



Marine & Offshore

Certificate number: 55306/B0 BV

File number: ACI4020/032/012

Product code: 5270H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Halton Marine Oy

Lahti - FINLAND

for the type of product

FIRE DAMPERS

Single or Multi-Blade H-Class Fire Dampers, type "FDH"

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships Part C, Chapter 4

BUREAU VERITAS Rules for the Classification of Offshore Units Part C, Chapter 4

SOLAS 1974 Convention as amended, Regulation Chapter II-2/9

IMO Res. MSC.307(88) (2010 FTP Code) with Hydrocarbon Fire Curve

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 27 Oct 2028

For Bureau Veritas Marine & Offshore,

At BV TURKU (ABO), on 27 Oct 2023,

Miika KOKKO

This certificate was created electronically and is valid without signature



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. 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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Single or Multi-Blade H-Class Fire Dampers, type "FDH"

Multi-blades rectangular fire dampers with automatic mechanical release with dimensions from 250x250 mm up to 1200x1200 mm. The distance between the fire damper center and the bulkhead/deck plating is to be respectively at least 322,5 mm and 277,5 mm.

Minimum coaming length: 650 mm for bulkhead and 900 mm for deck.

Minimum damper frame and steel coaming thickness from 3 mm to 5 mm depending on the size of the fire damper.

Insulation is made with "**Insulfrax LT Blanket**" (nominal density 128 kg/m³; manufactured by Unifrax) with thickness and arrangement as described in the table below and shown in the manufacturer's drawings referenced in §2.

Dimensions (mm)	Division	Insulation arrangement on damper side	Insulation arrangement on opposite side
250x250	bulkhead	- 1x38 mm thick on top of damper frame - 2x38 mm thick between damper frame and bulkhead structural steel core. - prolongation of insulation on bulkhead with 176 mm length.	- 2x38 mm thick until 714 mm from bulkhead - H-120 : 1x38 mm thick up to 1500 mm from bulkhead - H-60 & H-30 : 1x38 mm thick up to 1000 mm from bulkhead
	deck	- 1x38 mm thick on top of damper frame and until deck insulation.	- prolongation of insulation on deck with 250 mm long and 25 mm thick - 2x25 mm thick until 600 mm from deck - H-120 : 1x25 mm thick up to 1200 mm from deck - H-60 & H-30 : 1x25 mm thick up to 600 mm from deck
300x300	deck	- 1x38 mm thick on top of damper frame and until deck insulation.	- prolongation of insulation on deck with 250 mm long and 25 mm thick - 2x25 mm thick until 600 mm from deck - H-120 : 1x25 mm thick up to 1200 mm from deck - H-60 & H-30 : 1x25 mm thick up to 600 mm from deck
600x600	bulkhead	- 1x38 mm thick on top of damper frame. - 2x38 mm thick between damper frame and bulkhead structural steel core. - prolongation of insulation on bulkhead with 176 mm length.	- 2x38 mm thick until 714 mm from bulkhead. - H-120 & H-60 : 1x38 mm thick up to 1980 mm from bulkhead. - H-30 : 1x38 mm thick up to 1000 mm from bulkhead.
	deck	- 1x38 mm thick on top of damper frame and until deck insulation.	- prolongation of insulation on deck with 250 mm length and 25 mm thick. - 2x25 mm thick until 600 mm from deck. - H-120 & H-60 : 1x25 mm thick up to 1600 mm from deck. - H-30 : 1x25 mm thick up to 600 mm from deck.
1200x1200	bulkhead	- 1x38 mm thick on top of damper frame. - 2x38 mm thick between damper frame and bulkhead structural steel core. - prolongation of insulation on bulkhead with 176 mm length.	- 2x38 mm thick until 714 mm from bulkhead. - H-120 : 1x38 mm thick up to 2700 mm from bulkhead. - H-60 : 1x38 mm thick up to 2000 mm from bulkhead. - H-30 : 1x38 mm thick up to 1000 mm from bulkhead.
	deck	- 1x38 mm thick on top of damper frame and until deck insulation.	- prolongation of insulation on deck with 250 mm long and 25 mm thick - 2x25 mm thick until 600 mm from deck - H-120 : 1x25 mm thick up to 1600 mm from deck - H-60 & H-30 : 1x25 mm thick up to 600 mm from deck

The dampers shall be used with one of the following actuators (for alternative actuator, please see § 4.5):

- pneumatic: Air Torque FA SB AT304 S12, Air Torque AT101U S12 B LLT2, Air Torque FA SB AT304 and Air Torque AT104 (manufacturer: Air Torque S.p.A.)
- electric: Schischek InMax-15-SF-VAS, Schischek InMax-15-F1 and Schischek InMax-15-SF (manufacturer: Schischek GmbH)

The actuators can be equipped with a Halton Smart Override (manual over ride system accessory).

2. DOCUMENTS AND DRAWINGS :

As per the Manufacturer's drawings:

- in bulkhead: N° LH-51359 Rev.A dated 12/12/2017.
- in deck: N° LH-51360 Rev.A dated 12/12/2017.

3. TEST REPORTS :

3.1 - Test reports as per IMO 2010 FTP Code Annex 1 Part 3 with Hydrocarbon Fire Curve, from ⁽¹⁾TUV, Estonia or ⁽²⁾VTT, Finland:

- in bulkhead: N° 682-17TD-IMO dated 03/11/2017⁽¹⁾ (1200x1200 mm)
N° 688-17TD-IMO dated 03/11/2017⁽¹⁾ (250x250 mm and 600x600 mm)
- in deck: N° VTT-S-01115-17 dated 26/10/2017⁽²⁾ (800x1200 mm)
N° VTT-S-06330-17 dated 20/12/2017⁽²⁾ (250x250 mm, 300x300 mm and 600x600 mm)
N° VTT-S-03190-17 dated 20/11/2017⁽²⁾ (1200x1200 mm)

3.2 - Use of manual over ride system accessory: statement N° VTT-S-00593-16 dated 05/02/2016 from VTT, Finland.

4. APPLICATION / LIMITATION :

4.1 - Approved for use in H-30, H-60, H-120 class steel divisions with fire insulation as described in §1.

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 type "**Insulfrax LT Blanket**" (nominal density 128 kg/m³); any alternative H-class insulation material, previously proven and approved, giving at least an equivalent insulation performance, can be used.

4.5 - Actuators of same mode (pneumatic 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 - The **Single or Multi-Blade H-Class Fire Dampers, type "FDH"** are to be supplied by **Halton Marine Oy** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **Halton Marine Oy** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **Halton Marine Oy** has declared to Bureau Veritas the following production site:

Halton Marine Oy
Pulttikatu 2
15700 Lahti
FINLAND

Halton Ventilation (Shanghai) Co., Ltd.
Block 7, No. 55 Feidu Road, Lingang New City,
Pudong New District - 201306 Shanghai
People's Republic of China

6. MARKING OF PRODUCT:

The product or packing is to be marked with Manufacturer name, type, designation and fire-technical rating.

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 the Type Approval Certificate N° 55306/A0 BV issued on 26/10/2018 by the Society.

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