

HSME Corporation  
8, Hwajeonsandan 5-ro, Gangseo-gu, Busan, Republic of Korea

**Lloyd's Register Asia**

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**Date** 25 March 2020  
**Your ref** -  
**Our ref** BUS/SJK/BUS2000527/O-  
8201

Welcome to the Lloyd's Register List of Type Approval.

Lloyd's Register (LR) is one of the world's foremost ship classification societies.

We are a leading independent technical inspection, certification and advisory organisation, operating worldwide in the marine, offshore and industrial sectors.

We aim to provide risk management solutions to enhance our clients' quality, safety, environmental and business performance.

We are pleased to inform you that the Type Approval Certificate of the subject product is granted and will be included in the appropriate part of the List of Lloyd's Register Type Approved Products. These lists appear, in English, on the Lloyd's Register web site which is updated regularly ( <https://www.lr.org/en/lr-approvals/> ).

Please find enclosed herewith a Type Approval Certificate, associated Marine Design Appraisal Documents and a copy of List Entry for presentation to your company.

Please be noted that this Type Approval is conditional upon you complying with the requirements of the LR Type Approval procedure, it should also be noted that any change in the conditions under which approval was given that affect the validity of the Certificate must be notified to Lloyd's Register without delay.

A periodical assessment will be required 30 months  $\pm$  3 months after issue of the Type Approval certificate or at renewal of the Type Approval certificate whichever comes first.

We believe that your relationship with LR will prove a valuable promotion resource for your company and we look forward to a long and mutually beneficial partnership in the future.

Yours truly,



24 Mar. 2020

S. J. KIM  
Surveyor

Busan Port Office, Lloyd's Register Asia

**Working together for a safer world**

**LLOYD'S REGISTER TYPE APPROVAL SYSTEM, 2019**  
**Issue by: Busan Technical Support Office**  
**Issued to: HSME Corporation**  
**For: DIN TYPE TUBE FITTINGS (BITE TYPE TUBE FITTING FOR DIN 2535-LL, L and S SERISE)**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System 2019 and this Design Appraisal Document forms part of the Certificate.



This is a renewal of Certificate No. 15/40002.

**APPROVAL DOCUMENTATION**

Type approval application checklist (version 2019.05) dated on 04 February 2020

Declaration from manufacture for extension of LR Type approval dated on 05 February 2020

LR Busan Port Production Quality Assessment Report dated 05 February 2020

  
  
D. Y. Kang  
Busan Technical Support Office  
Lloyd's Register Asia

LR031-1.2016.06

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

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



## Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

<b>Manufacturer</b>	<b>HSME CORPORATION</b>
<b>Address</b>	8, Hwajeonsandan 5-ro, Gangseo-gu, Busan, Republic of Korea
<b>Place of Production</b>	HSME Corporation 8, Hwajeonsandan 5-ro, Gangseo-gu, Busan, Republic of Korea
<b>Type</b>	Tube Fittings
<b>Description</b>	DIN type tube Fittings for stainless steel pipe
<b>Trade Name</b>	Bite type (DIN 2353) - LL, L and S series
<b>Application</b>	High pressure tube connections for use in marine, offshore and industrial piping systems with hydraulic system fluids, fuel oil, lubrication oil and fresh water, compressed air, steam and condensate, fresh water system
<b>Specified Standard</b>	Lloyd's Register Rules and Regulations for Classification of Ships, Part 5, Chapter 12, Section 5, July 2019 DIN 2353, Compression fittings and couplings, December 1998
<b>Ratings</b>	Maximum pressure(bar) : 100 ~ 630 Tube outside diameter (mm) :4~42



**Da-Young Kang**

Senior Specialist to Lloyd's Register Asia  
A member of the Lloyd's Register group

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United Kingdom

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# Type Approval Certificate

## Other Conditions

Where the tube fittings are intended to be installed on a ship classed with LR, the following conditions of acceptance will be applicable:-

- 1) The tube fittings are to be installed and tested in accordance with Part 5, Chapter 13, Section 2, of the Rules and Regulations for the Classification of Ships in so far as applicable.
- 2) The tube fittings are to be made, installed and tested to appropriate pipe class requirements in accordance with Part 5, Chapter 12 of the Rules and Regulations for the Classification of Ships in so far as applicable.
- 3) Copper tube fittings are not acceptable for use in fuel oil line.
- 4) Austenitic stainless steel pipe fittings (SUS304L, SUS316L) are not recommended for salt-water services as they are prone to pitting, particularly in polluted waters.
- 5) Maximum Pressures of each tube fittings with each material are to be indicated for each parts numbers in each parts tables of each catalogues respectively.
- 6) For use in Class I and II piping systems on ships Classed with Lloyd's Register, materials are to be produced at a works approved by Lloyd's Register.
- 7) Type Approval does not eliminate the need for normal inspection survey procedures required by the Rules and Regulation.
- 8) If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to its being supplied to vessels to which the amended standards apply.

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. LR2002395TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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