



Marine & Offshore

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*This certificate is not valid when presented without the full
attached schedule composed of 7 sections
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Notified Body 2690 - MARINE EQUIPMENT DIRECTIVE 2014/90/EU

EC TYPE EXAMINATION CERTIFICATE

as per Module B of Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 as transposed in the French Regulations and Commission Implementing Regulation (EU) 2018/773 of 15 May 2018

This certificate is issued to:

Halton Marine Oy

Lahti - FINLAND

for the type of product

FIRE DAMPERS

A-Class Round Fire Dampers, type "FDO", size up to Ø500 mm.

Requirements:

SOLAS 74 convention as amended, Regulations II-2/9
IMO MSC.307(88) (2010 FTP Code)

This certificate is issued on behalf of the French Maritime Authorities to attest that Bureau Veritas Marine & Offshore did undertake the relevant type-examination procedures for the product identified above which was found to comply with the relevant requirements of the Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 as transposed in the French Regulations.


This certificate will expire on: 20 May 2024

For Bureau Veritas Marine & Offshore Notified Body 2690,

At BV HELSINKI, on 20 May 2019,

Tommy Andersson



This certificate does not allow to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark ) to the products corresponding to this type. To this end, the production-control phase module (D, E or F) of Annex II of the Directive is to be complied with and controlled by a written inspection agreement with a notified body.

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. Bureau Veritas Marine & Offshore is designated by the French Maritime Authority as a "notified body" under the terms of the French Regulations Division 140 Chapter 140-2. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

A-Class Round Single blade Fire Dampers, type "FDO".

Round steel fire dampers, sizes up to Ø500 mm. The distance between the fire damper center and the deck/bulkhead plating should be at least 225 mm.

Minimum fire damper frame and coaming thickness: 3 mm

The joint between the coaming and the frame of the damper is:

- a flanged joint with bolts and nuts : 4 to 12 fixation points around the perimeter, depending on size. The connection is to be sealed with sealant, or
- a continuously welded joint

Length of fire damper frame: 200-326 mm depending on the size.

The dampers are to be fitted with silicone rubber Thermosil Fire X as blades sealing material.

Coaming and fire damper casing are to be insulated with Paroc Marine Wired Mat 100 (nominal density 100 kg/m³) with thickness of 80 mm or Ultimate Marine 66-30 (nominal density 66 kg/ m³) with thickness of 30 mm as follows:

Orientation	Insulation Material	Total minimum coaming length [mm] including damper	Total minimum insulation length [mm]	Total additional insulation length [mm]	Fire rating	Drawing reference
Bulkhead	Paroc Marine Wired Mat 100	900	1300	480	A-60	LH-5200
	Paroc Marine Wired Mat 100	900	1300	480	A-30	LH-5200
	Ultimate Marine 66-30	425	425	None	A-15 (Ø < 160mm)	LH-5205
	Ultimate Marine 66-30	900	1300	480	A-15 (Ø > 160mm)	LH-5200
	No insulation	675	No insulation	None	A0	LH-5202
Deck	Paroc Marine Wired Mat 100	900	1100	465	A-15 to A-60	LH-5200

The additional insulation to be installed on damper and coaming with same quality and thickness as the other insulation of damper and casing. Additional insulation is to extend as per reference drawings on both sides of division from the core steel or from the insulation mounted on the core steel if any.

The actuators need not to be insulated.

Types of FDO fire damper:

- electrical (FDO-EL),
- rotating pneumatic (FDO-PNR),
- spring loaded with fusible link (FDO-SP).

Operation of FDO fire damper:

Automatic (with fusible link):

- Electrical actuator, type BELIMO BF-230-2HL or BF-24 HL or Elodrive CSQP-15A1E or Schischek ExMax-5.10-F or Petz Industries PI QT.EX_MFD

- Pneumatic, type Air Torque AT051 S12 B or AT051U S8 B

Automatic (without fusible link):

- Electrical actuator: Schischek InMax-15-F

Manual (with fusible link):

- spring loaded

Manual (without fusible link):

- Operated with a handle

The construction of the fire damper itself is the same in these dampers, only the operation is different. Actuators of same make but with different size as mentioned above may also be used, provided that they have similar installation arrangement and equivalent fire technical and functional properties.

Materials / components:

- Non -combustible insulating Mineral wool used for fire tests: type "Paroc Marine Wired Mat 100 (nominal density 100 kg/m³)", manufactured by Paroc Oy or type "Ultimate Marine 66-30 (nominal density 66 kg/m³)" manufactured by Isover Saint-Gobain.
- Sealant Tetrakem 1027
- Gasket type silicone rubber Thermosil Fire X manufactured by V.A.V-Group Oy.

