

EC-TYPE EXAMINATION (MODULE B) CERTIFICATE

This is to certify that:

DBI Certification did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the Fire protection requirements of Marine Equipment Directive (MED) 96/98/EC as amended, subject to any conditions in the schedule attached hereto.

Applicant Address Lethe GmbH, Seehafenstrasse 17, DE-21079, Hamburg, Germany

Directive Reference MED 96/98/EC, as amended by MED 2014/93/EU.

Annex A1 Item A.1/3.16 Fire doors

Product Type Class B-15 Doors restricted application

Product Description B-Class doors designated LM50-D3-B15 Firedoor

Specified Standards IMO Res. MSC.307(88)-(2010 FTP Code) according to Chapter 8, Article 8.3.
IMO Res. MSC.61(67)-(FTP Code) annex 1 part 3.
MSC/Circ. 1120 and IMO MSC.1/Circ.1273

The attached (*schedule of approval*) forms part of this certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Date of re-issue 2015-11-16 Issued by DBI Certification Notified Body No. **2531**
Expiry date 2020-11-16

The certificate supersedes the certificate PC10273 version issued:2010-11-16 by NB no. 0845

This product has been assigned a USCG Approval Category No.:164.136/EC2531 to note type approval to module B only as pertains to obtaining US Coast Guard approval as allowed by the " Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment" signed February 27th, 2004. This approval is limited to fire doors without windows and doors with a total window area of 645 cm², or less, in each door leaf. Approval limited to maximum door size tested.

Signed

Name



Allan Laursen

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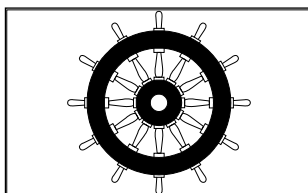


Dan Bluhme

Note:

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with the notified body named on this certificate.

Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be reappraised prior to it/they being placed on board vessels to which the amended regulations or standards apply.



The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E or F) of Annex B of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

This certificate is issued under the authority of the Danish Maritime Authority.

(Annex)

Schedule of Approval

Place of Production

Lethe GmbH, Seehafenstrasse 17, DE-21079, Hamburg, Germany

Product Description

Door leaf:

The door leaf is manufactured from 0.8 mm galv. steel sheet and reinforced inside along all four edges with steel profiles welded together forming a complete frame. The frame consists of the following profiles:

- Along the top, an outer steel U-profile 65 x 48 x 65 x 1.5 mm with a 63 x 45 x 63 x 1.5 mm steel U-profile placed inside the outer U-profile forming a closed rail for the door closer mechanism. 6 mm Promatect H is glued inside along the bottom of the inner U-profile.
 - Along the bottom, two 20 x 15 x 1.5 mm steel L-profile mounted with a distance between the two 15 mm flanges along the bottom edge, making space for the automatic door seal to pass through.
- Along the hinged side, 20 x 48 x 20 x 1.5 mm steel U-profile.
- Along the lock side, 25 x 48 x 25 x 1.5 mm steel U-profile.
- Along the lock side an extra reinforcement consisting of an 80 x 48 x 80 x 1.5 mm steel U-profile (pos. 20) is welded to the reinforcement profile forming a casing for the lock. This casing is insulated inside with 6 mm thick Promatect H (pos. 09) glued to the steel sheet. See also drawing No. FT-LM50-D3-B15-03.

The insulation inside the door leaf (pos. 13) consists of approx. 100 mm wide mineral wool lamellae mounted vertically inside the door leaf and glued to the steel sheets.

A 13 x 54 x 13 mm U-profile (pos. 15), 1.0 mm stainless steel, is mounted outside along the top and the vertical edges of the door leaf. The profile is fixed to the door leaf as follows: With four \varnothing 3 mm steel pop rivets along the top, with four M5 x 12 mm screws along the lock side and two (near the top and the bottom) along the hinged side. The profile is also fixed to the door leaf together with the hinges. Along the bottom the edge profile consists of two 15 x 13 x 1.5 mm steel L-profiles (pos. 30) each fixed to the door leaf with four \varnothing 3 mm steel pop rivets.

