

## EC TYPE EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2013/52/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL under the authority of the Government of the Kingdom of Norway.

### This is to certify:

**That the Fire dampers**

with type designation(s)  
**MARINE FIRE DAMPER**

Issued to

**Kyodo-Allied Technology Pte Ltd**  
**Singapore, Singapore**

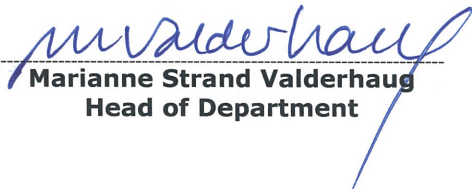
is found to comply with the requirements in the following Regulations/Standards:  
**Annex A.1, item No. A.1/3.22 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/9 and IMO FTP Code**

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

**Høvik, 2015-03-02**  
for **DNV GL**

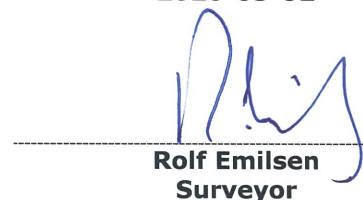


This Certificate is valid until  
**2020-03-02**

  
**Marianne Strand Valderhaug**  
Head of Department

Notified Body No.: **0575**

DNV GL local office:  
**Singapore**

  
**Rolf Emilsen**  
Surveyor



The Certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this Certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended. The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

Certificate No: **MED-B-9811**  
Item No: **A.1/3.22**  
Job Id: **344.1-004717-1**

## Product description

"Marine Fire Damper"

spring/actuator operated single/multiblade fire dampers with dimensions and casing/blade thickness as specified below.

The fire rating is based on that the dampers are insulated on the exposed and unexposed side with 2 x 20 mm insulation material made of ceramic fibre with density 179kg/m<sup>3</sup> in a length of 450 mm on unexposed side and 450/500 mm on exposed side. See drawings FD-1C, FD-2C and 3C given in test reports.

The dampers are fitted with electrical actuator type ADS-B101.

Electrical actuator type ADM-B102 may also be used.

## Applications/limitations

The fire damper is approved for installation in steel bulkheads and deck.

Min./Max Size Single (mm)	Length (mm)	Casing thickness	Blades thickness	Class A bulkhead	Class A deck
Dia. 150	200	5,0 mm	3,2 mm	A-60	A-60
Dia. 700	500	5,0 mm	3,2 mm	A-30	A-30
150 x 150	200	5,0 mm	3,2 mm	A-30	A-60
1000 x 1000	200	5,0 mm	3,2 mm	A-15	A-30

Fire rating of the dampers is given in the above table. The insulation (ref. above ) shall not to be removed if the fire damper is to be used in divisions with lower fire ratings. Other fire rating arrangement of the dampers with necessary insulation of damper casing 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, use and maintenance.

## Type Examination documentation

Test reports No. FT00003, FT00004 and FT00005 dated 2 March 2000, from Far East Fire Testing Centre, Shanghai, China.

## Tests carried out

Tested according to IMO FTPC Part 3 (IMO Res. A.754(18)) and in compliance with IMO 2010 FTP Code Ch.8.

## Marking of product

The product or packing is to be marked with name of manufacturer, type designation, fire-technical rating, MED Mark of Conformity and USCG approval number if applicable (see below and page 3).

## Mark of conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body  
Module E: The quality system for inspection and testing shall be approved by the Notified Body  
Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.



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### USCG Approval

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 United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005.

