

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Class A and B Penetration**with type designation(s)
"YB-TGM" type sleeve cable transit

Issued to

Shanghai Yibo Shipping Co., Ltd
Shanghai, China

is found to comply with

DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations
DNV GL rules for classification – Ships
DNV GL offshore standards**Application :****Approved for use as a cable penetration system in class A-0/A-60 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 GL.**Issued at **Høvik** on **2019-03-07**This Certificate is valid until **2024-03-06**.for **DNV GL**DNV GL local station: **Shanghai**Approval Engineer: **Nanna Martine Jacobsen**

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

"YB-TGM" type sleeve cable transit,

Composed of a symmetrically fitted steel sleeve welded to the steel bulkhead/ deck. The sleeve is filled with YB-FG halogen free rubber flame fireproof sleeve retardant filler and with 20 mm deep YB-FJ flame retardant silicone rubber sealant in each end of the transit. For dimensions see tables below.

Manufactured by Shanghai Yibo Shipping Co., Ltd, Shanghai, China.

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 steel bulkheads and decks. Other applications are subject to case-by-case approval.

A-60 cable penetration system is approved for use in class A-15 and A-30 when the penetration system is insulated as A-60 and in addition the division is to be insulated with A-60 insulation at least 200 mm around the penetration.

Minimum distance between cables and between cables and sleeve: 3 mm

Approved cable penetration with fire rating A-0 in bulkheads/ decks:

Size [mm]	Max. Filling rate [%]	Max. cable diameter [mm]	Sleeve length [mm]	Min. thickness of sleeve [mm]	Insulation of sleeve
60 x 60	42	Ø32	130	3	None
60 x 60 to 900 x 340	45	Ø85	130	6	
Ø25	27	Ø10	130	3	
Ø25 to Ø426	50	Ø85	130	5	

Approved cable penetration with fire rating A-60 in bulkheads/ decks:

Size [mm]	Max. Filling rate [%]	Max. cable diameter [mm]	Sleeve length [mm]	Min. thickness of sleeve [mm]	Insulation of sleeve
50 x 50 to 60 x 60	42	Ø39	130	3	Partly insulated*
60 x 60 to 1000 x 410	48	Ø110	130	6	
Ø25 to Ø27	27	Ø10	130	3	
Ø27 to Ø426	50	Ø85	130	5	

*The cable transits are to be insulated with A-60 insulation around the penetrations on the insulated side of the division for bulkhead penetrations and from below for deck penetrations. In addition, the penetrations are to be insulated with the same insulation covering the edge of the steel sleeve.

Approved for air tightness and water tightness up to a design pressure of 3.3 bar (test pressure 5 bar).

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

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

Type Approval documentation

Certification in accordance with Class Programmes DNVGL-CP-0338, September 2018 and DNVGL-CP-0165, October 2017.

Fire test(s):

Test Report No. FT18107 dated 18 July 2018 from Far East Fire Testing Centre (FEFTC), Shanghai, China.

Job Id: **262.1-028879-1**
Certificate No: **TAF000015W**

Test Report No. FT18109 dated 18 July 2018 from Far East Fire Testing Centre (FEFTC), Shanghai, China.
Test Report No. FT18110 dated 20 July 2018 from Far East Fire Testing Centre (FEFTC), Shanghai, China.
Test Report No. FT18108 dated 18 July 2018 from Far East Fire Testing Centre (FEFTC), Shanghai, China.

Gas tightness and water tightness test(s):

Test Report No. YB-WGP-2018-01 dated 7 May 2018 from maker and witnessed by DNV GL.

Drawing Nos. 681YB-380-00 to 681YB-392-00 dated 28 December 2017 from the manufacturer.
Drawing Nos. 681YB-400-00 to 681YB-412-00 dated 28 December 2017 from the manufacturer.
Drawing Nos. 681YB-420-00 to 681YB-428-00 dated 28 December 2017 from the manufacturer.
Drawing Nos. 681YB-430-00 to 681YB-438-00 dated 28 December 2017 from the manufacturer.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Pressure tests with water and air according to Class Programme DNVGL-CP-0165.

Marking of product

The product shall be marked with the name of the manufacturer, type designation and fire technical rating.

Transport Canada Approval

Based on the procedures laid down in the Transport Canada Publication entitled "Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)", DNV GL confirms that the product listed in this certificate is in accordance with Transport Canada's requirements.

Periodical assessment

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.