

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 Penetrations through "A" class divisions: pipe, duct, trunk, etc penetrations

with type designation(s)

Deck penetration for plastic pipes - A-60 class Multi Transit Sealing System (ESST system)

Issued to

HS Inc.

Busan, Republic of Korea

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

Regulation **(EU) 2018/773,**

item No. MED/3.26b. SOLAS 74 as amended, Regulation II-2/9, IMO MSC.1/Circ.1276 and IMO 2010 FTP Code

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

This Certificate is valid until **2023-08-29.**

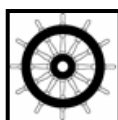
Issued at **Høvik** on **2018-08-30**

DNV GL local station:

Gimhae Station

Approval Engineer:

Marcin Tobiasz



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



Product description

"A-60 class Multi Transit Sealing System (ESST system)"

composed of 180 mm long steel coaming welded to the deck. The plastic pipe and inside of coaming are fitted with 140 mm long sleeve type "AV-810" (manufactured by HS Inc.) and 20 mm sealant type "AP-910" (manufactured by HS Inc.) in each end of the penetration system.

The pipe penetrations are centred with 90 mm on each side of deck and they are partially insulated (i.e. covering edge of steel sleeve) with 50 mm thick insulation type HI-Wool (manufactured by KCC CORPORATION) with nominal density 120 kg/m³.

For further details see report and drawings listed under Type Examination documentation.

Application/Limitation

Approved for use as pipe penetration system in class A-60 steel deck as follows:

Plastic pipe type	Pipe outer diameter, [mm]	Steel coaming outer diameter, maximum [mm]	Steel coaming thickness, minimum [mm]
PP-R	Min 20	42.7	3.5
PP-R	Max 63	114.3	4.5
PE	Min 20	42.7	3.5
PE	Max 160	216.3	5.8
PB	Min 20	42.7	3.5
PB	Max 75	114.3	4.5
PERT	Min 20	42.7	3.5
PERT	Max 75	114.3	4.5

The penetration is approved for installation in steel decks. Other applications are subject to case-by-case Approval.

For A-0, A-15 and A-30 applications, the penetration shall be insulated as for A-60 and the division is to be fitted with A-60 insulation for a minimum distance of 200 mm around the penetration.

Watertightness and gastightness is not covered in this certificate.

The penetration system shall not be used for penetrating boundaries of tanks.

The insulation material used has to be approved according to the Marine Equipment Directive and bear the Mark of Conformity.

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

Type Examination documentation

Test reports No. KOMERI-0402-17T2816 dated 6 February 2018 from "KOMERI" Korea Marine Equipment Research Institute, Busan, Korea.

Drawing No. from manufacturer: HS-17-08-01 Rev. 0 (5 sheets) dated 1 August 2017.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

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).