DNV·GL

Certificate No:
TAF000013T

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A and B Penetration

with type designation(s)
Pipe Transits: YB-TGM

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 pipe penetration system in class A-0 to A-60 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 **2019-03-20**
This Certificate is valid until **2024-03-19**.
DNV GL local station: **Shanghai**

Approval Engineer: **Helge Bjørnarå**

for **DNV GL**

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.

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Product description

"YB-TGM"
consisting of a symmetrically fitted rectangular/circular steel sleeve welded to a steel section. The sleeve is filled with YB-FG halogen free rubber flame fireproof sleeve retardant filler and with 25 mm deep YB-FJ flame retardant silicone rubber sealant in each end of the transit. For dimensions see table below.

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

Application/Limitation

Approved for use as a pipe penetration system in class A-0 to A-60 steel bulkheads and decks. Approved for use in class A-15 and A-30 when the penetration system is insulated as for A-60.

Type	Dimensions (W x H) [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Max pipe size (OD) [mm]	Bulkhead/Deck
YB-TGM	866 x 316	150	8	Ø245 steel Ø60 copper	A-0
YB-TGM	866 x 316	200	8	Ø245 steel Ø60 copper	A-15 to A-60
YB-TGM	Ø140	150	6	Ø20 steel Ø20 copper	A-0
YB-TGM	Ø140	200	6	Ø20 steel Ø20 copper	A-15- to A-60

Insulation bulkhead/deck penetrations for A-15 to A-60 for rectangular penetration:
Penetration is to be partially insulated on both sides for bulkhead penetrations and on the underside for deck penetrations. In addition the pipes are to be insulated with 2 x 20 mm thick ceramic wool with density of at least 170 kg/m^3 at least 100 mm along on both sides of bulkhead/deck.

Insulation bulkhead/deck penetrations for A-15 to A-60 for circular penetration:
Penetration is to be partially insulated. In addition the pipes are to be insulated with 2 x 20 mm thick ceramic wool with density of at least 170 kg/m^3 at least 100 mm along on both sides of bulkhead/deck.

Approved for water tightness up to a design pressure of 0.30 MPa (3.0 bar), test pressure - 0.45 MPa (4.5 bar).
Approved for air tightness up to a design pressure of 0.23 MPa (2.3 bar), test pressure - 0.35 MPa (3.5 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. FT13213 dated 14 August 2013 from Far East Fire Testing Centre, Shanghai, China.
Test Report No. FT13214 dated 14 August 2013 from Far East Fire Testing Centre, Shanghai, China.
Test Report No. FT13215 dated 19 August 2013 from Far East Fire Testing Centre, Shanghai, China.
Test Report No. FT13216 dated 19 August 2013 from Far East Fire Testing Centre, Shanghai, China.

Gas tightness and water tightness test(s):
Test Report No. YB-WGP-08 signed by DNV 16 July 2013.

Drawing Nos. 681YB-126-00, 681YB-140-00, 681YB-224-00, 681YB-226-00, 681YB-227-00, 681YB-201-00, 681YB-204-00, 681YB-212-00 dated July 2013 from the manufacturer.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

DNV Standard for Certification No. 2.9, Program 8-471.19-1 (Water and gas tightness).

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 "Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)", DNV GL confirms that the product/s listed in this certificate is/are 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.