



Confirmation of Product Type Approval

Company Name: DK LOK CORPORATION

Address: 7 GOLDEN ROOT-RO129 BEON-GILJUCHON-MYEON Korea, Republic of

Product: Bite Type Tube Fittings

Model(s): 1. DK-LOK Type Fittings: DU, DL, DT, DX, DUR, DLR, DXR, DTR, DUB, DBL, DMC-N, DMCT-N, DMC-R, DMCT-R, DMC-G, DMCT-G, DMC-GB, DMCB-N, DLBM-N, DLM-N, DLM-R, DTRM-N, DTRM-R, DTBM-N, DTBM-R, DCF-R, DCF-N, DCF-GG, DCBF-N, DLF-N, DTRF-N, DTBF-N, DR, DAB, DAM-N, DAM-R, DAM-G, DAM-U, DAM-UO, DAF-N, DAF-R, DAF-GR, DAF-GG, DCP, DCPZ, DLA, DTRA, DTBA, DUA, DUBA, DBUW, DAA, DMAA, DMCS-U, DLS-UP, DLBS-UP, DTRS-UP, DTBS-UP, DLM-GP, DMC-UO, DMC-NO, DCW, DLW, DCSW, DLSW, DP, DC, DI, DMD, DFSN, DN, DFF, DFB & DFS 2. BITE Type Fittings: BU, BL, BT, BBU, BBL, BLMC, BMC-R, BMC-G, BOM, BLM, BLLM, BOLM, BSLM, BBTM, BRTM, BBFC, BFC, BGC, BLF, BBTF, BRTF, BJ, BC, BP, BN, BS, BHUM, BHUF, BHBM, BHBF, BHLM, BHLF, BHBLM, BHBLF, BCW, BBUW, BA-R, BA-G, BR, BLA, BBTA, BRTA, BAP-1 & BAP-2

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	22-2331884-PDA	23-DEC-2022	22-DEC-2027
Manufacturing Assessment (MA)	23-5750734	23-MAR-2023	22-MAR-2028
Product Quality Assurance (PQA)	NA	NA	NA

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3 - Type Approved, unit certification not required

Intended Service

1. DK-LOK Type Fittings: 1.1. Hydraulic Oil 1.2. Fuel Oil (not high-pressure fuel oil injection) and Lube Oil 1.3. Compressed Air 1.4. Steam and Condensate 1.5. Fresh and Sea Water 1.6. Sanitary Systems 2. BITE Type Fittings: 2.1. Hydraulic Oil 2.2. Compressed Air 2.3. Steam and Condensate 2.4. Fresh and Sea Water 2.5. Sanitary Systems

Description

1. See attached "Product List".

2. Material & Size

2.1. DK-LOK Type Fittings

2.1.1: Brass: 1/8" to 1", 3 mm to 25 mm

2.1.2: Stainless Steel: 1/8" to 2", 6 mm to 50 mm

2.2. BITE Type Fittings

2.2.1: Brass: 1/8" to 1-1/2", 6 mm to 42 mm

2.2.2: Stainless Steel: 1/8" to 1-1/2", 6 mm to 42 mm

2.2.3: Carbon Steel: 1/8" to 1-1/2", 6 mm to 42 mm

Ratings

1. Pressure rating: See attached "Product List".

2. Temperature rating:

2-1. Brass: -18 to 200 Deg. C.

2-2. Stainless Steel: -18 to 300 Deg. C.

2-3. Carbon Steel: -10 to 300 Deg. C.

Service Restrictions

1. Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

2. Materials are to be compatible with intended services.

3. For sea water piping systems in which sea water may be retained within the piping system in a stagnant or low flow condition (i.e., less than 1 m/sec), there is a potential for chloride pitting and the following grades are not to be used for the piping or piping components:

- 304 and 304L stainless steels

- 316 and 316L stainless steels with a molybdenum content of less than 2.5%

4. Taper-thread joints to be used for classed I and II piping are subject to limitation indicated in 4-6-2/5.5.5(a) table of the Marine Vessel Rules.

5. Taper-thread joints for hydraulic oil system may be used without pressure limitation for connection to equipment only, such as pumps, valves, cylinders, accumulators, gauges and hoses. When such fittings are used solely to join sections of pipe, they are to be in accordance with 4-6-2/5.5.5(a) of the Marine Vessel Rules. However, hydraulic systems for the following services are to comply with 4-6-2/5.5.5(a) of the Marine Vessel Rules in all respects: Steering gear hydraulic systems; Controllable pitch propeller hydraulic systems; Hydraulic systems associated with propulsion or propulsion control.

6. For hydraulic oil piping, straight-thread 'o'-ring joints are not to be used for joining sections of pipe.

Comments

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

2. The following type testings were carried out:

2.1 Tightness test

2.2 Vibration (fatigue) test

2.3 Pressure pulsation test

2.4 Burst pressure test

2.5 Pull-out test

2.6 Repeated assembly test

Notes, Drawings and Documentation

1. Drawing list:

1.1. DK-LOK Tube Fitting (D Series) dated 12 September 2016

1.2. BITE TYPE Tube Fitting (B Series) dated 12 September 2016

2. Type test report Nos. TAJD-1703-001 thru 030 witnessed by ABS Surveyor (Ref. 3239589) dated 7 March 2017

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 22/Dec/2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2022 ABS Rules for Condition of Classification: 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2022 Marine Vessel Rules: 4-6-2/5.9, 4-6-2/Table 12

International Standards

NA

EU-MED Standards

NA

National Standards

NA

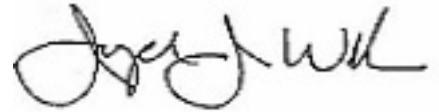
Government Standards

NA

Other Standards

NA





Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 20-Apr-2023 2:30

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 is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. 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.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

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.

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.