Marine & Offshore

Certificate number: 13962/D2 MED
File number: ACI4020/032/007
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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) 2021/1158 of 22 June 2021

This certificate is issued to:

Halton Marine Oy

Lahti - FINLAND

for the type of product

FIRE DAMPERS

Single and Multiblade A-class Fire Damper Type "FDB2"

Requirements:
SOLAS 74 convention as amended, Regulations II-2/9
IMO Res. MSC.307(88) (2010 FTP Code)
IMO Res. MSC.61(67)-(FTP Code) with IMO Res. MSC.307(88) (2010 FTP Code) article 8
IMO MSC/Circ.1120

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: 24 Jun 2024

For Bureau Veritas Marine & Offshore Notified Body 2690,
At BV TURKU (ABO), on 16 May 2022,
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 :

Single/Multiblade Fire Damper Type "FDB2" for use in A-class bulkheads and decks

Rectangular steel fire dampers with sizes from 100x100 mm to 1200x1600 mm, and
to 2000x1900 mm (composed of 2 units of 970x1900 mm).

Coaming length: 900 mm minimum including the damper
Coaming thickness: refer to table below

Coaming and fire damper casing have to be fully insulated (only actuators need not to be insulated) except when installed in uninsulated A-0 class steel bulkead/deck.
Coaming only has to be fully insulated when the fire damper is at least at 450 mm from the structural core (see table below).

Length of fire damper frame: 210 to 300 mm (depending on size)
Thickness of the fire damper frame: from 3 to 10 mm.

The joint between the coaming and the frame of the damper is a flange joint with bolts and nuts.
Following to the tested configurations, it may fitted either:
- without gasket, or
- with a PVC single side foam gasket (with low flame spread characteristics), or
- with a Fire Secure Mastic Adhesive (Tetrakem 1027) or as alternative, a non-combustible type approved gasket (as per IMO FTP Code Annex 1 Part 1), or
- with a 31x7.5 mm sealant "HKO Feuerschutzprofil Shipseals" (manufactured by HKO Isolier- und Textiltechnik GmbH) used together with the silicone sealant "Sika Firesil Marine N" (from Sika Services AG) or the silicone sealant "Nordsil P" (from NKF Dichtstoffe EG).

Following to the tested configurations, all damper types may be fitted with or without Intumex LSK, Thermosil FireX (silicone), Silicon LTC or FF102 (Firefly 102 - intumescent) gasket as blades sealing material.

Class of "FDB2" fire damper:

Position of the fire damper frame from the structural core	Minimum damper frame and steel coaming thickness (mm)	Min. length of insulation of coaming + fire damper (mm)	Fire class		As per Manufacturer's drawings
at least 150 mm	3	900	100x100 to 1200x1600 mm: 2 units 970x1900 mm:	A-30 A-15 (in decks) A-30 (in bulkheads)	LH-5224
at least 225 mm	3	900	Max. 1200x1600 mm:	A-60 (in bulkheads)	LH-55215
	5	1136	Max. 1200x1600 mm:	A-60 (in decks) A-60 (in bulkheads)	ITM0001010673 ITM0001009918
at least 240 mm	3	900	Max. 250x250 mm:	A-60	LH-5355
at least 240 mm	3 to 5*	1300	Max. 1200x1600 mm: 2 units 970x1900 mm:	A-60 A-60 (in bulkheads)	LH-5223 LH-5242
at least 450 mm	3 to 5*	Full (coaming only)	Max. 1200x1600 mm:	A-60	LH-5223

* depending on size

Fire damper main characteristics:

Fire Damper Dimensions (width x height)	100x100 mm	250x250 mm	1200x1600 mm	970x1900 mm
Fire Damper Type	single blade	single blade	multi-blade	multi-blade
Maximum height of one blade (mm)	159	250	259	259

Types of "FDB2":
- electrical (FDB2-EL)
- linear pneumatic (FDB2-PNL)
- rotary pneumatic (FDB2-PNR)
- spring loaded with fusible link (FDB2-SP)

Operation of "FDB2" fire damper:
- Automatic (with fusible link):
  - electrical motor, type Belimo BF230-2 HL, Belimo BF24-2 HL, Belimo BLF230, Belimo AF 24, Belimo SR 24/120/230, Belimo SF24ALON, Belimo SF24-A-SR-2, Siemens GGA 326.1E, Siemens GGA126, Schischek ExMax-15-SF, Schischek RedMax-15-SF, Schischek ExMax-5.10-SF, Schischek RedMax-5.10-SF, Schischek ExMax-5.10-YF, Elodrive CSQP-15A1E, Petz QT.Ex-MFD03.
  - linear pneumatic, type RODER 245N.
  - rotating pneumatic, type E-LO-MATIC ES 40 or Air Torque AT100 S10 B.
- Automatic (with fusible link): spring loaded.

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 mentionned above may also be used, provided that they have similar installation arrangement and equivalent fire technical and functional properties.

