



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. F-18501
This Certificate consists of 2 pages

This is to certify that the
Fire Damper
with type designation(s)
MULTIBLADE FIRE DAMPER TYPE FDB

Manufactured by
Halton Oy
LAHTI, Finland

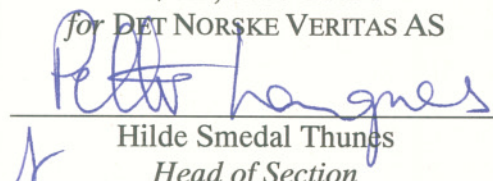
is found to comply with
Det Norske Veritas' Offshore Standards
Det Norske Veritas' Rules for Classification of Ships
Det Norske Veritas' Interpretation of SOLAS 1974 Convention as Amended

Application
The damper is approved for use in ducts penetrating bulkhead or deck Class A-0/A-15/A-30/A-60 when damper and ventilation penetration are insulated similarly. Size of each damper module: max. 1000 x 1000 mm; min. 100 x 100 mm.


Place and date
Høvik, 2007-10-24
for DET NORSKE VERITAS AS



This Certificate is valid until
2011-12-31


Hilde Smedal Thunes
Head of Section

Local Office
DNV Helsinki


Amir Dzaferi
Surveyor

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: F-18501
File No.: 472.22
Case No.: 262.1-004004-1

Product description

“Multiblade Fire Damper Type FDB”
composed of actuator operated, rectangular, fire damper with dampers blades and casing made from 3 to 5 mm steel plates. Casing to be bolted or welded to the bulkhead/deck construction.

Applications/Limitations

The fire-damper to be manual or automatic operated with fusible link by electrical motor with pneumatic linear or rotary actuator or other actuators which spring will give min. 2Nm torque power or manual with/or without fusible link.

The arrangement and necessary insulation of fire dampers frame and ducting in the vicinity of the partition is subject to approval in each case.

Each product is to be supplied with its manual for installation and use.

Type Approval documentation

Certification in accordance with Certification Note No. 1.2, Type Approval, December 1996.
Test report No. PAL 11/93 and No. RTE 11128/96 dated 16 December 1996 from VTT, Espoo, Finland.

Statement from VTT dated 13 January 1995.

Certificate Retention Survey Report No. HEL-07-1451 dated 7. September 2007 from DNV Helsinki.

Tested according to IMO FTPC Part 3 (IMO Res. A.754(18)).

Marking of product

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

Certificate retention survey

Det Norske Veritas' surveyor is to be given permission to perform Certification Retention Surveys at any time during the validity period of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in item 4.3, Certification Note No. 1.2.

END OF CERTIFICATE



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