
FRAME No. 11 (Fore Peak)	A None	5/8 bonded Plywood	Fibre Glass	8"	None					
FRAME No. 36	F None	"	"	4"	None	2" on floor } Correct 8" on plan }				
	A None	"	"	4"	None					
FRAME No.	F									
FRAME No.	A									
FRAME No.	F									
FRAME No.	A									
FRAME No. XX (Boiler Room)	A									
FRAME No. 63 (Engine Room)	A None	5/8 bonded plywood	Fibre Glass	8"	None					
FRAME No.	F									
FRAME No.	A									
FRAME No.	F									
FRAME No.	A									
FRAME No. (After Peak)	F									
SIDES	?		Fibre Glass	8"						
OVERHEADING	?			8"						
FLOORS OF CHAMBERS	?		Cork Slabs	6"	1/2" on floor } 2" ceiling }					
TRUNK HATCHWAYS										
THRUST RECESS, SIDES AND TOP										
TUNNEL SIDES AND TOP										
TUNNEL RECESS, FRONT AND TOP										

FRAMES OR REVERSE FRAMES, FACE 3" x 3" pine grounds.
 BULKHEAD STIFFENERS, TOP Fibre glass BOTTOM Slab cork. AND FACE 3 x 3 pine grounds.
 RIBBAND ON TOP OF DECKS
 SIDE STRINGERS, TOP 6" slab cork held by btm. BOTTOM 6" slab cork. AND FACE Slab Cork & bonded plywood.
 WEB FRAMES, SIDES 8" fibre Glass. AND FACE 5/8 bonded plywood.
 BRACKETS, TOP 6" fibre Glass & bonded plywood. BOTTOM 6" slab cork & 5/8 plywood AND FACE
 INSULATED HATCHES, MAIN 6" Slab Cork. BILGE 6" Fibre Glass MANHOLE 6" fibre glass.
 HATCHWAY COAMINGS, MAIN Pine grounds. BILGE Pine ground.
 HOLD PILLARS Fibre glass bond plywood.
 MASTS VENTILATORS 6" fibre glass plugs. slab buried in cork.
 Are insulated plugs fitted to provide easy access to bilge suction roses Yes tank, air, and sounding pipes insulation
 and manhole doors of tanks plugs. Are insulated plugs fitted to ventilators Yes cargo ports and side lights
 Is the insulation of the lower hold floor and bilge top in way of the hatchways protected Yes if so, how Ceiling
 Oil Storage Tanks, where adjacent to the insulated chambers, state what provision has been made for ventilating the air space between the insulation and the bulkhead plating
 and for draining the tank top
 Fireproof Insulation. Is the insulation and woodwork fireproof in way of bunkers or any surfaces exposed to excessive heat
 Where Cooling Pipes pass through watertight bulkheads or deck plating, are the fittings and packing of the stuffing boxes both watertight and fireproof Yes
 Cargo Battens, Dimensions and spacing, sides None floors None tunnel top
 fixed or portable Are screens fitted over the brine grids at chamber sides hinged or permanently fixed
 Thermometer Tubes, No. and position in each chamber 4 at hatch corners.
 diameter are they fitted in accordance with Section 3, Clause 8 Yes
 Protection of Pipes. Are all pipes, including air and sounding pipes, which pass through or into insulated chambers, well insulated Yes
 Draining Arrangements. What provision is made for draining the inside of the chambers
 Where sluices, scupper pipes, and drain pipes are fitted are means provided for blanking them off
 What provision is made for draining the refrigerating machinery room
 brine return room fan room water circulating pump room
 Are all air spaces behind insulation arranged to drain to the bilges, bilge wells, or gutterways of the respective chambers. Yes

Sounding Pipes, No. and position in each chamber situated below the load water line

Diameter - Are all sounding pipes in way of insulated chambers fitted in accordance with Section 3, Clause 11 Yes
 Are all wood linings tongued and grooved No Are cement facings reinforced with expanded steel lattice -
 How is the expanded metal secured in place -
 How are the cork slabs secured to the steel structure of the vessel in Bitumastic.

Air Trunkways in Chambers. Are the arrangements satisfactory and in accordance with the approved plans -
 Are they permanently fixed or collapsible, or portable -

Where air trunkways pass through watertight bulkheads, are they fitted with watertight doors - Are the door frames efficiently insulated -
 Are insulated plugs supplied for the doorways - Where are the doors worked from -
 Cooling Pipes in Chambers, diameter - Minimum thickness - Are they galvanised externally -
 How are they arranged in the chambers -

Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers -

The foregoing is a correct description of the Insulation and Appliances.

R. J. Shephard

Builders.

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery and Insulation Yes
 (If not, state date of approval)
 Is the Refrigerating Machinery and Appliances duplicate of a previous case No If so, state name of vessel -
 If the survey is not complete, state what arrangements have been made for its completion and what remains to be done Complete.

GENERAL REMARKS, Etc.,

The Refrigerating Machinery and its appliances have been built and installed under Special Survey and in accordance with the Rules, Secretary's letters and approved plans.

The Insulation has been installed under Special Survey in accordance with the approved plans and the Secretary's letters.

~~General Remarks~~

Upon completion the Machinery has been examined under working conditions the the temperatures and pressures noted.
 A satisfactory cooling down test was witnessed.

The Machinery and Appliances of this vessel are in my opinion eligible to have the Notation **LLOYD'S RMC 11,52** to Maintain temperatures 15°F with sea temperature 85° F Maximum.

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	Ice melting capacity per 24 hours. Tons.	Is Refrigerating Machinery Electrically Driven?	INSULATED CARGO CHAMBERS.	
No. of Units.	No. of Compressors.	System.	Makers.	Date of Construction.				No.	Capacity. Cubic ft.
2	6	Refron -12	L. Sterne & Co. Ld. Glasgow.	1952	(1) Direct Expansion - Air (2) Free gases & slab cork	17.2	Yes	2	24,600

Fee Inst. Mchy... £14 : 17 : 6 { Fee applied for, 19 .
 " Insulatn 15 : 17 : 6 { Received by me, 19 .
 Travelling Expenses £ : :
 Late attendance 4 - 4-0

Committee's Minute

TUES. 30 DEC 1952

Assigned

Write Sub

+ Lloyd's Rmc

'11.52 #

to maintain temp. 15°F
 with sea temp. 85°F max

R. Newton

Surveyor to Lloyd's Register.

CERTIFICATE WRITTEN



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Lloyd's Register
 Foundation

7.1.53
 Certificate to be sent to