

EC-TYPE EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2014/93/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the Fire Doors

with type designation(s)
CMWS-WTFD-9017-A60 Fire Door

Issued to

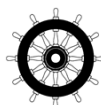
China Marine Windows Shipyard Co., Ltd.
Kaohsiung, Taiwan

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

Annex A.1, item No. A.1/3.16 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/and IMO 2010 FTP Code

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

Høvik, 2015-09-14
for **DNV GL AS**



This Certificate is valid until
2020-09-13

Notified Body No.: **0575**

Vidar Dolonen
Head of Department

DNV GL local office:
Kaohsiung

Synnøve Bolstad Eri
Surveyor

Product description

"CMWS-WTFD-9017-A60 Fire Door "

is a single leaf hinged door with outer and inner steel sheets made of 8 mm and 1.6 mm steel respectively. The door is insulated with the following layers (from the outer steel sheet):

Thickness [mm]	Material
50	Insulation: Rock wool board, density 120 kg/m ³ (manufactured by Byucksan Youngdong Plant)
12.5	Insulation: Ceramic fiber blanket, density 128 kg/m ³ (manufactured by Yeh Hsin Technologies Co., Ltd.)
55	Air gap
12.5	Insulation: Ceramic fiber blanket, density 128 kg/m ³ (same as mentioned above). This layer is placed along the inner steel sheet

The door leaf incorporates 4 horizontal stiffeners on the outer steel sheet side, in addition to 3 vertical and 2 horizontal cover angle bars (3t x 128 x 30) which are bolted between the steel sheets. Along the edges of the outer steel sheet, ceramic fiber packing (20t x 32) is fitted with a 6 mm thick steel packing holder.

Total door leaf thickness is 138 mm.

The door leaf is connected to the frame with 3 hinges, and closed to the door frame by a locking system with 8 fastening points consisting of opening handles (wheels) controlling linkage rods. The door frame is made from 8 mm thick steel, and may be bolted (M8 bolt and nut with 2 mm fire resistant packing, spaced maximum 110 mm apart) or welded to the bulkhead.

Door leaf and door frame is painted with fire resistant coating of type "INCA NCB-928".

For further details Type Examination documentation below.

Application/Limitation

The door is approved for installation in steel bulkheads of class A-60. Installation of the door in bulkheads made of other materials (aluminium, FRP, etc.) are subject to case-by-case approval.

The bulkhead, which the fire door is installed in, is to be additional stiffened as shown in Drawing no. CMWS-QA-WTFD-8D page 8.

Max. size of door leaf: 990 mm x 1790 mm (w x h)
Max. clear opening of door: 900 mm x 1700 mm (w x h)

The insulation materials and adhesives used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity. This requirement may also be applicable for surface materials used, if required by relevant rules and regulations.

Note that this is a fire safety certificate which only covers fire technical properties (i.e. not to cover strength evaluations related to watertightness, weathertightness, etc.).

The door has been successfully tested with extended test period in compliance with IMO MSC.1/Circ. 1319.

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

Job Id: **344.1-004842-1**
Certificate No: **MEDB000008C**

Type Examination documentation

Test report No. FPSRC-D0584-IMO-F-01 dated 4 August 2015 from National Cheng Kung University Fire Protection and Safety Research Centre, Taiwan.

Drawing No. CMWS-QA-WTFD-8D (8 pages) dated 26 April 2015 from the 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, fire-technical rating, MED Mark of Conformity and USCG approval number if relevant (see below).

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 shall 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.

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.