



MARINE DIVISION

Certificate number: 09219/C0 EC

File number: ACI 4020/032/005

Annex A1 Item number: A.1/3.22

USCG Module B number:
164.139 / EC0062

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

www.veristar.com

Notified Body 0062 - MARINE EQUIPMENT DIRECTIVE 96/98/EC

EC TYPE EXAMINATION CERTIFICATE

*as per Module B of European Union Council Directive 96/98/EC on marine equipment
as amended by Commission Directive 2009/26/EC*

This certificate is issued to

HALTON Oy
Lahti - FINLAND

for the type of product

FIRE DAMPERS

A class - Fire damper type FDL (Singleblade and Multiblade Fire Damper)

Requirements:

SOLAS 74, as amended, Reg. II.2/9
IMO Resolution MSC.61(67) - (FTP Code) Annex 1, Part 3
IMO MSC/Circ. 1120.

This certificate is issued under the French Maritime Authority to attest that BUREAU VERITAS did undertake the relevant type-examination procedures for the product identified above which was found to comply with the relevant requirements of the Council Directive 96/98/EC of 20 December 1996 as amended.


This certificate will expire on: 21 Feb 2016

For BUREAU VERITAS Notified Body 0062,

At BV HELSINKI, on 21 Feb 2011,

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 B 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. 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 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 Division 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 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 and Multiblade Fire Damper Type "FDL" for use in A-class bulkheads and decks.

Rectangular steel fire dampers, sizes from 100 x 100 to 1300 x 1200 mm.

Coaming length: 900 mm minimum.

Coaming + fire damper casing to be fully insulated (only actuators need not to be insulated).

Length of fire damper frame : 210 mm

Minimum thickness of the fire damper frame: 3 mm.

The joint between the coaming and the frame of the damper is a flange joint with bolts and nuts. (max spacing 150 mm).

Class of FDL fire damper:

-A0 when the frame of the damper is at least at 150 mm from the structural core: in this case, coaming + fire damper casing need not to be insulated.

A15, A30 when the frame of the damper is at least at 150 mm from the structural core: in this case, coaming + fire damper casing to be fully insulated over 900 mm.

- A60 when the frame of the damper is at least at 450 mm from the structural core : with minimum coaming thickness 3 to 5 mm (depending on size) and coaming + fire damper fully insulated.

- A60 when the frame of the damper is at least at 240 mm from the structural core: with minimum coaming thickness 3 to 5 mm (depending on size) and coaming + fire damper casing to be fully insulated over 1300 mm for bulkheads, and 1100 mm for decks.

Fire damper main characteristics:

Fire Damper Dimensions (width x height)	100x100 mm	1300x1200 mm
Fire Damper Type	singleblade	multiblade (2 or 4 dampers)
Blade thickness (mm)	21	21
Blade shaft diameter (mm)	15	15
Blade frame thickness (mm)	1	1
Maximum height of one blade (mm)	159	259

Types of FDL fire damper:

-electrical (FDL - EL),

-linear pneumatic (FDL-PNL),

-rotating pneumatic (FDL-PNR),

-spring loaded with fusible link (FDL-SP).

Operation of FDL fire damper:

Automatic (with fusible link):

- electrical motor, type BELIMO BF-24-2HL, Schischek In Max-15-F, Belimo BF 230, Siemens GGA 126.

- linear pneumatic, type RODER 71/245,

- rotating pneumatic, type E-0 MATIC ES 40/A/NS or Air Torque AT100 S10 B.

Manual (with fusible link):

- spring loaded.

The construction of the fire damper itself is the same in these dampers, only the operation is different.

Non -combustible insulating mineral wool :

- Mineral wool used for fire tests: type "PAROC Fire slab 110", nominal density 110 kg/m3, thickness 75mm manufactured by Paroc.

