DNV·GL

Certificate No:
**MEDB00007BF**

# 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: electric cable transits**

with type designation(s)
**Single Cable Transit System - FRS series**

Issued to
## Shanghai Fan You Sealing Technology Co., Ltd
**SHANGHAI, China**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2020/1170,**
**item No. MED/3.26a. SOLAS 74 as amended, Regulation II-2/9, 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 **2026-02-01**.
Issued at **Høvik** on **2021-02-02**

DNV GL local station:
**Shanghai**

Approval Engineer:
**Helge Bjørnarå**

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.

NORWEGIAN ACCREDITATION PROD 019

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



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## Product description

Single Cable Transit System - FRS series,
consists of round steel sleeve in sizes 32 to 52 mm (OD) of depth 35 or 65 mm filled with FRS seal with multi-diameter technology of size 25 to 43. Sleeve is welded on the top side of the deck and on the insulated side of the bulkhead.

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

## Application/Limitation

Approved for use as a cable penetration system in class 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 class A-60 and in addition the division is to be insulated at least 200 mm around the penetration.

Approved cable penetration in A-60 steel bulkhead:

| Type | Size | Max. cable diameter [mm] | Sleeve length [mm] | Sleeve thickness [mm] | Sleeve position | Sleeve insulation |
|---|---|---|---|---|---|---|
| FRS | 25 - 43 | 23 | 35 - 65 | 3 - 5 | Insulated side | Partially insulated |

Approved cable penetration in A-60 steel deck:

| Type | Size | Max. cable diameter [mm] | Sleeve length [mm] | Sleeve thickness [mm] | Sleeve position | Sleeve insulation |
|---|---|---|---|---|---|---|
| FRS | 25 - 43 | 23 | 35 - 65 | 3 - 5 | Top | Partially insulated on underside |

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

## Type Examination documentation

Test report No. FT13045 dated 01 March 2013 from FEFTC, Shanghai, China.
Test report No. FT13046 dated 04 March 2013 from FEFTC, Shanghai, China.
Letter dated 26 February 2018 from FEFTC, Shanghai, China.

Drawing No. FCS08 dated 26 January 2018 from manufacturer.
Drawing No. FCS2012-B-11 dated 30 January 2013 from manufacturer.
Drawing No. FCS2012-B-13 dated 30 January 2013 from manufacturer.
Drawing No. FCS2012-D-11 dated 30 January 2013 from manufacturer.
Drawing No. FCS2012-D-13 dated 30 January 2013 from manufacturer.

## Tests carried out

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 if applicable (see first page).

# APPENDIX

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

### Product description
Single Cable Transit System - FRS series,
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### Application/Limitation
Approved for water- and gastightness up to a design pressure of 2.67 bar (test pressure of 4.0 bar).

The penetration systems shall not be used for penetrating boundaries of tanks.

### Type Approval documentation
Test report No. ST1301 dated 1 February 2013 from manufacturer.

### Tests carried out
Pressure test with water and air according to DNVGL-CP-0165.