DNV·GL

Certificate No:
MEDB00004BV

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the "A" Class divisions, fire integrity

with type designation(s)
Class A-60 Bulkhead: 1t Visco-elastic + 2t steel + Felt

Issued to
Daehyup Tech Co., Ltd.
Ulsan, Korea, Republic of Korea

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773,**
item No. MED/3.11a. SOLAS 74 as amended, Regulation II-2/3.2 & II-2/9, IMO 2010 FTP Code, IMO MSC/Circ.1120 and IMO MSC.1/Circ.1434

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

This Certificate is valid until **2023-09-01**.

Issued at **Høvik** on **2018-09-02**

DNV GL local station:
Ulsan

Approval Engineer:
Tessa Biever

Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
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 United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005.

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 AS 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

NORWEGIAN ACCREDITATION PROD 019

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Product description

"Class A-60 Bulkhead: 1t Visco-elastic + 2t steel + Felt"
A steel bulkhead fitted with M8 welded stud bolts on the bulkhead plate between stiffeners + 1 mm Visco-elastic mass (for sound damping purposes) + 2 mm thick steel plates with pre-drilled holes (to match the stud bolts, including hex nuts) + Rockwool insulation boards of density 110 kg/m3 (from Byucksan Co., Ltd), fastened with welded pins and washers.

The Visco-elastic mass is applied as a 1 mm thick wet layer on the bulkhead plate, and then the 2 mm thick steel plates are mounted onto the stud bolts on the bulkhead and locked in position with hex nuts.

The 2 mm thick steel plates are covered with a 75 mm thick layer of Rockwool insulation boards (covering the area between the bulkhead stiffeners and also under the stiffener flanges). Rockwool insulation boards are also used to cover the stiffeners. This includes a first layer of approx. 13 mm thick and 65 mm wide strips on top of the stiffener flanges, and a second layer of 25 mm thick and approx. 100 mm wide overlay strips.

For further details, including distances between welded pins, see the installation manual and the drawings in the test report mentioned under Type Examination documentation below.

Application/Limitation

Approved for use as a vertical fire retarding division of class A-60.

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.

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

Type Examination documentation

Test report No. KOMERI-0402-13T376 dated 01 July 2013 from Korea Marine Equipment Research Institute (KOMERI), Busan, Korea.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, MED Mark of Conformity and USCG approval number if applicable (see first page).