

## 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>Viega GmbH &amp; Co KG</b>
<b>Address</b>	Viega Platz 1, 57439 Attendorn, Germany
<b>Type</b>	Multilayer Pipe Systems
<b>Description</b>	Multilayer pipes and red brass (radial) press fittings with integral SC feature.
<b>Trade Name</b>	Sanfix-P Multilayer Pipe System
<b>Application</b>	For Non-essential Freshwater systems as follows: hot and cold potable water and wash water systems, cooling and heating systems of air conditioning systems (HVAC plants); Sanitary drains (internal) including condensate from air conditioning systems; Non-essential service air.
<b>Specified Standard</b>	ISO 21003 series "Multilayer piping systems for hot and cold water installations inside buildings", ASTM D635-06 Low Flame Spread, Lloyd's Register Rules and Regulation for the Classification of Ships, 2021
<b>Ratings</b>	Multilayer pipes PE-Xc/AL/PE-Xc PN16: 16x2,2 (DN12); 20x2,8 (DN15); 25x2,7 (DN20)  Multilayer pipes PE-RT/AL/PE-RT PN16: 32x3,2 (DN25); 40x3,5 (DN32) PN12,5: 50x4,0 (DN40); 63x4,5(DN50)

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## Type Approval Certificate

External pressure test up to 4 bar  
Flame spread characteristics to class HB (acc. ASTM D635-06)  
Temperature range 0°C up to 80°C by 10 bar (acc. ISO 21003)  
Press fittings of type Sanfix-P made of red brass  
Types: Couplings, T-pieces, Bends, Adapters/-bends and connecting fittings  
(press fitting - screwed connection), Socket plugs, Caps

### Other Conditions

#### Restrictions:

Not to be used in Class A deck- and bulkhead penetrations without approved fire penetration.

Integrity of watertight bulkheads to be secured by a valve.

Non-essential service air system is to be kept segregated from essential air consumer.

The use of plastic pipes may be restricted by the statutory requirements of the National Authority of the country in which the ship is to be 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 EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

**Previous Version:** 96/20047(E5)-02

The Design Appraisal Document HMD 6909-01, Issue No. 5 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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## Appendix

### **PLACE OF PRODUCTION**

Viega GmbH & Co. KG  
Zum Langen Acker 7  
57439 Attendorn / Ennest  
Germany

Becker Plastics GmbH  
Am Bahnhof 3  
45711 Datteln  
Germany

Viega GmbH & Co. KG  
Bernrieder Strasse 12  
94559 Niederwinkling  
Germany