

REPORT OF SURVEY ON REFRIGERATING MACHINERY & APPLIANCES.

(Received at London Office)

FEB - 7 1939

Date of writing Report 17-1-1939 When handed in at Local Office 17/1 1939 Port of YOKOHAMA

No. in Reg. Book. Survey held at YOKOHAMA Date: First Survey 7-1 Last Survey 16-1-1939
75686 on the Refrigerating Machinery and Appliances of the T.S.S. "HARUNA MARU" (No. of Visits Three)

Tons { Gross 10421 Vessel built at Nagasaki By whom Mitsubishi Zosen K. Ltd. When 1922-2
Net 6371 Owners N. Y. K. Port TOKYO Voyage

Last Survey No. 68465 Port

PARTICULARS AS ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	POWER.		INSULATED CARGO CHAMBERS.		Notation and Date of Last Complete Periodical Survey.
No. of Units.	No. of Compressors.	System.	Makers.	Date of Construction.		Cubic feet of air delivered per hour.	Ice melting capacity per 24 hours.	No.	Capacity.	
2	2	Carb Aulby	J. & E. Hall Ltd	1922	Brine Slab Cork	✓	Tons. 12	3	Cubic ft. 8320	Lloyd's RMC 8-38

Particulars of Examination and Repairs for Complete Periodical Survey or Modified Survey.

Has the machinery been examined under working conditions *Yes* before or after the refrigerated cargo was discharged

Density of brine *45°* by *Tud* hydrometer. TEMPERATURES of air at the snow box and of the return air &
or, delivery and return air at direct expansion or brine cooled batteries & , outflow and return brine *-7°F* & *-3°F*
atmosphere *70°F* , cooling water inlet and discharge *51°F* & *55°F* , gas in condensers and evaporators *66°F* & *-17°F*

AVERAGE TEMPERATURE in each refrigerated chamber, as per log, before discharging commenced
Provision chamber, only frosted, 10°F.

Condenser Coils, date of last test *Port Aug - 1938,* If machinery is electrically driven, date of last examination of a generator

Have all the working parts of the refrigerating machines and of the auxiliary machinery been examined *Yes* Is the spare gear in accordance with the Rules *Yes*

Have the gas condenser and evaporator coils, or only the coil terminals, been examined *Yes* Have the direct expansion or brine cooled battery coils been examined

Have the refrigerating liquid pipes, separators and receivers, and the gas return pipes been examined externally as far as practicable

Has the insulation been examined throughout the cargo chambers *Yes* Where charcoal, silicate cotton, granulated cork or similar media are employed for insulating purposes, has such insulation been examined for fullness and dryness *Yes* Have the test holes been efficiently closed *Yes*

Have all bilge hatches and manhole plugs been removed, the bilges cleared, and the suction pipes, suction roses, sounding pipes and manhole door fastenings been examined

Have the hatches, air trunkways and thermometer tubes with their connections and fastenings been examined *Yes* Have the watertight doors been examined and worked

Have the brine pipes or direct expansion pipes been examined *Yes* , under what conditions *unfrosted* Have the sea injection valves been opened and examined *Yes*

If the Survey is not complete, state what arrangements have been made for its completion and what remains to be done *Complete.*

Now done :- Starboard refrigerating machine Condenser opened, and the coils removed cleaned and tested under hydraulic pressure to 2500 lbs pr sq. in and found tight, afterwards fitted in order.

Port refrigerating machine opened up, compressor cylinders, pistons, covers & valves, steam cylinders, piston, cover, slide valve, connecting rods, crank shafting examined, brine pump & engine circulating pump & engine examined and found in order.

Starboard machine compressor cylinders, covers & valves examined and found in order. The insulation, brine piping, thermometer tubes & fittings throughout all cargo spaces examined and found or now placed in good condition.

The refrigerating machinery and auxiliaries examined under working condition and found in order.

Repairs :- Port cargo chamber bottom insulation partly renewed. Several number of brine pipes renewed and tested.

General observations, opinion, and recommendation *The Refrigerating machinery and insulation of this vessel are in good condition and shippable in my opinion to remain as classed with fresh record of + LLOYD'S RMC 1.39.*

(NOTE:—A new Date of Survey should only be recommended in the case of a Complete Periodical Survey.)

Fee *¥ 60.00* Fee applied for, *17th Jan, 1939.*

Travelling Expenses *¥ 2.00* Received by me, 19...

FRI. 17 MAR 1939

Committee's Minute

Assigned *+ Lloyd's RMC 1.39*

Wke copy

M. Kishigami
Surveyor to Lloyd's Register of Shipping.



009116 - 009121 - 0278

Certificate to be sent to

It is submitted that
this vessel is eligible for
THE RECORD.

Lloyds No 139.

North East Survey,

Starboard Caisson Coils

139 ✓

ESM

16/2/39



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Foundation