



Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product.

This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 29-OCT-2023. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

**Product Name: Penetration Device for Pipe Deck and Bulkhead Penetration
Sealing**

Model Name(s): BHD Union & Welding Adapter

Presented to:

HY-LOK CORPORATION
97, NOKSANSANDAN 27-RO
GANGSEO-GU
46751
Korea, Republic of

Intended Service:

For use on Ships and Offshore Installations. (Pipe Transit for A-0 Steel Bulkhead and Deck).

Description:

1. The pipe penetration consists of a penetration piece and two bite connectors made of SUS316/SUS316L. 2. The size of penetration piece is as follow: -. ADBUW Type: L Series (6 mm ~ 35 mm) & S Series (6 mm ~ 38 mm), -. ACBUW Type: Fractional size (1/16" ~ 1-1/2") & Metric Size (2 mm ~ 38 mm).

Tier:

3

Ratings:

"A-0" Class Pipe Transit.

Service Restrictions:

-. Unit Certification is not required for this product. -. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined. -. The scope of Type Approval is to comply with MSC.1/Circ.1221 dated 11 December 2006. -. All type should be installed in accordance with the manufacturer's instructions in accordance with ABS approved installation drawings. -. Watertight bulkheads or decks are to be tested as per ABS Steel Vessel Rules 3-7-1/Table 1. -. Not for use in tank boundaries. -. Bundling of pipes are not permitted in watertight bulkheads. -. When requested to be used in

watertight bulkheads on passenger ships or special purpose ships, the penetration system has to comply with the requirements give in SOLAS Ch. 11-1 Reg. 13.2.3 (Consolidated Edition 2014), as amended. -. The bulkhead or deck in way of the penetration is to be properly insulated in accordance with SOLAS II-2 Pt. C/Reg.9.3 (Consolidated Edition 2014) and the rating of the transit is to be the same or better than the bulkhead or deck in which it is installed. -. The product or packing is to be marked with manufacturer name and type designation on a suitable position. -. Tested Pipe transit size: 6 mm dia., 15 mm dia. & 38 mm dia.

Comments:

-. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. -. Our approval is based on that the above material has been tested and certified by Korea Marine Equipment Research Institute (KOMERI), Report Nos.: KOMERI-0402-17T2147 dated 14 March 2018 & KOMERI-0402-17T2148 dated 14 March 2018. -. Unless specially directed by Administration, this approval is not to be construed as a substitute for Flag Administration's approval for the purpose of SOLAS (Consolidated Edition 2014), as amended. -. This certificate may not be used for EU and US flagged vessels (MED and/or USCG have their own specific/requirements). -. The installation is to be in accordance with the manufacturer's instructions.

Notes / Documentation:

Drawing No. Q 1383, ISO 9001:2015 by HSB Registration Service, Revision: -, Pages: 1 Drawing No. 2018H10D03, Welding Bulkhead Union 38mmOD(ADBUW-38S), Revision: 0, Pages: 1 Drawing No. 2018H10D09, Welding Bulkhead Union 38mmOD(ACBUW-38M), Revision: 0, Pages: 1 Drawing No. 2018H10D11, Welding Bulkhead Union 6mmOD, L120(ADBUW-06LL120), Revision: 0, Pages: 1 Drawing No. 2018H10D12, Welding Bulkhead Union 15mmOD, L120(ADBUW-15LL120), Revision: 0, Pages: 1 Drawing No. 2018H10D05, Welding Bulkhead Union 6mmOD, L120(ACBUW-6ML120), Revision: 0, Pages: 1 Drawing No. 2018H10D07, Welding Bulkhead Union 15mmOD, L120(ACBUW-15ML120), Revision: 0, Pages: 1 Drawing No. 2017F25D01, Bulkhead Welding Union 38S for FTP Code A0, Revision: 0, Pages: 1 Drawing No. 2017F25D03, Bulkhead Welding Union 38mmOD for FTP Code A0, Revision: 0, Pages: 1 Drawing No. 2017F25D05, Bulkhead Welding Union 6L, 15L, 6mm, 15mmOD for FTP Code A0, Revision: 0, Pages: 1 Drawing No. DA0-18J26-S01, Catalog & Structural Steel Core, Revision: 0, Pages: 1 Drawing No. KOMERI-0402-17T2147 dated 14 March 2018, KOMERI Test Report, Revision: -, Pages: 1 Drawing No. KOMERI-0402-17T2148 dated 14 March 2018, KOMERI Test Report, Revision: -, Pages: 1 Drawing No. BK3360411, ABS Surveyor Report, Revision: -, Pages: 1

Term of Validity:

This Product Design Assessment (PDA) Certificate 18-BK1778059-PDA, dated 30/Oct/2018 remains valid until 29/Oct/2023 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules:

The Rules applicable to this assessment are: - 2018 Steel Vessel Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-1-1/7.15 - 2018 Mobile Offshore Drilling Unit Rules 1-1-4/9.7, 1-1-A2, 1-1-A3 - 2018 Steel Vessels Under 90 Meters in Length 1-1-4/7., 1-1-A3, 1-1-A4 - 2018 Facilities on Offshore Installations 1-1-4/9.7, 1-1-A2, 1-1-A3 - 2018 Offshore Support Vessels 1-1-4/7.7, 1-1-A3, 1-1-A4 - 2018 Steel Vessels for Service on Rivers and Intracoastal Waterways 1-1-4/7.7, 1-1-A3, 1-1-A4 - 2017 Bulk Carriers for Service on the Great Lakes (Updated March 2018) 1-1-4/7.7, 1-1-A3, 1-1-A4

National Standards:**International Standards:**

IMO Resolution MSC.307(88) adopted on 2010, IMO FTP Code 2010 (2012 Edition), Annex 1 Part 3, in conjunction with SOLAS (Consolidated Edition 2014), as amended.

Government Authority:**EUMED:****Others:**

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	18-BK1778059-PDA	30-OCT-2018	29-OCT-2023



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.