The door leaf is furnished with three steel hinges (pos. 16), one latch/bolt lock (pos. 11) and along the top with an automatic door closer (pos. 04). See also the sponsors drawing No. FT-LM50-D3-B15-05 and FT-LM50-D3-B15-06. Along the bottom an automatic door seal (pos. 25) is mounted inside a steel U-profile 32 x 19 x 32 mm in the door leaf. See also drawing No. FT-LM50-D3-B15-05. The door seal is activated by means of a pivot sticking out of the hinged side of the door leaf. By closing of the door the pivot is pressed inwards and hereby activating the door seal.

Ventilation channel:

The door is also manufactured with a ventilation channel inside with the openings, approx. 300 x 50 mm, placed at each side of the door leaf. The lower edge of the opening on the exposed side is positioned 175 mm from the bottom of the door leaf, and the lower edges of the opening on the unexposed side is positioned at a distance of 1290 mm from the upper edge of the opening on the exposed side. See also drawing No. FT-LM50-D3-B15-02. Both openings are covered with a 1.0 mm thick stainless steel cover (pos. 27) with the exterior dimensions 100 x 500 x 27 mm. The cover is mounted to the steel sheet of the door leaf by means of two fixing cleats 38 x 40 x 1.0 mm steel each fixed to the steel sheet with two \varnothing 3 mm steel pop rivets (pos. 28) at the centre of the vertical edges. Along the top the cover is fixed to the door leaf together with the channel frame by means of a 24 x 16 x 20 x 1.0 mm, length 250 mm, steel U-profile (pos. 29) fixed to the steel sheet with two 4.2 x 25 mm screws. See also the drawings Nos. FT-LM50-D3-B15-05 and FT-LM50-D3-B15-07.

The ventilation channel is manufactured from a steel frame of 15 x 22 x 15 x 1.0 mm U-profiles welded together. The frame consists of four U-profiles positioned vertically with a distance of and 130 mm between the two central stiffeners and one profile along the top as well as along the bottom forming the complete frame. The exterior dimensions of the framework are 1430 x 450 x 22 mm.

A perforated steel sheet (pos. 26), 1345 x 450 x 1.0 mm, is fixed to the steel frame with \varnothing 3 mm steel pop rivets c/c 130 mm. The steel sheet is not covering the opening (300 x 50 mm) for the channel.

The perforated steel sheet is covered with 0.5 mm thick glass cloth (pos. 23) and a layer of 11 mm thick Conlit 300 (pos. 22) on top. The glass cloth as well as the Conlit 300 is glued to the perforated steel sheet and the steel sheet of the door leaf respectively. Opposite to the openings in the steel sheet of the door leaf a corresponding opening is cut out in the glass cloth as well as in the Conlit 300 insulation.

Door frame:

The door frame (pos. 06), is manufactured from 1.0 mm galv. steel sheet formed of various profiles as listed below:

- An omega-shaped profile 20 x 64 x 35 x 64 x 20 mm.
- Placed inside the above mentioned profile is a C-shaped profile, the external dimensions were 62 x 33 mm. This profile is filled out with Rockwool Marine Slab 150 insulation (pos. 13).
- A cover profile, 6 x 8.5 x 75 x 17 mm is placed across the 20 mm flanges of the omega-shaped profile.

Two 10 x 1.5 Promaseal PL mm intumescent strips (pos. 05) are mounted towards the door leaf in continuation of each other (total width = 20 mm) inside the 20 mm flange of the omega-shaped profile.

The frame along the top of the door is insulated with 6 mm Promatect H glued inside along the top of the inner U-profile, see the drawing No. FT-LM50-D3-B15-05.

An extra omega-shaped reinforcement profile, 9 x 28 x 43 x 28 x 9 x 1.5 mm steel is positioned inside the groove of the vertical bulkhead panel edges along the opening for the door. The profile is filled out with Rockwool Marine Slab 150 inside. See also the drawing No. FT-LM50-D3-B15-03.

