



## ***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 28-JUN-2022. 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: Bite Type Tube Fittings**

**Model Name(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

#### **Presented to:**

DK LOK CORPORATION  
7 GOLDEN ROOT-RO  
129 BEON-GIL  
JUCHON-MYEON  
Korea, Republic of

#### **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

<b>Description:</b>	<p>2.5. Sanitary Systems</p> <p>1. See attached "Product List". 2. Material &amp; 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</p>		
<b>Tier:</b>	3		
<b>Ratings:</b>	<p>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.</p>		
<b>Service Restrictions:</b>	<p>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. 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 Steel Vessel Rules. 4. 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 Steel Vessel Rules. However, hydraulic systems for the following services are to comply with 4-6-2/5.5.5(a) of the Steel Vessel Rules in all respects: Steering gear hydraulic systems; Controllable pitch propeller hydraulic systems; Hydraulic systems associated with propulsion or propulsion control. 5. For hydraulic oil piping, straight-thread 'o'-ring joints are not to be used for joining sections of pipe.</p>		
<b>Comments:</b>	<p>1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. 2. This certificate may not be used for EU and US flagged vessels (MED and/or USCG have their own specific/requirements). 3. The following type tests have been carried out in accordance with 4-6-2/5.9 of the 2017 Steel Vessel Rules. 3.1 Tightness test 3.2 Vibration (fatigue) test 3.3 Pressure pulsation test 3.4 Burst pressure test 3.5 Pull-out test 3.6 Repeated assembly test</p>		
<b>Notes / Documentation:</b>	<p>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</p>		
<b>Term of Validity:</b>	<p>This Product Design Assessment (PDA) Certificate 17-BK1645370-PDA, dated 29/Jun/2017 remains valid until 28/Jun/2022 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.</p>		
<b>ABS Rules:</b>	<p>The Rules for Conditions of Classification, Part 1 2017 Steel Vessel Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following: 2017 Steel Vessel Rules 4-6-2/5.9, 4-6-2/Table 12</p>		
<p><b>National Standards:</b>  <b>International Standards:</b>  <b>Government Authority:</b>  <b>EUMED:</b>  <b>Others:</b></p>			
<b>Model Certificate</b>	<b>Model Certificate No</b>	<b>Issue Date</b>	<b>Expiry Date</b>
PDA	17-BK1645370-PDA	29-JUN-2017	28-JUN-2022



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.