Electronically published by ABS London.
Reference 428061, dated 29-MAY-2009.

ABS

CERTIFICATE NUMBER
04-LD419794/1-PDA

DATE
29 May 2009

ABS TECHNICAL OFFICE
London Engineering Department

CERTIFICATE OF
Design Assessment

This is to Certify that a representative of this Bureau did, at the request of

HALTON OY - LAHTI

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate. It will remain valid as noted below or until the Rules or specifications used in the assessment are revised (whichever occurs first).

PRODUCT: Fire Damper

MODEL: FEX Marine Fire Dampers

ABS RULE: 2009 Steel Vessel Rules 1-1-4/7.7, 3-4-1, 4-7-2/3.7

OTHER STANDARD: IMO FTP Code, IMO FSS Code, SOLAS 74/78 and 2000 Amendments Regulations II-2/9.4, II-2/9.7 ; IMO Resolution A.754(18);

AMERICAN BUREAU OF SHIPPING

John L. Morgan
Engineering Type Approval Co-ordinator

AB258(07/03)

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of American Bureau of Shipping or a statutory, industrial or manufacturer's standard and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without ABS approval will result in this certificate becoming null and void. **This certificate is governed by the terms and conditions on the reverse side hereof.**

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HALTON OY
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LAHTI
FIN-15700
Finland
Telephone: 358-3-583411
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MA Certificate No. 06-TU749697

Product: **Fire Damper**

Model: **FEX Marine Fire Dampers**

Intended Service:
Ventilation ducting which penetrates "H" Class divisions up to and including H-120

Description:
Single or multi-bladed rectangular fire dampers using the following means of actuation:
Electrical with fusible link (FEX-EL) actuator types Belimo BF24-2 HL, BF230-2-HL; Schischek Ext 1524-F1, ExMax 5.10-F, InMax 5.10-F; Siemens GCA 321.1E.
Linear pneumatic with fusible link (FEX-PNR) actuator type Air Torque AT100 S10B, AT210 S10B; Festo DRe-4-F05-Q12-F0; Prisma P05S.
Spring loaded with fusible link (FEX-SP) actuator spring loaded type.
Pneumatic fire damper FEX-PNL with actuator Roder 245N.

Ratings:
H-0 to H-120 rated Fire Damper, maximum damper dimension -1200 mm x 1200 mm: minimum damper dimension - 100 mm x 100 mm; Intermediate sizes as per FEX specification matrix;
Non-combustible insulation: Rockwool Firebatt 150 (65+65), thickness - 65 mm, density - 141 / 157 kg/ meter cubed.

Service Restrictions:
1) The FEX dampers have met the integrity requirements for H-120 installations and insulation performance requirements for H-15, H-30 and H-60 installations. It is at the discretion of the Administration to accept the said damper for the installation on an H-120 deck and bulkhead division.
2) Damper coaming thickness is to be in accordance with SOLAS Regulation II-2/9.7.
3) Dampers manufactured from materials other than those used in the fire tests are not covered by this Type Approval.
4) Where Administrations require the dampers to satisfy both the insulation and integrity criteria of Appendix A.II of IMO Resolution A.754(18), insulation of the damper coaming is to be appropriate for the "H" Class divisions being penetrated.
5) Details of manual operation and indicator device are to be submitted for each application.
6) The damper is to be provided with an automatic closing arrangement.
7) This Type Approval is not to be considered a substitute for a Flag Administration's approval for the purpose of SOLAS 74/78 and Amendments unless specifically directed by the Administration.
8) Unit Certification is not required for this product. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances must be clearly defined.

Comments:
Not Applicable

Notes / Drawings / Documentation:
1) VTT Test Report No. RTE 3411/03 dated 28 November 2003, VTT Test Report No. VTT-S-4280-07 dated 21 May 2007
2) This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

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Term of Validity:
This Design Assessment Certificate number 04-LD419794/1-PDA, dated 29/May/2009 will expire on 28/May/2014 or at an earlier date should there be alterations to the product's design or changes to the referenced ABS Rules and other specifications, which affect the product. Product use on or after 1 January 2010, will be subject to compliance with the ABS Rules or specifications in effect when the vessel, MODU or facility is contracted. The product's acceptability on board ABS-classed vessels or facilities is defined in the service restrictions of this certificate.

STANDARDS

ABS Rules:
2009 Steel Vessel Rules 1-1-4/7.7, 3-4-1, 4-7-2/3.7

International:
IMO FTP Code, IMO FSS Code, SOLAS 74/78 and 2000 Amendments Regulations II-2/9.4, II-2/9.7 ; IMO Resolution A.754(18)