Along the top edge of the opening for the door the steel sheet from both sides of the bulkhead panels is bent 44 mm around the edge.

The door frame is fixed with \varnothing 4.2 x 25 mm screws to the reinforcement profile along the vertical edges and to the steel sheet of the bulkhead panel along the top edge. The position of the screws is shown on the drawing No. FT-LM50-D3-B15-02.

The doorsill consists of a C-shaped 11 x 29 x 61 x 29 x 11 x 1.5 mm steel profile covered with a stainless steel U-profile 30 x 63 x 30 x 1 mm. See also drawing No. FT-LM50-D3-B15-05.

The stone wool used in the door, is of type "Rockwool Marine Slab 150" with a nominal density of 150 kg/m³ and type "Conlit 300" with a nominal density of 300 kg/m³.

The calcium silicate board used in the door is of type "Promatect H" with a nominal density of 870 kg/m³.

The adhesive used in the door, is of type "Promat-Kleber K84" and is to be applied in an amount of 1050 g/m².

Product Classification

The door mounted in a B-Class bulkhead manufactured as described above may be regarded as a Class B-15 Door, restricted application.

Application / Limitation of Product

Thickness of the door leaf is maximum 50 mm.

The door has been successfully tested with extended test periode in compliance with MSC.1/Circ. 1273..

The insulation materials and adhesives used have to approved according to the Marine Equipment Directive and bear the Mark of Conformity. This requirement may also be applicable for surface materials used, if required by relevant rules and regulations.

Type Approval Documentation

Test report No. PG12270 dated 2010-11-10 from DBI.

Drawings: Nos. FT-LM50-D3-B15-01 Rev. B/02, FT-LM50-D3-B15-02 Rev. B/02, FT-LM50-D3-B15-03 Rev. B/02, FT-LM50-D3-B15-04 Rev. B/02, FT-LM50-D3-B15-05 Rev. B/02, FT-LM50-D3-B15-06 Rev. B/02, FT-LM50-D3-B15-07 Rev. B/02, FT-LM50-D3-B15-08 Rev. B/02 and FT-LM50-D3-B15-09 Rev. B/02 all from Lethe GmbH and dated 2010-10-27.

Tested according to Recommendation on Fire Test Procedures for "A", "B" and "F" Class Divisions, IMO Resolution A.754(18) as well as the International Code for Application of Fire Test Procedures, Resolution MSC.61(67)), IMO FTP Code, Annex 1 Part 3, Test for "A", "B" and "F" Class Divisions, together with the unified interpretations of SOLAS chapter II-2, the FSS Code, the FTP Code and related fire test procedures (IMO MSC/Circ. 1120 and IMO MSC.1/Circ.1273).

EC type-examination certificate No. MED-B-6160 from Det norske Veritas AS, dated 2010-05-06, valid for Rockwool Marine Slab 150. The product meets the provisions of the MED that apply to non-combustible materials used in "A", "B" and "C" class divisions.

EC type-examination certificate No. MED-B-6160 from Det norske Veritas AS, dated 2010-05-06, valid for Conlit 300. The product meets the provisions of the MED that apply to non-combustible materials used in "A", "B" and "C" class divisions.

EC type-examination certificate No. 107.051 from See-Berufsgenossenschaft, Prüf- und Zertifizierungsstelle, dated 2009-04-22, dated 2010-04-23, valid for Promatect H. The product meets the provisions of the MED that apply to non-combustible materials used in "A", "B" and "C" class divisions.

EC type-examination certificate No. 118.186 from See-Berufsgenossenschaft, Prüf- und Zertifizierungsstelle, dated 2009-04-22, valid for Promat-Kleber K84. The product meets the provisions of the MED that apply to non-combustible materials used in "A", "B" and "C" class divisions.

Marking of Product

The product or packing is to be marked with name of manufacturer, type designation, technical rating and Mark of Conformity.

End of Certificate