

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:**That the Fire dampers**

with type designation(s)

Automatic fail-safe rectangular - type FDA - A-60 (max 1400x1500)

Issued to

**Przedsiębiorstwo ALWO Sp. z o.o.
Torun, Poland**

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2017/306,**

item No. MED/3.22. SOLAS 74 as amended, Regulation II-2/9 and IMO 2010 FTP Code

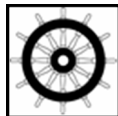
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2022-06-28.**

Issued at **Hamburg** on **2017-06-29**

DNV GL local station:
Gdansk CMC

Approval Engineer:
Marius Mørner



Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudzus
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004.

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Product description

"Automatic fail-safe rectangular - type FDA - A-60 (max 1400x1500)"
with pneumatic or electrical driven actuator, with automatic (72 °C) and manual closing, screwed to the coaming with the following in between:

- 1400x1500 size and below: 2 Promaseal expanding gaskets
- 100x100 size and below: 1 Promaseal expanding gaskets

The coaming is welded to the steel bulkhead/deck.

Damper blades are 20 mm thick, with a core of 15 mm mineral wool, type Paroc Fire Slab 150, density of 150 kg/m³, manufactured by Paroc Group Oy AB.

For further details, see the documents listed under Type Examination documentation below.

Application/Limitation

The fire damper is approved for installation in class A-60 steel bulkheads and decks. Other applications are subject to case-by-case approval.

Insulation: Paroc Fire Slab 100, 40/60 mm thick, density 100 kg/m³, manufactured by Paroc Group Oy AB, attached to the steel structures with steel pins and washers.

Construction

Maximum Fire Damper size:	1400 x 1500 mm (W x H)
Minimum Fire Damper casing thickness:	3-5 mm*
Minimum coaming thickness:	3-5 mm*
Maximum number of blades:	8
Maximum blade size:	184 x 1390 mm (W x H)
Minimum length of coaming on unexposed side:	500 mm
Minimum distance, fire damper centre ↔ bulkhead/deck structural core:	335 mm

*depending on damper size, see drawings for further details.

Insulation – Bulkhead:

- unexposed side:
 - A-60 construction: 5 mm steel + 60 mm thick Paroc Fire Slab 100 (25 mm thick on the stiffeners)
 - 60 mm thick, 450 mm alongside the coaming
- exposed side:
 - 60 mm thick, covering coaming and actuator
 - Additional 25 mm thick insulation layer, 150 mm wide on top of the junction between damper and coaming
 - Additional 25 mm thick insulation layer, 150 mm wide on top of the junction between damper and angel bar
 - 60 mm thick, on the steel bulkhead, 400 mm around the penetration (in addition to A-60 insulation on unexposed side)

Insulation - Deck:

- unexposed side:
 - 40 mm thick, 450 mm alongside the coaming
- exposed side:
 - A-60 construction: 5 mm steel + 40 mm thick Paroc Fire Slab 100 (25 mm thick on the stiffeners)
 - 40 mm, covering coaming and actuator
 - Additional 25 mm thick insulation layer, 150 mm wide on top of the junction between damper and coaming
 - Additional 25 mm thick insulation layer, 150 mm wide on top of the junction between damper and angel bar

Job Id: **344.1-007233-1**
Certificate No: **MEDB000030M**

The insulation used during testing is to be regarded as minimum insulation for all fire ratings, and is not to be removed if the fire damper is to be used in in divisions with lower fire ratings

The damper shall be capable of being closed from both sides of the bulkhead or deck, and shall be fitted with open/close indicator.

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

Type Examination documentation

Test Reports all from Ship design and research centre, Gdansk, Poland:

- Deck: no. RS-11/B-109/E, dated 25.02.2011
- Bulkhead: no. RS-11/B-110/E dated 25.02.2011

Drawings: see test reports.

Tests carried out

Tested according to IMO FTPC Part 3 and in compliance with IMO 2010 FTP Code Ch. 8.

Marking of product

The product is to be marked with name and address of manufacturer, type designation, fire technical rating, the MED Mark of Conformity and USCG Approval Number if applicable (see first page).