2. DOCUMENTS AND DRAWINGS:

As per the Manufacturer's drawing:

- N° LH-5200, Rev. D dated 14/11/2018 (A-15 to A-60 insulation)
- N° LH-5202, Rev. B dated 14/11/2018 (A0 insulation)
- N° LH-5205, Rev. A dated 18/03/2019 (A-15 bulkhead insulation, damper size < Ø 160 mm)
- JpM1502780 dated 04/01/15 (manual override)

3. TEST REPORTS:

3.1 - Test report VTT-S-07638-13, dated 04/11/2013 as per IMO Resolution MSC.307(88) (2010 FTP Code) by VTT Expert Services, Finland.

3.2 - Test report VTT-S-08754-13, dated 17/01/2014 as per IMO Resolution MSC.307(88) (2010 FTP Code) by VTT Expert Services, Finland.

3.3 - Test report 430-13TD-IMO, dated 22/11/2013 as per IMO Resolution MSC.307(88) (2010 FTP Code) by TÜV Eesti, Estonia.

3.4 - Test report 442-13TD-IMO, dated 28/01/2014 as per IMO Resolution MSC.307(88) (2010 FTP Code) by TÜV Eesti, Estonia.

3.5 – Statement VTT-M-01281-14 dated 10/03/2014 by VTT Expert Services, Finland and Statement ST 002-14 dated 10/03/2014 by TÜV Eesti, Estonia (confirmation of validity of tests carried out with the old product name "FDD" for the new name "FDO" product).

3.6 - Statement VTT-S-00593-16 dated 05/02/2016 by VTT Expert Services, Finland (manual override).

3.7 - Test report 712-18TD-IMO, dated 29/03/2018 as per IMO 2010 FTP Code, Annex 1, Part 3, by TÜV Eesti, Estonia.

3.8 - Test report 718-18TD-IMO, dated 29/03/2018 as per IMO 2010 FTP Code, Annex 1, Part 3, by TÜV Eesti, Estonia.

4. APPLICATION / LIMITATION:

4.1. - Approved for use:

- in A-15, A-30 and A-60 class steel divisions with fire insulation as described in §1.
- in A-0 class steel bulkheads without fire insulation.

4.2 - Alternative non-combustible mineral wool: The fire tests were conducted with mineral wool type "Paroc Marine Wired Mat 100 (density 100 kg/m³)" and type "Ultimate Marine 66-30 (nominal density 66 kg/m³)"; any approved A-class insulation of similar type giving at least an equivalent insulation performance can be used.

4.3 - The arrangement of the fire damper and necessary insulation of the damper frame and ducting in the vicinity of the partition is subject to approval in each case.

4.4 - The damper is to be provided with an indicator which shows whether the damper is open or closed. This indicator is to be fitted on the damper out of the insulation coating, if any.

4.5 - The damper is to be capable of being closed manually from both sides of the division.

4.6 - The fitting aboard to be the same as used for the test.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - This certificate alone does not allow the applicant to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark) to the products corresponding to this type. To this end, the production-control phase module D "Production Quality Assurance" or E "Product Quality Assurance" or F "Product Verification" of Annex II of the Directive is to be complied with and controlled by a written inspection agreement with a Notified Body.

5.2 - For information concerning the production phase modules, **Halton Marine Oy** has declared the following manufacturing site(s):

Halton Marine Oy
Pulttikatu 2
15700 Lahti
Finland

Halton Ventilation Co. Ltd
Lingang New City, Pudong
Shanghai,
The People's Republic of China

6. MARKING OF PRODUCT:

6.1 - Reference is made to MED 2014/90/EU chapter 2.

In particular Article 10.3 specifies that the wheelmark shall be followed by the identification number of the Notified Body involved in the production control phase (module D, E or F) and by the year in which the mark is affixed (4 digits or last 2 digits).

6.2 - In pursuance of the EU/US MRA+, and in accordance with the Council Decision 2004/425/EC of 21 April 2004, the product(s) marked as per MED 2014/90/EU may be marked with the USCG conformity marking as authorized by the Notified Body undertaking surveillance module.

7. OTHERS:

7.1 - It is **Halton Marine Oy's** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This Certificate supersedes EC Type Examination Certificate n° 39060/A1 EC issued on 07/04/2016 by the Society.

*** END OF CERTIFICATE ***