

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)

A-60 Class Pipe 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) 2019/1397,**

item No. MED/3.26b. SOLAS 74 as amended, Regulation II-2/9, IMO MSC.1/Circ.1276, IMO 2010 FTP Code and IMO MSC.1/1488

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

This Certificate is valid until **2025-06-01.**

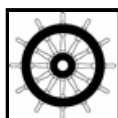
Issued at **Høvik** on **2020-06-02**

DNV GL local station:

Gimhae Station

Approval Engineer:

Tessa Bieber



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, and amended by Decision No 1/2019 dated February 22nd, 2019.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 Pipe Transit Sealing System-ESST system"

composed of a 5 mm thick and 180 mm long steel coaming welded to the bulkhead/deck. The pipe and inside of coaming are fitted with 140 mm long sealant type "AV-810 Sleeve" and 20 mm sealant type "AP-910" in each end of the penetration system.

The pipe penetration is partially insulated (fitted around coaming and covering the edge of the sleeve) with 45 mm thick approved A-60 insulation of density 64 kg/m³.

For further details, see the Type Examination documentation below.

Application/Limitation

Approved as A-60 pipe penetrations in steel bulkheads and decks for PVC and SUS piping (see table 1 below). Other applications are subject to case-by-case approval.

Class A-0, A-15 and A-30 shall be insulated as class A-60 and in addition the division is to be insulated at least 200 mm around the penetration.

Approved sizes of pipe penetration:

Table 1

Pipe material	Pipe Ø [mm]	Sleeve Ø [mm]	Penetration insulation	Application
PVC	17.3 - 165.2	34 - 216.3	Partially insulated with A-60 insulation For bulkhead: on insulated side* For deck: on underside of deck*	A-60
SUS	10.5 - 165.2	34 - 216.3	Partially insulated with A-60 insulation For bulkhead: on insulated side* For deck: on underside of deck*	A-60

*The pipe transits are to be insulated with A-60 insulation around the penetrations on the insulated side of the division for bulkhead penetrations and from below for deck penetrations. In addition, the penetrations are to be insulated with the same insulation covering the edge of the steel sleeve.

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

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

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

Type Examination documentation

Test report No. KOMERI-0402-14T2853 dated 30 December 2014 from "KOMERI" Korea Marine Equipment Research Institute. (Deck).

Test report No. KOMERI-0402-14T2854 dated 30 December 2014 from "KOMERI" Korea Marine Equipment Research Institute. (Bulkhead)

Drawing Nos. from manufacturer:

- HS-14-05-02 Rev. 1 (3 sheets) dated 5 November 2014
- HS-14-07-02 Rev. 1 (3 sheets) dated 5 November 2014

Tests carried out

Tested according to IMO 2010 FTP Code part 3.



Job Id: **344.1-004488-4**
Certificate No: **MEDB00006BX**

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, fire-technical rating, Mark of Conformity and USCG approval (see first page).