

# 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>aquatherm GmbH</b>
<b>Address</b>	Biggen 5, Attendorn, 57439, Germany
<b>Type</b>	Plastic Pipes
<b>Description</b>	Polypropylene pipes and fitting system as single layer pipe, or multilayer composite pipe with intermediate aluminium layer or with intermediate fiber layer.
<b>Trade Name</b>	aquatherm green pipe, red pipe and blue pipe
<b>Application</b>	In ship and offshore installations for potable water (only aquatherm green pipe), sanitary water and hot water heating systems.
<b>Specified Standard</b>	Lloyd's Register Rules and Regulations for the Classification of Ships 2020, ASTM D635-18 Low Flame Spread
<b>Other Conditions</b>	For selection and installations of the pipes and fittings the producer's instructions and recommendations are to be adhered to. Furthermore the requirements of the IMO Resolution to be followed where applicable. Pipes within accommodation, service and control spaces are either not to be capable of producing excessive quantities of smoke and toxic products or are adequately insulated against fire. 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 registered.

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## Type Approval Certificate

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 EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

**Previous Version:** 15/20070(E1)

The Design Appraisal Document HTS/ENS 32995-15, Issue number 2 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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## Appendix

### **TYPES**

aquatherm green pipe SDR11S, SDR7,4S and SDR6S (old "Fusiotherm")  
aquatherm green pipe SDR7,4 MS (old "Fusiotherm Stabi")  
aquatherm green pipe SDR7,4 MF (old "Fusiotherm Faser")  
aquatherm green pipe SDR9 MF-RP composite pipes  
aquatherm red pipe SDR7,4 MF HI (old "aquatherm Firestop")  
aquatherm blue pipe SDR7,4 MF  
aquatherm blue pipe SDR11 MF-RP  
aquatherm blue pipe SDR17,6 MF-RP

### **RATINGS**

aquatherm green pipe (old "Fusiotherm"):  
PN10 (SDR11 S, old SDR11): OD 20 to OD 450 mm  
PN16 (SDR7,4 S, old SDR7,4): OD 16 to OD 110 mm  
PN20 (SDR6 S, old SDR6): OD 16 to OD 110 mm

aquatherm green pipe SDR7,4 MS (old "Fusiotherm Stabi- composite SDR7,4")  
PN20: OD 16 to OD 110 mm

aquatherm green pipe SDR7,4 MF (old "Fusiotherm Faser- composite SDR7,4")  
PN20: OD 20 to OD 355 mm

aquatherm green pipe SDR9 MF-RP  
PN15: OD 32 to OD 355 mm

aquatherm red pipe SDR7,4 MF HI (old "aquatherm Firestop SDR7,4"):  
PN20: OD 20 to OD 125 mm

aquatherm blue pipe SDR11 S (old "Climatherm SDR11"):  
PN10: OD 20 to OD 160 mm

aquatherm blue pipe SDR7,4 MF, SDR11 MF-RP  
PN16 (SDR7.4) : OD 25 to OD 32 mm  
PN10 (SDR11) : OD 32 to OD 450 mm

aquatherm blue pipe SDR17,6 MF-RP  
PN8: OD 160 to OD 630 mm