2. DOCUMENTS AND DRAWINGS:

As per the Manufacturer's drawings:

- "A60 insulation": N° LH-5223 Rev.D dated 30/10/2018
- "A15/A30 insulation": N° LH-5224 Rev.C dated 01/11/2018
- "2 units A60 insulation": N° LH-5242 Rev.B dated 01/11/2018
- "A60 insulation": N° LH-5355 Rev.A dated 19/06/2019
- "A-60 Bulkhead Insulation/Installation": N° LH-55215 Rev.B dated 17/12/2019
- new manual override: N° JpM1502780 dated 04/01/2015 (new manual override)
- additional mounting sealing material: N° ITM0001010673 Rev.0 corrected by Eurofins on 09/02/2022 (deck)
  N° ITM0001009918 Rev.0 corrected by Eurofins on 09/02/2022 (bulkhead)
  N° SaL210455 Rev.01 dated 14/01/2022 corrected by Eurofins on 09/02/2022

3. TEST REPORTS:

3.1 - Mounting in a A-Class deck:

- Test reports as per IMO FTP Code Annex 1 Part 3 [test standard: IMO Resolution A.754(18)], from VTT, Finland:
  - N° RTE679/04 and N° RTE1083/04 both dated 17/05/2004.
  - N° RTE1134/05 dated 24/05/2005.
  - N° VTT-S-7447-10 dated 27/09/2010.
- Test reports as per IMO 2010 FTP Code Annex 1 Part 3, from VTT, Finland:
  - N° VTT-S-07638-13 dated 04/11/2013.
  - N° VTT-S-08754-13 dated 17/01/2014.
- Test report N° EUFI29-21006124-T1 dated 09/02/2022, as per IMO 2010 FTP Code Annex 1 Part 3, from Eurofins Expert Services Oy, Finland.

3.2 - Mounting in a A-Class bulkhead:

- Test reports as per IMO FTP Code Annex 1 Part 3 [test standard: IMO Resolution A.754(18)], from VTT, Finland:
  - N° RTE4422/04 and N° RTE762/04 both dated 17/05/2004.
  - N° RTE1133/05 dated 24/05/2005.
  - N° VTT-S-10161-07dated 23/11/2007.
  - N° VTT-S-7445-10 dated 27/09/2010.
- Test report N° 430-13TD-IMO dated 22/11/2013, as per IMO 2010 FTP Code Annex 1 Part 3, from TÜV Eesti OÜ, Estonia.
- Test reports as per IMO 2010 FTP Code Annex 1 Part 3, from Far East Fire testing Centre (FEFTC), China:
  - N° FT15314 dated 09/10/2015.
  - N° FT15315 dated 09/10/2015.
- Test report N° RS-20/B-037/E dated 25/02/2020, as per IMO 2010 FTP Code Annex 1 Part 3, from Centrum Techniki Okretowej S.A. (CTO), Poland.
- Test report N° EUFI29-21005923-T1 dated 31/01/2022, as per IMO 2010 FTP Code Annex 1 Part 3, from Eurofins Expert Services Oy, Finland.

3.3 - Statements from VTT, Finland:

- N° RTE3861/04 dated 17/11/2004
- N° VTT-S-11343-06 dated 29/11/2006
- N° VTT-S-9584-07 dated 02/11/2007
- N° VTT-S-3913-09 dated 16/06/2009
- N° VTT-S-3542-10 dated 28/04/2010
- N° VTT-S-9239-10 dated 02/12/2010
- N° VTT-S-02124-15 dated 13/05/2015
- N° VTT-S-00593-16 dated 05/02/2016 (new manual override)
- N° VTT-S-01457-16 dated 05/04/2016 (insulation)

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 - Any other arrangement of fire damper (coaming / fire insulation) is subject to a case-by-case approval.

4.3 - 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.

4.4 - The tests have been carried out with fire insulating material "**Paroc Marine Fire Slab 110**" (nominal density 110 kg/m³; manufactured by Paroc Group Oy) or type "**Fyrewrap Marine blanket**" (nominal density 128 kg/m³; manufactured by Unifrax (Suzhou) Co. Ltd) or type "**Paroc Marine Wired Mat 100**" (nominal density 100 kg/m³; manufactured by Paroc Group Oy); any alternative A-class insulation material, previously proven and approved, giving at least an equivalent insulation performance, can be used.

4.5 - Actuators of same mode (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.

4.6 - Approved for use as modular assembly up to four units (in accordance with VTT statement N° VTT-S-3542-10 dated 28/04/2010 - installation conditions to be in accordance with the recommendations in this statement, i.e Halton drawings N° LH-5768 Rev.A dated 23/04/2014 and N° LH-5772 Rev.A dated 23/04/2014).

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.
Block 10, 600 Xinyuan Road
Lingang New City, Pudong
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° 13962/D1 MED issued on 25/03/2020 by the Society.

***** END OF CERTIFICATE *****