

# TYPE APPROVAL CERTIFICATE

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**This is to certify:**

**That the Pipe System with Couplings**

with type designation(s)  
**Temponox**

Issued to

**Viega GmbH & Co. KG**  
**Attendorn, Germany**

is found to comply with

**DNV rules for classification – Ships Pt.4 Ch.6 Piping systems**  
**DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021**  
**DNV GL rules for classification – Naval vessels**  
**DNV class programme DNV-CP-0185 – Type approval – Mechanical joints**

**Application :**

**Products approved by this certificate are accepted for installation on all vessels classed by DNV.**

**Temperature range:** -40°C up to +140°C (see page 2)  
**Max. pressure:** 1,6 MPa / 16 bar

Issued at **Hamburg** on **2022-11-07**

for **DNV**

This Certificate is valid until **2027-11-06**.

DNV local station: **Essen**

Approval Engineer: **Christian Kaemmer**

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**Sven Klinger**  
**Head of Section**

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This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Product description

Pipe system consisting of metallic pipes and fittings.  
 The fitting with SC-contour provide a visual indication of a non-pressed fitting.  
 The fittings are to be assembled by dedicated pressing tools.

**Temponox:** Pipe O.D. 15 mm up to 54 mm  
**Temponox XL:** Pipe O.D. 76,1 mm up to 108 mm  
 "XL" indicates large sizes 76,1 mm up to 108 mm

System	Press-Fitting Material	Pipe Material
Temponox, Temponox XL	Stainless Steel 1.4301 / 1.4306	1.4520 (X2CrTi17) acc. to DIN EN 10312

## Pipe diameter and wall-thickness

Pipe Diameter [mm]	15,0	18,0	22,0	28,0	35,0	42,0	54,0	76,1	88,9	108,0
Pipe Wall Thickness [mm]	1,0	1,0	1,2	1,2	1,5	1,5	1,5	1,5	1,5	1,5

Sealing material (Ring gasket)	EPDM	FKM	HNBR
Temperature	-10°C / +110°C	-5°C / +140°C	-40°C / +82°C

At elevated temperatures the maximum working pressure is to be reduced:

Temperature	Factor Stainless steel
50°C	0.95
100°C	0.85
100°C - 140°C	0.77

## Application/Limitation

The Temponox, Temponox XL press fitting system is type-approved for pipe class III-piping systems.

It is type-approved for non-essential systems like:

- Domestic warm water heating
- Fresh water cooling
- Service Air

Glycol up to max. concentration 50 %

For penetration of pipes through watertight bulkhead and decks and fire divisions type approved penetrations are to be used. Not approved for Potable water.

Type of mechanical joint: Compression coupling – Press type  
 Refer to DNV Rules Pt.4, Ch.6, Sec. 9 – Table & 9.

The fittings are to be assembled with respective pipes delivered by Viega.

### Type Approval documentation

MPA Test Report 122000358 dated 23-06-2022  
Burst Pressure Test dated 2022-04-28  
Fire resistance reports IHA Dresden No: 026-22; 027-22; 028-22.  
Techn. Data manual „Pressing tools“  
Operation instructions Temponox; Temponox XL  
Excel-sheet & calculation “Außendruckfestigkeit”  
Type Approval Assessment Report dated 2022-10-27  
Techn. Data-Sheets Temponox Dwg-No: 1064667; 1064668; 1064669; 1064670; 1064671; 1064672; 1064673.  
Techn. Catalogue phb7\_9\_werkzeuge; Chapter 9 „Werkzeugsysteme“

### Tests carried out

Tightness, Burst pressure, Vibration, Pressure-Pulsation, Pull-out, Vacuum-Test, Fire resistance test.

### Production place

Viega GmbH & Co. KG, Werk Großheringen, Germany

### Marking of product

Marking	Example
Manufacturer's name	Viega
Brown rectangle	Nicht für Trinkwasser geeignet

### Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNV-CP-0338, Sec.4.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>