2. DOCUMENTS AND DRAWINGS :

As per the Manufacturer's drawings:

- N° PKY99005 Rev. C dated 19.04.99, N° PKY99014 Rev. A dated 03.02.99,

- N° PKY99015 Rev. A dated 03.02.99, N° PKY99016 Rev. E dated 03.02.99,

- N°LH-5403 Rev. A dated 17.03.99, N°LH-5404 Rev. A dated 17.03.99,

- N°LH-5406 Rev. A dated 19.03.99, N°LH-5407 Rev. A dated 19.03.99,

- N°LH-5409 Rev. A dated 19.03.99, N°LH-5410 Rev. B dated 22.03.99

- N°LH-5412 Rev. B dated 26.03.99, N°LH-5421 Rev. A dated 19.03.99,
- N°LH-5425 Rev. B dated 29.03.99, N°LH-5427 Rev. B dated 06.04.99,
- N°LH-5431 Rev. A dated 22.03.99, N°LH-5433 Rev. A dated 22.03.99,
- N°LH-5434 Rev. B dated 2.06.99, N°LH-5435 Rev. A dated 25.10.07,
- N° JpM12021 Rev. A dated 08.10.07, N° LH-5220 Rev. B dated 22.10.09,
- N° LH-5221 Rev. A dated 22.10.09.
- N° LH-5220 Rev. A dated 22.10.09, rev.C.

3. TEST REPORTS :

- 3.1- Following test reports as per IMO FTPC, Part 3:
- n° RTE 11 040/99 dated 29/06/1999
 - n° VTT-S-10161-07, dated 23.11.2007, from VTT, Finland.
 - n° VTT-S-8566-10, dated 20/09/2010, from VTT, Finland.
 - n° VTT-S-8567-10, dated 11/10/2010, from VTT, Finland.
- 3.2 - Following statements from VTT Laboratories, Finland
- n° VTT-S-7332-07 dated 31.08.2007
 - n° VTT-S-3542-10, dated 28/04/2010

4. APPLICATION / LIMITATION :

- 4.1 - The fitting aboard to be the same as used for the test.
- 4.2 - Approved for installation in A-15, A-30 and A-60 class bulkheads and decks when the fire damper is installed & insulated in accordance with §1. No insulation required when installed in uninsulated A-0 class steel bulkheads and decks.
- 4.3- Additional non-combustible mineral wool: The fire tests were conducted with mineral wool type "PAROC Fire slab 110", nominal density 110 kg/m³; any approved A-class insulation of similar type giving at least an equivalent insulation performance can be used.
- 4.4 - 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.
- 4.5 - 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.
- 4.6 - The damper is to be capable of being closed manually from both sides of the division.
- 4.7 - Approved for use as modular assembly of 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-5600, rev.H, and LH-5073, rev.A.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1- This certificate 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 B of the Directive is to be complied with and controlled by a written inspection agreement with a Notified Body.
- 5.2- Each equipment or batch of equipment is to be supplied with its manual (or instruction) for installation, use and maintenance in the language required by the Ship's Flag Administration.

5.3- Halton Oy has declared to Bureau Veritas that the type of product described in this certificate may be manufactured at the following production sites :

Halton Ventilation Co., LTD
600 South Xin Yuan Road / Building 10
Lingang New City
Shanghai, China

Innes Aire, S.A. de CV.
Division del Norte N° 76
Col. Memetla
05330, Cuajimalpa, D.F.
Mexico

6. MARKING OF PRODUCT :

Markings as per MED 96/98/EC when authorized by a Notified Body :

⊙ YYYY/XX where YYYY is the number of the Notified Body undertaking surveillance module (when BV, 0062) and where XX are the last two digits of year mark affixed.

In pursuance of the EU/US MRA+, and in accordance with the Council Decision 2004/425/EC of 21 April 2004, the manufactured item(s) can be affixed with the USCG conformity marking, subject to the authorization of the Conformity Assessment Body undertaking surveillance module.

7. OTHERS :

7.1 -This approval is given with the understanding that the Manufacturer and/or Distributor will accept full responsibility for informing shipbuilders, shipowners and/or their sub-contractors of the proper methods of fitting and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes EC Type Examination certificate N°09219/B0 EC, issued on 09/11/2009 by the Society.

*** END OF CERTIFICATE ***