Certificate no.:
TAF000022Y

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Class H Penetration

with type designation(s)
HK-Antifire Type H-60 and H-120 Class Pipe Penetration

issued to
Shanghai Huoke New Material Co., Ltd.
Shanghai, **China**

is found to comply with
DNV offshore standards

Application:

Approved for use as a pipe penetration system in class H-60 and H-120 steel bulkheads and decks.

Issued at **Høvik** on **2026-03-12**
This Certificate is valid until **2031-03-11**.
DNV local unit: **Shanghai**

for **DNV**

Approval Engineer: **Katarzyna Baczewska**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

"HK-Antifire Type H-60 and H-120 Class Pipe Penetration",
is a single circular pipe penetration composed of a steel sleeve welded to the steel bulkhead or deck. The sleeve is packed with HK-T type intumescent firestop sleeve (manufactured by Shanghai Huoke New Material) and sealed at both ends with 15 mm thick Antifire type firestop sealant (manufactured by Shanghai Huoke New Material).

For further details, see drawings mentioned under Type Approval documentation below.

Application/Limitation

Approved for use as a pipe penetration system in class H-60 and H-120 steel bulkheads and decks. Other applications are subject to case-by-case approval.

Class H-0 and H-30 shall be insulated as for H-60 and the division is to be fitted with H-60 insulation for a minimum distance of 200 mm around the penetration.

Table 1 Approved pipe penetration in H-60 and H-120 steel bulkhead.

Type	Pipe material	Pipe diameter (OD) [mm]	Sleeve size (OD) [mm]	Sleeve length [mm]	Sleeve Thickness [mm]	Sleeve position	Penetration insulation
HK-Antifire/H-120/C	Steel	6 – 114.3	48 – 219.1	250	3 – 8.1	Symmetric	Fully insulated + 600 mm insulation along pipe. [1)]
HK-Antifire/H-120/C	Steel	114.3 – 273.1	219.1 – 356	250 – 350	8.1 – 9.5	Symmetric	Fully insulated + 1000 mm insulation along pipe. [1)]

[1)] penetration to be insulated with 130 mm (50+40+40) FireMaster Marine Plus Blanket (density 70 kg/m^3, manufacturer by Thermal ceramics) or approved H-60 insulation. Along pipe, 50 mm FireMaster Marine Plus Blanket (density 70 kg/m^3, manufacturer by Thermal ceramics) or approved H-60 insulation to be used.

Table 2 Approved pipe penetration in H-60 and H-120 steel deck.

Type	Pipe material	Pipe diameter (OD) [mm]	Sleeve size (OD) [mm]	Sleeve length [mm]	Sleeve Thickness [mm]	Sleeve position	Penetration insulation
HK-Antifire/H-120/J	Steel	6 – 114.3	48 – 219.1	250	3 – 8.1	Symmetric	Fully insulated + 600 mm insulation along pipe. [1)]

[1)] penetration to be insulated with 80 mm (40+40) FireMaster Marine Plus Blanket (density 70 kg/m^3, manufacturer by Thermal ceramics) or approved H-60 insulation. Along pipe, 40 mm FireMaster Marine Plus Blanket (density 70 kg/m^3, manufacturer by Thermal ceramics) or approved H-60 insulation to be used.

Table 3 Approved pipe penetration in H-60 steel deck.

Type	Pipe material	Pipe diameter (OD) [mm]	Sleeve size (OD) [mm]	Sleeve length [mm]	Sleeve Thickness [mm]	Sleeve position	Penetration insulation
HK-Antifire/H-60/J	Steel	114.3 – 273.1	219.1 – 356	250 – 350	8.1 – 9.5	Symmetric	Fully insulated + 600 mm insulation along pipe. [1)]

[1)] penetration to be insulated with 80 mm (40+40) FireMaster Marine Plus Blanket (density 70 kg/m^3, manufacturer by Thermal ceramics) or approved H-60 insulation. Along pipe, 40 mm FireMaster Marine Plus Blanket (density 70 kg/m^3, manufacturer by Thermal ceramics) or approved H-60 insulation to be used.

Approved for water tightness up to a design pressure of 2 bar (test pressure 3.0 bar).
Approved for air tightness up to a design pressure of 1.33 bar (test pressure 2.0 bar).

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

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

Type Approval documentation

Certification in accordance with Class Programme DNV-CP-0338, September 2021.

Tests carried out

Tested according to IMO FTP Code Part 3 (IMO Res. A.754(18)) with furnace temperature following the hydrocarbon curve according to ISO 834-3.
Pressure tests with water and air according to Class Programme DNV-CP-0165.

Marking of product

The product or packing is to be marked with name of manufacturer, type designation and fire-technical rating.

Periodical assessment

DNV's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNV-CP-0338, Section 4.

Manufactured by:

Shanghai Huoke New Material Co., Ltd., Building 13, No.135 Guowei Road, Shanghai, China.