

## Type Approval Certificate Extension

This is to certify that Certificate No. 01/10048(E1) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	DK Tech Corporation
PLACE OF PRODUCTION	826, Naesam-ri, Juchon-myeon, Gimhae-city, Gyeongsangnam-do, 621-841 Korea
DESCRIPTION	Carbon steel and stainless steel single compression type tube fittings, inch and metric sizes
TYPE	DK Bite Type 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 2010 JIS B 2351 - 1990: 25 MPa bite type tube fittings for hydraulic use

### RATINGS

#### Imperial Tubing:-

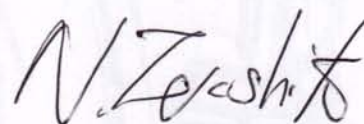
##### Tube O.D. (inch)

1/8"  
1/4"  
3/8"  
1/2"  
3/4"  
1"  
1-1/4"  
1-1/2"  
2"

##### Normal pressure ratings (kgf/cm<sup>2</sup>)

500  
500  
400  
400  
350  
250  
210  
210  
210

Certificate No.	01/10048(E2)
Issue Date	28 June 2011
Expiry Date	27 June 2016
Sheet	1 of 2



N. Terashita  
Yokohama Design Support Office  
Lloyd's Register

Lloyd's Register, registered office:  
71 Fenchurch Street, London EC3M 4BS

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## RATING (Continued)

### Metric Tubing:

#### Tube O.D.(mm)

#### Nominal pressure ratings (kgf/cm<sup>2</sup>)

3	500
4	500
6	500
8	500
10	500
12	500
16	400
18	400
20	400
22	400
25	350
28	350
32	250
38	250
40	210
42	210

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.

*"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 attached Design Appraisal Document No. 01/10048(E2) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

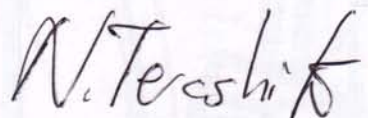
All other details remain as the previous Certificate No. 01/10048(E1) to which this extension should be attached.

Certificate No. 01/10048(E2)

Issue Date 28 June 2011

Expiry Date 27 June 2016

Sheet 2 of 2



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# Marine Design Appraisal Document

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Date  
28 June 2011

Quote this reference on all future communications  
YDS/T/NTE/114725B (M01-20)

## LR TYPE APPROVAL SYSTEM, 2002

Issued to: DK TECH CORPORATION  
for: COMPRESSION TYPE TUBE FITTINGS : DK BITE TYPE FITTING  
TYPE APPROVAL CERTIFICATE No. 01/10048(E2)

The undernoted documents have been reviewed for compliance with the requirements of the LR Type Approval System, 2002 and this Design Appraisal Document forms part of the Certificate.

### APPROVAL DOCUMENTATION

Request for Marine Services Form 2502 & Request for Quotation Form 6606 dated 22 June 2011

### TEST REPORTS

Busan Port Inspection and Surveillance of Production Facilities report dated 22 June 2011

### Supplementary Type Approval Terms and Conditions

*Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.*

*Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.*

*Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.*

*Lloyd's Register reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.*

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FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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Part 1A

Subject: Pipe Fittings

Product: Compression Fittings (Part 1A)

Product: Compression fittings (1 and 1 1/2")					
Producer/Licence No.		Description of Product			Cert. No.
Type	Details of Approval	Application	Remarks		
DK Tech Corporation 826, Naesam-ri, Juchon-myeon, Gimhae-city, Gyeongsangnam-do, 621-841 Korea	DK bite type fitting	Carbon steel and stainless steel single sleeve compression type tube fittings, inch and metric sizes	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.	Expires: 27 June 2016. See certificate for other conditions.	01/10048(E2)
	Imperial tubing:- Tube O.D. (inch)	Nominal Pressure Ratings (kgf/cm <sup>2</sup> )			
	1/8"	500			
	1/4"	500			
	3/8", 1/2"	400			
	3/4"	350			
	1"	250			
	1-1/4", 1-1/2", 2"	210			
	Metric tubing Tube O.D. (mm)	Nominal Pressure Ratings (kgf/cm <sup>2</sup> )			
	3, 4, 6, 8, 10, 12	500			
16, 18, 20, 22	400				
25, 28	350				
32, 38	250				
40, 42	210				
Pressure-temperature ratings : see the producer's catalogue					