DNV·GL

Certificate No:
TAF00000H9

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Fire Damper

with type designation(s)
A-60 Marine Fire Damper

Issued to
Swegon Air Management Limited
KENT, United Kingdom

is found to comply with
DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations
DNV GL rules for classification – Ships
DNV GL offshore standards

Application :

Approved for use in ducts penetrating A-classed steel bulkheads and decks:

1. Max. permissible clear opening of single blade fire damper:
100 mm x 100 mm
2. Max. permissible clear opening of multi blade fire damper:
1000 mm x 1000 mm
3. Max. permissible clear opening of double fire damper arrangement:
2080 mm x 1000 mm or 1000 mm x 2080 mm

This certificate is recognized by Transport Canada.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2021-12-31**.

Issued at **Høvik** on **2017-01-05**
DNV GL local station: **London** for **DNV GL**

Approval Engineer: **Fryderyk Hoga**

Petter Langnes
Head of Section

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.

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Job Id:
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Product description

"A-60 Marine Fire Damper"
Single or multi blade fire dampers consisting of casing in min. thickness 1.2 mm, manufactured from either zinc carbon steel, or 316 grade stainless steel. The damper casing is 150 or 210 mm deep and bolted to minimum 700 mm (unexposed side) and 300 mm (exposed side) long coaming, by means of M8x25 bolts with spacing of 150 mm. Coaming is welded to the bulkhead/deck.

Blades are composed from 0.5 mm thickness 430, or 316 grade stainless steel, formed to double skin hollow profile of 12.7 mm thickness.

Two fire dampers in size 1000x1000 mm can be joined together, with two 2 mm thick channels in vertical or horizontal configuration.

For use in bulkheads and decks with the following spring return, fail safe close actuators and associated thermal release mechanism.

a. Actionair Universal actuator (230v, 120v 24v options)
b. Actionair Compact actuator (230v, 120v 24v options)
c. Festo DFPB 20 S F05 Pneumatic actuator
d. Hytork XL071 or Hytork XL026 Pneumatic actuator
e. Schischek 5.10Nm BF (BF-A-45.9Lb) or 15Nm BF (BF-A-135Lb) ExMax, RedMax, InMax, VAS, CTS, BF1

Fire dampers are manufactured by Swegon Air Management Ltd., Whitstable, Kent, UK.

Application/Limitation

Approved for use in ventilation ducts penetrating A-60 class steel bulkheads/decks. Other applications are subject to case-by-case approval.

Max. size of multiblade damper: 1000x1000 mm (WxH)
Max. size of double damper arrangement: 2080x1000 or 1000x2080 mm (WxH)

Max. number of blades in multiblade damper: 13
Max. size of blades: 1000x81.5 mm (WxH)

Steel thickness of damper casing to be equal to or greater than thickness of duct/sleeve required by the rules if the damper casing is part of the duct/sleeve.

The damper shall be capable of being closed from both sides of the bulkhead/deck.

The coaming/casing is insulated with 50 mm thick Rockwool SeaRox SL620 (nominal density: 100 kg/m^3) mineral wool on unexposed and exposed side of deck and two layers 50 mm + 30 mm thick Rockwool SeaRox SL620 (nominal density: 100 kg/m^3) mineral wool on unexposed and exposed side of bulkhead. For details please see table below.

Damper size (W x H)	Insulation length on sleeves for fire dampers in bulkheads		Insulation length on sleeves for fire dampers in decks	
	Exposed side	Unexposed side	Exposed side	Unexposed side
100 x 100 mm	450 mm	250 mm	450 mm	550 mm
400 x 400 mm	450 mm	550 mm	450 mm	550 mm
1000 x 1000 mm	450 mm	850 mm	450 mm	850 mm
2080 x 1000 mm	450 mm	850 mm	450 mm	850 mm
1000 x 2080 mm	450 mm	850 mm	450 mm	850 mm

The insulation used is to be regarded as minimum insulations for all fire rating and is not to be removed if the fire damper is to be used in division with lower fire ratings.

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

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, October 2015.

Test reports No.
2015CS013908-1 A dated 9/6/2016
2015CS013908-2 A dated 9/6/2016
2015CS013908-3 A dated 9/6/2016
2015CS013908-4 A dated 9/6/2016
all from Fire Protection Research Laboratory (Rina), Genova, Italy.

Drawings No.
PTC-041J rev.3 dated 2 March 2004, AA/F11724 rev.B dated 21 April 2016 and MAR101 rev.2 dated 2 March 2011 all from manufacturer.

Operating manuals No.
LNNN00300 rev.5, LNNN00314 rev.4, LNNN00315 rev.4 and LNNN00373 rev.4 all dated April 2016 and all from manufacturer.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Marking of product

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

Transport Canada Approval

Based on the procedures laid down in the Transport Canada Publication entitled "*Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)",* DNV GL confirms that the products listed in this certificate are in accordance with Transport Canada's requirements.

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNVGL-CP-0338, Section 4.