# EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
**MEDB000096S**

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

## This is to certify:

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

with type designation(s)
**SG-MK/A60**

issued to
**Shanghai Siaco New Materials Technology Co., Ltd.**
**Shanghai**, **China**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2024/1975,**
**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 **2029-09-29**.

Issued at **Hamburg** on **2024-09-30**

DNV local unit:
**Shanghai**

Approval Engineer:
**Marcin Tobiasz**

Notified Body
No.: **0098**

for **DNV SE**

**Mydlak-Röder, Christine**
**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 European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004, and amended by Decision No 1/2023 dated May 26th, 2023.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

"SG-MK/A60"
is a round single pipe penetration composed of a steel sleeve welded to a steel division. The steel sleeve is packed with SG-K type fire blanket (manufactured by Shanghai Siaco New Materials Technology) and sealed with 20 mm thick SG-M type fireproof sealant (manufactured by Shanghai Siaco New Materials Technology) on each side.

The minimum distance between pipe and sleeve shall be 5 mm.

## Application/Limitation

Approved for use as single pipe penetration system in class A-0 and A-60 steel bulkheads and decks. Other applications are subject to case-by-case approval.

Class A-0, A-15 and A-30 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.

Table 1: Approved pipe penetration in A-60 steel bulkheads

| Type | Size diameter [mm] | Pipe material | Pipe diameter [mm] | Sleeve length [mm] | Sleeve thickness [mm] | Sleeve position | Penetration insulation |
|---|---|---|---|---|---|---|---|
| SG-MK/A60 | 32 – 219 | Copper | 6 – 168 | 160 | 3 – 6 | Symmetrical | Fully insulated[1)] with 800 along pipe on one side |
| SG-MK/A60 | 32 – 377 | Steel | 6 – 273 | 160 | 3 – 9 | Symmetrical | Fully insulated[1)] with 400 along pipe on one side |

1) penetration with sleeve diameter 32 mm and 6 mm pipe can be partially insulated without additional insulation around pipe

Table 2: Approved pipe penetration in A-60 steel decks

| Type | Size | Pipe material | Pipe diameter [mm] | Sleeve length [mm] | Sleeve thickness [mm] | Sleeve position | Penetration insulation |
|---|---|---|---|---|---|---|---|
| SG-MK/A60 | 32 – 219 | Copper | 6 – 168 | 160 | 3 – 6 | Symmetrical | Fully insulated[1)] and 800 along pipe on one side |
| SG-MK/A60 | 32 – 377 | Steel | 6 – 273 | 160 | 3 – 9 | Symmetrical | Fully insulated[1)] and 400 along pipe on one side |

1) penetration with sleeve diameter 32 mm and 6 mm pipe can be partially insulated without additional insulation around pipe

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

## Type Examination documentation

Test report No. FT24156 dated 8 May 2024 from FEFTC, Shanghai, China.
Test report No. FT24157 dated 8 May 2024 from FEFTC, Shanghai, China.
Test report No. FT24158 dated 8 May 2024 from FEFTC, Shanghai, China.

Drawing No. SG-MK/A60-C01 dated 27 November 2023 from maker.
Drawing No. SG-MK/A60-C02 dated 27 November 2023 from maker.
Drawing No. SG-MK/A60-C03 dated 27 November 2023 from maker.
Drawing No. SG-MK/A60-C04 dated 27 November 2023 from maker.
Drawing No. SG-MK/A60-J01 dated 27 November 2023 from maker.
Drawing No. SG-MK/A60-J02 dated 27 November 2023 from maker.
Drawing No. SG-MK/A60-J03 dated 27 November 2023 from maker.
Drawing No. SG-MK/A60-J04 dated 27 November 2023 from maker.

## Tests carried out

Fire 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, fire-technical rating, the MED Mark of Conformity and USCG approval number (see first page).

**Additional application/information for watertightness/gastightness**
**(Not part of the Marine Equipment Directive requirement)**

**Product description**
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is a round single pipe penetration composed of a steel sleeve welded to a steel division. The steel sleeve is packed with SG-K type fire blanket (manufactured by Shanghai Siaco New Materials Technology) and sealed with 20 mm thick SG-M type fireproof sealant (manufactured by Shanghai Siaco New Materials Technology) on each side.

**Application/Limitation**
Approved for water tightness up to a design pressure of 3.0 bar (test pressure 4.5 bar).
Approved for air tightness up to a design pressure of 2.3 bar (test pressure 3.5 bar).

Penetration systems are generally not to be used for penetrating boundaries of tanks.

**Type Approval documentation**
Gas tightness and water tightness test(s) witnessed by DNV:
Test report No. TR-20240416003 dated 16 April 2024 from maker.
Test report No. TR-20240416004 dated 16 April 2024 from maker.
Test report No. TR-20240416005 dated 16 April 2024 from maker.
Test report No. TR-20240416006 dated 16 April 2024 from maker.

**Tests carried out**
Pressure tests with water and helium according to Class Programme DNV-CP-0165.