

Type Approval Certificate Extension

This is to certify that Certificate No. 01/10047(E3) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	DK- LOK CORPORATION																															
PLACE OF PRODUCTION	7, Golden root-ro, 129 beon-gil, Juchon-myeon, Gimhae-si, Gyeongsangnam-do, Republic of Korea																															
DESCRIPTION	Stainless steel double ferrule compression type tube fittings, inch and metric sizes																															
TYPE	DK-LOK Tube Fitting																															
APPLICATION	High pressure tube connections for use in marine, offshore and industrial piping systems with hydraulic system fluids, fuel oil, lubricating oil, fresh water, salt water, sanitary, gas, steam and condensate.																															
DESIGN CODE	Lloyd's Register's Rules and Regulations for the Classification of Ships, Part 5, Chapter 12 – July 2015 JIS B 2351 – 1990: 25 MPa bite type tube fittings for hydraulic use																															
RATINGS	<table border="0"> <thead> <tr> <th style="text-align: center;"><u>Imperial Tubing:-</u></th> <th style="text-align: center;"><u>Nominal pressure ratings (psi)</u></th> </tr> <tr> <th style="text-align: center;"><u>Tube O.D. (inch)</u></th> <th></th> </tr> </thead> <tbody> <tr><td style="text-align: center;">1/8"</td><td style="text-align: center;">8,500 to 10,900</td></tr> <tr><td style="text-align: center;">3/16"</td><td style="text-align: center;">5,400 to 10,200</td></tr> <tr><td style="text-align: center;">1/4"</td><td style="text-align: center;">4,000 to 10,200</td></tr> <tr><td style="text-align: center;">5/16"</td><td style="text-align: center;">4,000 to 8,000</td></tr> <tr><td style="text-align: center;">3/8"</td><td style="text-align: center;">3,300 to 6,500</td></tr> <tr><td style="text-align: center;">1/2"</td><td style="text-align: center;">2,400 to 6,200</td></tr> <tr><td style="text-align: center;">5/8"</td><td style="text-align: center;">2,900 to 6,000</td></tr> <tr><td style="text-align: center;">3/4"</td><td style="text-align: center;">2,400 to 5,800</td></tr> <tr><td style="text-align: center;">7/8"</td><td style="text-align: center;">2,000 to 4,700</td></tr> <tr><td style="text-align: center;">1"</td><td style="text-align: center;">2,400 to 4,700</td></tr> <tr><td style="text-align: center;">1-1/4"</td><td style="text-align: center;">2,400 to 4,900</td></tr> <tr><td style="text-align: center;">1-1/2"</td><td style="text-align: center;">2,400 to 4,900</td></tr> <tr><td style="text-align: center;">2"</td><td style="text-align: center;">2,000 to 3,600</td></tr> </tbody> </table>		<u>Imperial Tubing:-</u>	<u>Nominal pressure ratings (psi)</u>	<u>Tube O.D. (inch)</u>		1/8"	8,500 to 10,900	3/16"	5,400 to 10,200	1/4"	4,000 to 10,200	5/16"	4,000 to 8,000	3/8"	3,300 to 6,500	1/2"	2,400 to 6,200	5/8"	2,900 to 6,000	3/4"	2,400 to 5,800	7/8"	2,000 to 4,700	1"	2,400 to 4,700	1-1/4"	2,400 to 4,900	1-1/2"	2,400 to 4,900	2"	2,000 to 3,600
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Certificate No.	16/40031(E4)																															
Issue Date	28 June 2016																															
Expiry Date	27 June 2021																															
Sheet	1 of 3																															




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LR031.1.2015.12

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RATINGS (Continued)

Metric Tubing:-

<u>Tube O.D(mm)</u>	<u>Nominal pressure ratings (psi)</u>
3	10,800 to 15,300
4	7,900 to 14,400
6	5,000 to 12,700
8	4,700 to 9,300
10	3,700 to 7,300
12	3,000 to 7,300
16	2,500 to 6,800
18	2,800 to 6,700
20	2,500 to 6,000
22	2,300 to 5,400
25	2,000 to 5,200
28	2,600 to 4,800
32	2,300 to 4,800
38	2,000 to 4,500

Pressure-temperature ratings : see the producer's catalogue

**OTHER
CONDITIONS**

- 1) The fittings are to be installed in accordance with the manufacturer's instructions.
- 2) Attention is drawn to Section 1.3.6 of IMO MSC/Circ.1321 – Guidelines for Measures to prevent Fires in Engine-Rooms and Cargo Pump-Rooms which describes that compression couplings require careful attention to tightening procedures and torques to avoid leaks or damage to the pipe when subjected to over-tightening and they should not be used in the fuel supply line of the (oil engine) injection pumps and spill system.

LIMITATION

- 1) Type Approval does not eliminate the need for normal inspection survey procedures required by the Rules and Regulation.
- 2) If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.
- 3) (in case of applications other than Marine) The application of this Type Approval Certificate will be limited to the relevant scope of the Specified standards and acceptance thereof by the local authorities.

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"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Asia of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No. 16/40031(E4) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 01/10047(E3) to which this extension should be attached.

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