

CERTIFICATE OF FIRE APPROVAL

This is to certify that

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	Halton Oy
Address	Pulttikatu 2 15700 Lahti Finland
Type	FIRE DAMPER (STANDARD FIRE TEST)
Description	Single and Multi-bladed Rectangular Fire Damper – Type: "FDL"
Specified Standard	IMO Res.MSC.61(67)-(FTP Code), Annex 1, Part 3 IMO MSC/Circ.1120

The attached Design Appraisal Document forms part of this certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Date of issue	26 September 2011	Expiry date	19 January 2014
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Certificate No.	SAS F090010/M1
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Signed


Lloyd's Register EMEA
Helsinki Office


Sheet No	1 of 2
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Name

S. Abraham
Surveyor to Lloyd's Register EMEA
A Member of the Lloyd's Register Group

Note:

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid Certificate.

"Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract."

DESIGN APPRAISAL DOCUMENT

Date 26 September 2011	Quote this reference on all future communications LDSO/SFS/TA/SA
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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F090010/M1

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Technical Research Centre of Finland (VTT), Espoo, Finland, Test Report Nos: RTE 11040/99, dated 29 June 1999, RTE 11041/99, dated 30 June 1999, VTT-S-8566-10 and VTT-S-8567-10 both dated 27 October 2010.

CONDITIONS OF CERTIFICATION

- For use in 'A-0', 'A-15', 'A-30' and 'A-60' decks and bulkheads with fire damper and ducting suitably insulated. The minimum total duct insulation lengths are given below, which may be interpolated for intermediate sizes based on the internal cross-sectional area of duct.

Damper Size	100mm x 100mm	1300mm x 1200mm
Bulkhead	750mm	1100mm
Deck	750mm	1100mm
- Minimum clear opening size of damper: 100mm wide x 100mm high.
- Maximum clear opening size of damper: 1300mm wide x 1200mm high.
- The following actuators only suitable for use with deck mounted dampers: Belimo BF25-HL, Roder 71/245, E-O-MATIC ES40/A/N5, F:Spring, Belimo BF230, Belimo BF230-T and Schischek In Max-15-F.
- The following actuators only suitable for use with bulkhead mounted dampers: Belimo BF24-2HL, Belimo BF24-T, Roder 71/245, EL-O-MATIC ES40/A/N, Spring, Belimo BF230, Belimo BF230-T and Schischek In Max-15-F.
- Fire damper blades may be made of stainless steel or galvanised mild steel.
- Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.

PLACE OF PRODUCTION

Halton Oy	Halton Ventilation (Shanghai) Co. Ltd
Pulttikatu 2	4C, 127 Fu Te Bei Road
15700 Lahti	Waigaiqiao Free Trade Zone
Finland	Shanghai
	People's Republic of China




Saji Abraham
 Surveyor
 Statutory Fire & Safety
 London Design Support Office
 Lloyd's Register EMEA

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).