

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Class H Penetration**with type designation(s)
HK-MG Type H-60 class bulkhead cable transit

Issued to

Shanghai Huoke New Material Co., Ltd.
Shanghai, Chinais found to comply with
DNV GL offshore standards**Application :****Approved for use as cable penetration system in H-60 class bulkheads.**Issued at **Høvik** on **2019-07-30**This Certificate is valid until **2024-07-29**.DNV GL local station: **Shanghai**for **DNV GL**Approval Engineer: **Marcin Tobiasz**

Mårten Schei-Nilsson
Head of Section

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.



Product description

"HK-MG Type H-60 class bulkhead cable transit"

is a rectangular cable penetration composed of a 6 mm thick steel sleeve welded to the steel bulkhead. The HK-G type expansion fireproof filler sleeve (manufactured by Shanghai Huoke New Material Co., Ltd.) is wrapped around the cables and filling the remaining space between sleeves and cables. The HK-M type expansion fireproof sealant of thickness 20 mm is applied on the two ends of the penetration.

The steel sleeve is to be fully insulated on both unexposed and exposed side with three layer of 50+40+40 mm thickness FireMaster Marine Plus Blanket with nominal density 70 kg/m³.

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

Application/Limitation

Approved for use as a cable penetration system in H-60 steel bulkheads as per table below. Other applications are subject for case by case approval.

Approved cable penetration with fire rating:

Size (W x L) [mm]	Fire Rating	Filling rate range [%]	Maximum cable diameter, [mm]	Sleeve length [mm]
200 x 100	H-60	min. 0.32 – max. 24	Ø 43	250
800 x 300	H-60	min. 0.03 – max. 27.0	Ø 53.4	250

Approved for water tightness up to a design pressure of 1.33 bar.

Approved for air tightness up to a design pressure of 0.66 bar.

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

Min. distance between cables: 5 mm

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

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, September 2018.

Test Reports No. KOMERI-0402-18T4020 dated 26 February 2019 from Korea Marine Equipment Research Institute (KOMERI), Busan, Korea.

Test report Cert. No. WT/AT-2018-12-H for water tightness and gas tightness witnessed by DNV GL on 3 January 2019.

Drawings Nos.: C01 to C08 (9 pages) Rev. C/1 dated 24 July 2019 from manufacturer.

Tests carried out

Tested according to IMO 2010 FTP Code Part 3 and in compliance with the hydrocarbon time-temperature curve specified in ISO 834-3.

Tested according to DNVGL Type Approval Programme DNCGL-CP-0165 (water and air).

Marking of product

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

Periodical assessment



Job Id: **262.1-030465-1**
Certificate No: **TAF0000179**

DNV GL'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 DNVGL-CP-0338, Section 4.