Certificate No: LR25119367TA
Issue Date: 23/06/2025
Expiry Date: 22/06/2030

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	**Jingjiang Haihong Plastics & Rubbers Science – Technology Co. Ltd.**
Address	Industrial Zone, Shengci Town, Jingjiang City, Jiangsu Province, China
Place of Production	Jingjiang Haihong Plastics & Rubbers Science – Technology Co. Ltd. Industrial Zone, Shengci Town, Jingjiang City, Jiangsu Province, China
Type	Plastic Pipes
Description	PVC-U Plastic Pipes and Fittings
Trade Name	EXPERT
Application	Marine piping systems for sea water, fresh water, sanitary/drains/scuppers and non-essential services in locations listed in Part5, Chapter 12, Table 12.5.1 of Lloyd's Register's Rules and Regulations for the Classification of Ships where "0" is indicated.
Specified Standard	LR Rules and Regulations for the Classification of Ships, July 2021 LR Type Approval System Test Specification Number 2, December 2020, Chapter 7 Appendix 6 – Plastics piping systems, including pipe joints and fittings made predominantly of other material than metal IMO Resolution A.753(18) as amended by IMO Res. MSC.313(88) and IMO Res. MSC. 399(95)

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Qing Dong

Engineering - Machinery - Senior Specialist to Lloyd's Register Classification Society (China) Co., Ltd.

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Nanjing West Road, Shanghai, 200003, China

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ASTM D635

Ratings

Type:	PVC-U
Nominal Out Diameter (mm):	20~315
Nominal Pipe Thickness (mm):	2.0~15
Nominal Internal Pressure Rating (MPa):	1.0
Nominal External Pressure Rating (MPa):	0.3
Maximum Working Temperature (˚C):	60

Type:	PVC-U
Nominal Out Diameter (mm):	20~315
Nominal Pipe Thickness (mm):	2.0~23.2
Nominal Internal Pressure Rating (MPa):	1.6
Nominal External Pressure Rating (MPa):	0.3
Maximum Working Temperature(˚C):	60

Additional Tests

Flame spread test conducted according to ASTM D635.

Other Conditions

1. Plastic pipes and fittings intended for application in Class I, Class II and Class III systems for which there are Rule requirements, are to be manufactured and tested in accordance with Part 5, Chapter 12, Section 5 of the Rules and Regulations for the Classification of Ships.
2. In the case of pipes intended for essential services each qualified person representative of each type of joint to be used. The joined pipe section is to be tested to an internal hydrostatic pressure of four times the design pressure of the pipe system and the pressure held for not less than one hour, with no leakage or separation of joints. The bonding procedure test is to be witnessed by the Surveyor.
3. The test of fire endurance, smoke generation & toxicity and electrical conductivity are to be excluded.
4. The use of plastic pipes may be restricted by statutory requirements of the National Authority of the country in which the ship is to be

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Type Approval Certificate

registered.

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 LR25119367TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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