Certificate No: LR22443730TA
Issue Date: 01/12/2022
Expiry Date: 30/11/2027

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.

Manufacturer	**Marinetec Development (Shanghai) Ltd.**
Address	Unit18B,Unit18A,Unit 13,A Area, No.6999, Chuansha Road,Pudong New Area, Shanghai, 200120, China
Place of Production	Marinetec Development (Shanghai) Ltd. Unit18B,Unit18A,Unit 13,A Area, No.6999, Chuansha Road,Pudong New Area, Shanghai, 200120, China
Type	Mechanical Pipe Joints
Description	End Formed Mechanical Pipe Joint
Trade Name	MD-SF/-**L(S)
Application	Marine & Offshore piping systems
Specified Standard	Lloyd's Register Rules and Regulations for the Classification of Ships, July 2022 Lloyd's Register Type Approval System Test Specification Number 2, Chapter 5, Appendix 4 - Mechanical Pipe Joints – Fixed Connections IACS UR P2 "Mechanical joints" (Rev. 10 Jan 2021) ISO 19921 : 2005(E) ISO 19922 : 2005(E)

Downloaded Copy

12th Floor, Chong Hing Finance Centre, No. 288 Nanjing West Road, Shanghai, Huangpu District, 200003, China

Ru Zhang Shi

Lead Specialist and Section Leader for Engineering Section to Lloyd's Register Classification Society (China) Co Ltd

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.

Certificate No: LR22443730TA
Issue Date: 01/12/2022
Expiry Date: 30/11/2027

Type Approval Certificate

Ratings See Appendix

Other Conditions Where the joints are intended to be installed in a ship classed or intended to be classed with LR, the followings are to be complied with:
1. Materials for mechanical pipe joints used in Class I piping systems are to be produced at a works approved by LR and are to be tested in accordance with the Rules for Materials as per Part 5, Chapter 12, Section 1.7.1 of LR Ship Rules.
2. The application of the joints are to be in accordance with Part 5, Chapter 12, Table 12.2.8 Application of mechanical joints of LR Ship Rules.
3. Mechanical pipe joints are to be selected and installed in accordance with the manufacturer's instructions, considering the reduced design pressure at elevated temperature. In all cases, pressure and temperature ratings of the fittings are to be suitable for the intended service conditions.

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 Classification Society (China) Co Ltd of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Downloaded Copy

12th Floor, Chong Hing Finance Centre, No. 288
Nanjing West Road, Shanghai, Huangpu District,
200003, China

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.