Certificate No: LR2526072TA
Issue Date: 27/03/2025
Expiry Date: 26/03/2030

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	**ERA CO., LTD.**
Address	No.2 Daixi Road, Huangyan Economic Development Zone, Taizhou, 318020, China
Place of Production	ERA CO., LTD. No.2 Daixi Road, Huangyan Economic Development Zone, Taizhou, 318020, China
Place of Production	ERA CO., LTD. No.555, Huangjiao Road, Dongcheng Street, Huangyan District, Taizhou, China
Type	Plastic Pipes
Description	Thermoplastics Pipes and Fittings, include 45^0&90^0 Elbow, Equal coupling, Equal tee, Reducing tee, Flange and Plug
Trade Name	ERA
Application	Marine and offshore piping systems for sea water, fresh water, sanitary/drains/ scuppers and non-essential services in locations listed in Part 5, Chapter 12, Table 12.5.1 of Lloyd's Register's Rules and Regulations for the Classification of Ships where a "0" is indicated.
Specified Standard	LR Rules and Regulations for the Classification of Ships, July 2024 IMO Resolution A.753(18), as amended by IMO Resolution MSC.313(88)

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Jun Hua Rong

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

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

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ISO 1167-2:2006
ISO 9969:2007
ISO 75-1/2:2004
ISO 62:2008
ASTM D635

Ratings

PE-RT

Nominal Diameter (mm):	DN20~DN160
Nominal Pipe Thickness (mm):	2.8~17.9
Nominal Pressure Rating (bar):	10/16
External Pressure Rating (bar):	3
Working Temperature Range (˚C):	-40~95

PE100

Nominal Diameter (mm):	DN20~DN630
Nominal Pipe Thickness (mm):	2.3~57.2
Nominal Pressure Rating (bar):	10/16
External Pressure Rating (bar):	3
Working Temperature Range (˚C):	-40~60

PPR

Nominal Diameter (mm):	DN20~DN160
Nominal Pipe Thickness (mm):	2.3~17.9
Nominal Pressure Rating (bar):	10/16
External Pressure Rating (bar):	3
Working Temperature Range (˚C):	0~90

PVC-U

Nominal Diameter (mm):	DN20~DN200
Nominal Pipe Thickness (mm):	2.0~11.9
Nominal Pressure Rating (bar):	10/16
External Pressure Rating (bar):	3

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Type Approval Certificate

Working Temperature Range(˚C): 0~60

Additional Tests

Low-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 in accordance with Chapter 14 of LR Rules for Materials and 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. Suitable pipes and fittings are to be selected and installed in accordance with the manufacture's instructions. The temperature-pressure reduction is to the manufacture's recommendation.

3. The use of plastics pipes may be restricted by statutory requirements of the National Authority of the country in which the ship is to be registered.

4. No fire endurance test, smoke generation test, toxicity test and electrical conductivity test are conducted.

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 with reference number STS/TA/JRZ/PRJ11100424852/O-002645D and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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