

TRANSLATION.

SPECIFICATION FOR INSULATION OF REFRIGERATED CHAMBERS.

Motor Vessel No. 743. "LEME".

Handwritten:
17-3-26

The spaces to be insulated include the two chambers situated in tweendeck II No. 3 aft of engine casing above trim tank between frames 46 - 65. The said chambers have to be suitably insulated, the first one for the carriage of produce at a temperature of - 1°C., such as cheese, prepared pork and fruit, the second chamber for the carriage of frozen meat at a temperature of - 12°C.

Chamber I having a volume of abt. 7000 cub.ft after being insulated, is refrigerated by means of air cooler, chamber II having a volume of abt. 6500 cub.ft is refrigerated by means of coils with brine circulation.

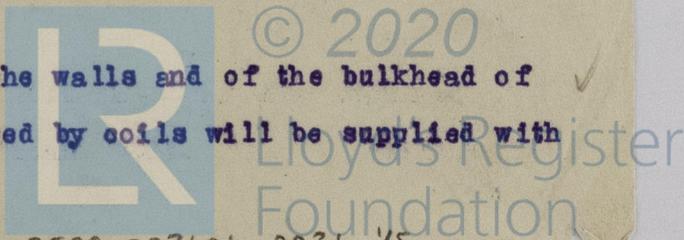
Insulation of deck:

Handwritten: 9 x 3 1/2" as per plan

The steel deck will be previously given three coats of re-led paint, then 9 x ^{230 x 80 mm} (2") fir wood supports will be laid athwartships abt. 16" apart; on top of these supports a fir ceiling will be laid of 1" t. & g. and another of 1 1/2" without other material being placed between them.- These two wood layers will be accurately fastened on the 9 x 2" supports with overlaid joints and the resulting 9" space will be suitably filled with granulated cork, and between frames 63-65 with silicate cotton.

Battens:

The surfaces of the walls and of the bulkhead of chamber II which are not covered by coils will be supplied with



polished fir battens of 2 x 2", placed at abt. 12" from centre and fastened vertically on the ceiling; on top of the deck insulation of the said chamber portable fir battens 75 x 75 m/m will be fitted.

Overhead:

5 x 2" wood grounds bolted on the beams have to be applied in order that their lower end remains so much clear of the beam bulb as to allow for 10" of insulation.- The bolts for fixing the said supports of wood will have a diameter of $\frac{3}{4}$ " and are to be placed at a distance of abt. 3' from centre to centre. On these supports fir timbers t. & g. will be fitted having a thickness of $1\frac{1}{2}$ "; the space between the deck and the timber will be suitably filled with granulated cork.

Walls:

125
185 x 50 m/m wood supports have to be fitted and bolted on the sides of the frames by means of $\frac{3}{4}$ " bolts placed abt 3' apart. The outer face of these supports will have to be so much apart from the frame bulb as to permit for 10 $\frac{3}{4}$ " insulation. On these supports t. & g. fir timbers $1\frac{1}{2}$ " thick will be fastened; the space between the sides and the timber will be suitably filled with granulated cork.

Bulkheads:

The after bulkhead of the refrigerated spaces must have not less than 10" insulation, also the transverse and longitudinal bulkheads limiting the well at hatchway No.5.-

The forward bulkhead of the refrigerated spaces will be insulated with not less than 12" of silicate cotton. The divisional bulkheads between the 2 chambers will have not less than 7" insulation. In any way of the possible scupper, sounding and air pipes the lining of the insulation must be portable and secured therefore by means of galvanized screws.

Doors:

Each refrigerated chamber will be supplied with a door having pitch-pine frame, two wings, insulated; the jointing of the doors will consist of greased parcelling.- The door will be complete with the necessary iron work in order to obtain hermetical closing.

Air cooler:

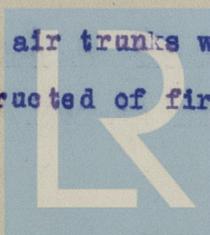
The air cooling battery fitted in chamber I will be applied at his lower part with a watertight tray of sheet lead having a discharge scupper into the bilge. The said battery will be protected by a portable fir wood wall $1\frac{1}{2}$ " thick.

Electric fan:

The electric fan placed in the battery chamber will have the the electric motor fitted in the refrigerating machinery space forward of bulkhead 65, the extention shaft will be fitted with an air tight gland at the said bulkhead.

Air trunks:

In chamber I air trunks will be fitted at both sides of the vessel, constructed of fir wood of $1\frac{1}{2}$ " for air



© 2020
Lloyd's Register
Foundation

suction and delivery. Both are to have adjustable doors.

Scuppers:

Both refrigerated chambers will be provided with scuppers, discharging into the bilge, of suitable diameter and type, fitted under deck with a brine trap.

Thermometers:

Each refrigerated chamber will be supplied with two thermometer tubes of $2\frac{1}{2}$ " diameter with bronze nuts and screwed covers placed in accessible position and projecting beyond the overheading into the chamber for abt. 6".

Brine service pipes:

The brine service pipes between the evaporator - refrigerated chamber II - air cooler will be suitably insulated and, where necessary, protected.

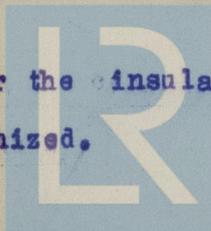
Insulating materials:

The granulated cork will be of good ^{commercial} quality without any dust and put in place with a mean density of 8 pounds per cub.ft.

The silicate cotton will be of good quality and put in place with a mean density of abt. 20 pounds per cub.ft.

The wood will be fir of good quality, sound material, without cracks.

The metal work for the insulated doors and other similar material will be galvanized.



© 2020

Lloyd's Register
Foundation

0036 4/5

All the inner wood faces of the refrigerated chambers, except the deck, will be given two coats of special varnish for refrigerating installations.

The requirements of Sec.3 of the Rules of Lloyd's Register on Marine Refrigerating Installations, entitled "Insulation and Fittings", year 1925/26 - pages 136 & 137 are to be also complied with.

JL
17-3-26



© 2020

Lloyd's Register
Foundation