

TYPE APPROVAL CERTIFICATE

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**

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

DNV local station: **Essen**

Approval Engineer: **Christian Kaemmer**

for **DNV**

Sven Klinger
Head of Section

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

Tests carried out

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>