



Marine & Offshore

Certificate number: 38060/C0 MED

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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) 2023/1667 of 8 Aug. 2023

This certificate is issued to:

Halton Marine Oy

Pulttikatu 2, FIN 15700, Lahti, FINLAND

for the type of product

FIRE DAMPERS

A-Class Single Blade 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 is a renewal of certificate N° 38060/B0 MED expiring on 20/05/2024

This certificate will expire on: 01 Mar 2029**For Bureau Veritas Marine & Offshore Notified Body 2690,**

At BV TURKU (ABO), on 01 Mar 2024,

Miika KOKKO

This certificate was created electronically and is valid without signature



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 Single Blade Round Fire Dampers, type "FDO", size up to Ø500 mm

Steel-made actuator-operated circular single-bladed fire damper with automatic and manual release. The minimum distance between the fire damper center and the deck/bulkhead plating is 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 the size. The connection is to be sealed with sealant type "Tetrakem 1027", or
- a continuously welded joint.

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

Gasket type silicone rubber "Thermosil Fire X" (manufactured by V.A.V-Group Oy) is used as blades sealing material.

Coaming and fire damper casing are to be insulated with a 80 mm thick layer of mineral wool "**Paroc Marine Wired Mat 100**" (nominal density 100 kg/m³; manufactured by Paroc Group Oy) or 30 mm thick layer of mineral wool "**Ultimate Marine 66-30**" (nominal density 66 kg/m³; manufactured by Isover Saint-Gobain) as follows:

Division	Insulation material	Total min. coaming length (mm) including damper	Total min. insulation length (mm)	Total additional insulation length (mm)	Fire rating	Drawing N°
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	None	None	A0	LH-5202
Deck	Paroc Marine Wired Mat 100	900	1100	465	A-15~ 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 are not insulated and are:

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

FDO fire damper operations are:

- 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, type Schischek InMax-15-F.
- manual (with fusible link): spring loaded.
- manual (without fusible link): operated with a handle.

2. DOCUMENTS AND DRAWINGS:

As per the Manufacturer's drawings:

- N° LH-5200 Rev. D dated 14/11/2018 (A-15/A-60 class)
- N° LH-5202, Rev. B dated 14/11/2018 (A-0 class)
- N° LH-5205, Rev. A dated 18/03/2019 (A-15 class bulkhead, damper size < Ø 160 mm)
- N° JpM1502780 dated 04/01/15 (manual override)

3. TEST REPORTS:

3.1 - Test report N° VTT-S-07638-13 dated 04/11/2013, as per IMO 2010 FTP Code Annex 1 Part 3, from VTT Expert Services, Finland.

3.2 - Test report N° VTT-S-08754-13 dated 17/01/2014, as per IMO 2010 FTP Code Annex 1 Part 3, from VTT Expert Services, Finland.

- 3.3 - Test report N° 430-13TD-IMO dated 22/11/2013, as per IMO 2010 FTP Code Annex 1 Part 3, from TÜV Eesti, Estonia.
- 3.4 - Test report N° 442-13TD-IMO dated 28/01/2014, as per IMO 2010 FTP Code Annex 1 Part 3, from TÜV Eesti, Estonia.
- 3.5 - Statement N° VTT-M-01281-14 dated 10/03/2014 from VTT Expert Services, Finland and statement N° ST 002-14 dated 10/03/2014 from TÜV Eesti, Estonia (confirmation of validity of test carried out with the old product name "FDD" for the new name "FDO" product).
- 3.6 - Statement N° VTT-S-00593-16 dated 05/02/2016, from VTT Expert Services, Finland (manual override).
- 3.7 - Test report N° 712-18TD-IMO, dated 29/03/2018, as per IMO 2010 FTP Code Annex 1 Part 3, from TÜV Eesti, Estonia.
- 3.8 - Test report N° 718-18TD-IMO dated 29/03/2018, as per IMO 2010 FTP Code Annex 1 Part 3, from TÜV Eesti, Estonia.

4. APPLICATION / LIMITATION:

- 4.1 - Approved for use:
- in A-15, A-30, A-60 class steel divisions with fire insulation as described in §1.
 - in A-0 class steel divisions without fire insulation.
- 4.2 - 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.
 - capable of being closed manually from both sides of the division.
- 4.3 - The tests have been carried out with fire insulating materials "**Paroc Marine Wired Mat 100**" (nominal density 100 kg/m³) and "**Ultimate Marine 66-30**" (nominal density 66 kg/m³; any alternative insulation material is subject to case by case approval providing that it has been approved as giving at least an equivalent insulation performance).
- 4.4 - Actuators of same mode (automatic, pneumatic, manual or electric) and manufacturer as tested ones but with different size may also be used, provided that they have sufficient torque, a similar installation arrangement and equivalent fire technical and functional properties.

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 module E Product Quality Assurance or module 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 sites:

Halton Marine Oy
Pulttikatu 2
15700 Lahti
FINLAND

Halton Ventilation (Shanghai) Co., Ltd.
Building 7, No. 55 Feidu Road,
Lingang New Area, 201306 Shanghai
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 amended by Decision 1/2018 of 18 February 2019, 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° 38060/B0 MED issued on 20/05/2019 by the Society.

*** END OF CERTIFICATE ***