



Certificate No:
TAF00001TX

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A and B Penetration

with type designation(s)
NTFIRE SYSTEM

Issued to

Shin Han Chemical Co., Ltd.
Gwangju, Jeollanam-do, Republic of Korea

is found to comply with

DNV statutory interpretations DNV-SI-0364 – SOLAS interpretations, Edition July 2021
DNV offshore standards
DNV rules for classification – Ships

Application :

Approved for use as a cable penetration system in A-0 / A-60 class steel bulkheads and decks.

This certificate is recognized by Transport Canada.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2024-01-31**

This Certificate is valid until **2029-01-30**.

for **DNV**

DNV local unit: **Mokpo**

Approval Engineer: **Izabela Misztal**

Jowita Permoda
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.

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 300,000 USD.



Product description

"NTFIRE SYSTEM"

Is a cable penetration system composed of a 180 mm long coaming of at least 3.25 mm thickness and is welded to the division. The steel coaming is filled with 140 mm long MFIMATE sleeves around and between cables. Each side of the steel coaming is filled with 20 mm MFISEAL sealant.

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

Application/Limitation

Approved for use as a cable penetration system in class A-0 and A-60 bulkheads and decks.

For 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.

Approved cable penetration in A-0 steel bulkhead:

Type	Size [mm]	Coaming thickness [mm]	Coaming length [mm]	Filling rate [%]	Max. cable diameter [mm]	Coaming position	Coaming insulation
NTFIRE	Ø60.5 - Ø216.3	3.65 - 5.8	180	1 - 43	37	Symmetrical	No
NTFIRE	100 x 80 - 600 x 300	6	180	1.3 - 31	52	Symmetrical	No

Approved cable penetration in A-60 steel bulkhead:

Type	Size [mm]	Coaming thickness [mm]	Coaming length [mm]	Filling rate [%]	Max. cable diameter [mm]	Coaming position	Coaming insulation
NTFIRE	Ø60.5 - Ø216.3	3.8 - 5.8	180	1 - 45	50	Symmetrical	Partially insulated
NTFIRE	180 x 120 - 640 x 350	6	180	1 - 38	72	Symmetrical	Partially insulated

Approved cable penetration in A-0 steel deck:

Type	Size [mm]	Coaming thickness [mm]	Coaming length [mm]	Filling rate [%]	Max. cable diameter [mm]	Coaming position	Coaming insulation
NTFIRE	Ø60.5 - Ø318.5	3.25 - 7	180	1 - 43	37	Symmetrical	No
NTFIRE	100 x 80 - 600 x 300	6	180	0.5 - 31	49	Symmetrical	No

Approved cable penetration in A-60 steel deck:

Type	Size [mm]	Coaming thickness [mm]	Coaming length [mm]	Filling rate [%]	Max. cable diameter [mm]	Coaming position	Coaming insulation
NTFIRE	Ø60.5 - Ø216.3	5.8	180	1 - 37	52	Symmetrical	Fully insulated
NTFIRE	Ø60.5 - Ø216.3	5.8	180	1 - 37	52	Underside	Fully insulated
NTFIRE	180 x 120 - 640 x 350	6	180	1 - 39	72	Symmetrical	Fully insulated
NTFIRE	180 x 120 - 640 x 350	6	180	1 - 39	72	Underside	Fully insulated

Penetration systems shall not be used for penetrating boundaries of tanks.

Watertightness and gas tightness of class A-0 and A-60 penetrations:

- Approved for water tightness up to a design pressure of 2.3 bar (test pressure – 3.5 bar) and maximum cable filling of 19% for rectangular type penetrations and 23% for circular type penetrations.
- Approved for air tightness up to a design pressure of 0.2 bar (test pressure - 0.3 bar). and maximum cable filling of 19% for rectangular type penetrations and 23% for circular type penetrations.

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

Type Approval documentation

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

Test Report nos. for deck:

KOMERI-0402-14T1350 dated 06 November 2014 from KOMERI, Busan, Korea.
KOMERI-0402-14T1352 dated 06 November 2014 from KOMERI, Busan, Korea.
KOMERI-0402-14T1353 dated 06 November 2014 from KOMERI, Busan, Korea.
KOMERI-0402-14T1354 dated 06 November 2014 from KOMERI, Busan, Korea.
KOMERI-0402-18T2909 dated 28 December 2018 from KOMERI, Busan, Korea.
KOMERI-0402-18T4726 dated 15 March 2019 from KOMERI, Busan, Korea.

Test Report nos. for bulkhead:

KOMERI-0402-15T2027 dated 05 August 2015 from KOMERI, Busan, Korea.
KOMERI-0402-15T2028 dated 05 August 2015 from KOMERI, Busan, Korea.
KOMERI-0402-15T2029 dated 05 August 2015 from KOMERI, Busan, Korea.
KOMERI-0402-15T2030 dated 05 August 2015 from KOMERI, Busan, Korea.
KOMERI-0402-15T2598 dated 14 September 2015 from KOMERI, Busan, Korea.
KOMERI-0402-18T2908 dated 28 December 2018 from KOMERI, Busan, Korea.
KOMERI-0402-18T3974 dated 28 December 2018 from KOMERI, Busan, Korea.
KOMERI-0402-18T4728 dated 05 March 2019 from KOMERI, Busan, Korea.
KOMERI-0402-18T4727 dated 05 March 2019 from KOMERI, Busan, Korea.

Drawing nos. from manufacturer:

GO-14-01-1 Rev. 1 (5 sheets) dated 27 April 2015
GO-14-01-2 Rev. 1 (5 sheets) dated 27 April 2015
GO-14-03-1 Rev. 1 (4 sheets) dated 27 April 2015
GO-14-03-1 Rev. 2 (4 sheets) dated 06 July 2015
GO-14-03-2 Rev. 1 (5 sheets) dated 27 April 2015
GO-14-02 Rev. 1 (6 sheets) dated 29 July 2015
GO-14-04 Rev. 1 (6 sheets) dated 29 July 2015
GO-14-05 Rev. 1 (6 sheets) dated 29 July 2015
GO-14-06 Rev. 1 (6 sheets) dated 29 July 2015
GO-18-03 Rev. 1 (4 sheets) dated 27 October 2018
GO-18-05 Rev. 1 (4 sheets) dated 27 October 2018
GO-18-06 Rev. 1 (4 sheets) dated 27 October 2018
GO-18-07 Rev. 0 (4 sheets) dated 26 November 2018
GO-18-08 Rev. 0 (4 sheets) dated 26 November 2018
GO-18-09 Rev. 0 (5 sheets) dated 26 November 2018

Gas and water tightness tests:

19-GORD-001 dated 15 October 2019 from manufacturer
18-GORD-001 dated 2018-10-25 from manufacturer

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Pressure test with water and air according to DNV-CP-0165.

Marking of product

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

Transport Canada Approval

Based on the procedures laid down in the Transport Canada publication entitled "Procedures for Approval of Life-Saving Appliances, Fire Safety Systems, Equipment and Products (TP14612)", DNV confirms that the product/s listed in this certificate is/are in accordance with Transport Canada's requirements.

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.