

Type Approval Certificate Extension

This is to certify that Certificate No. 02/10007(E2) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Uni-Lok Corporation
PLACE OF PRODUCTION	(152 Block-12 Lot, Namdong Industrial Complex, Gojan-dong) 37, Namdongdong-ro, 64beon-gil, Namdong-gu, Incheon, Korea
DESCRIPTION	Uni-Lok Tube Fitting
TYPE	Stainless steel double ferrule compression type tube fittings, inch and metric sizes
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 STANDARD	Lloyd's Register (LR) Rules and Regulations for the Classification of Ships(July 2016), Part 5, Chapter 12 JIS B 2351 – 1990: 25 MPa bite type tube fittings for hydraulic use

RATINGS	Inch Tubing:	
	<u>Tube O.D. (inch)</u>	<u>Nominal pressure ratings (psi)</u>
	1/16"	5,600 to 12,000
	1/8"	8,500 to 10,900
	3/16"	5,400 to 10,200
	1/4"	4,000 to 10,200

Certificate No.	17/40041(E3)
Issue Date	29 June 2017
Expiry Date	28 February 2022
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Y. D. Kong
Busan Technical Support Office
Lloyd's Register Marine & Offshore

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RATINGS (Continued)

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 4,800
1"	2,400 to 4,700

Metric Tubing:

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

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 3.6 of IMO MSC/Circular.851 – Guidelines on Engine-Room Oil Fuel Systems which describes that compression couplings require careful attention to tightening procedures and torques to avoid leaks or damage to the pipe when subjected to overtightening and they should not be used in the fuel supply line of the (oil engine) injection pumps and spill system. See also Section 7 of IMO MSC.1/Circ. 1321 - Guidelines for Measures to prevent Fires in Engine-Rooms and Cargo Pump-Rooms"

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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.

"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 of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No. 17/40041(E3) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 02/10007(E2) to which this extension should be attached.

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