

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pipe System with Couplings

with type designation(s)
ProPress, ProPress 304 FKM, ProPress 316

Issued to
Viega Technology GmbH & Co. KG
Attendorn, Germany

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL class programme DNVGL-CP-0185 – Type approval – Mechanical joints

Application :

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

Type:	Temperature range:	Max. pressure:	Design:
ProPress	see Certificate page 3	232 psi (16 bar)	Press Type Compression Coupling
ProPress 304 FKM	see Certificate page 3	232 psi (16 bar)	Press Type Compression Coupling
ProPress 316	see Certificate page 3	232 psi (16 bar)	Press Type Compression Coupling

Issued at **Hamburg** on **2020-04-02**

for **DNV GL**

This Certificate is valid until **2025-04-01**.
DNV GL local station: **Essen**

Approval Engineer: **Christian Kaemmer**

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Olaf Drews
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.



Product description

Pipe system consisting of

- copper and bronze fittings with copper tubing, product range in Copper Tube Size /CTS or
 - stainless steel fittings with stainless steel tubing
- utilizing a synthetic sealing element.

Pressing is achieved by a press tool per the fitting manufacturer's installation instructions. Product range in nominal tube size. Integral with synthetic interchangeable sealing element. The fitting with SC-contour provides a visual indication of a non-pressed fitting.

Technical data:

ProPress 304 FKM: Pipe O.D. ½" up to 4"
ProPress 316: Pipe O.D. ½" up to 4"
ProPress: Pipe CTS ½" up to 4"

System	Press-Fittings material	Pipe material
ProPress 304 FKM ProPress 316	Stainless Steel AISI316 / AISI 304	Stainless Steel AISI316 / AISI 304 acc to ASTM A 312/A 312M-05a
ProPress	Copper UNS No. C12200 acc. to ASTM, CuSi4Zn9MnP-C (CQ246 acc. to DIN EN 1982)	Copper tube type K acc. to ASTM B88

Overview pipe diameter and wall-thickness

Pipe Diameter [inch]	½"	¾"	1"	1 ¼"	1 ½"	2"	2 ½"	3"	4"
Copper pipe, thickness [inch] (for ProPress)	0,049	0,065	0,065	0,065	0,072	0,083	0,095	0,109	0,134
Stainless Steel pipe, thickness [inch] (for ProPress 304 FKM, ProPress 316)	0,061	0,061	0,061	0,061	0,061	0,061	0,079	0,079	0,079

For special application and in cases where the pipes may be subject to excessive external loads or are inaccessible during service, greater wall thicknesses may be required.

Application

The ProPress, ProPress 304 FKM and ProPress 316 fitting systems are type-approved for pipe class III-piping systems.

Type of mechanical joint: Compression coupling – press type – fire resistant.
 Refer to DNV GL Rules Pt.4, Ch.6, Sec. 9 – Table 10.

For application in piping systems as listed in DNVGL-Rules "Ships" Part 4 Chapter 6 Section 1 Table 2 the following dimensions are type approved:

Approved dimensions and minimum wall thickness of pipes

Diameter [inch]	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
ProPress	0,049	0,065	0,065	0,065	0,072	0,083	0,095	0,109	0,134
ProPress 304 FKM, ProPress 316	0,061	0,061	0,061	0,061	0,061	--	0,079	0,079	--

Notes: "--" pipes with undersized wall thickness;

Pipe Systems with undersized pipe wall thickness are only type approved for the following applications:

- Domestic warm & cold water (potable water), sanitary drains
- Heating systems
- Service Air
- Non essential systems

Selection of materials

It shall be noted that the selection of the materials considers the intended service condition and installation area of the piping system. In particular, the resistance to corrosion, erosion, oxidation and other deterioration during intended service life.

Reference is made to DNVGL Rules Pt.4, Ch.6 – Section 2 – Materials.

Penetration of fire divisions and water tight bulkheads and decks

For penetration of pipes through fire divisions and watertight bulkhead and decks type approved penetrations are to be used.

Penetration of pipes with undersized wall thickness shall be approved in each separate case.

Limitations

- Restrictions for above mentioned applications for compression couplings "press type" acc. to DNVGL-Rules Part 4 Chapter 6 Section 9 Table 9 and Viega-manufacturers restrictions according to Viega application-list are to be observed.
- Steam and flammable fluids 7 bar maximum working pressure.
- Flammable fluid applications require a HNBR or FKM sealing element.

Sealing material	EPDM	FKM	HNBR
Temperature range	-10°C / +110°C	-5°C / +140°C	-40°C / +82°C
	+14°F / +230°F	+23°F / +284°F	-40°F / +180°F
ProPress; ProPress 304 FKM; ProPress 316			

Type Approval documentation

ProPress / ProPress XL:

Test Certificate 805300; 805301; 805302; 805303; "Fire Resistance "by Phoenix Compound Technology dated 29-10-2008
MPA Test Report 120003724-4(e) dated 04-02-2011
MPA Test Report 120003773-1 (-2) dated 22-04-2011

Propress Stainless / Propress Stainless XL:

MPA Test Report 120003724-2e dated 04-02-2011
MPA Test Report 120003724-1e dated 04-02-2011
MPA Test Report 120002578-2 dated 17-02-2006
MPA Test Report 120003976-e dated 29-02-2012

Burst Pressure Test dated 12-12-2018 witnessed by Surveyor
Burst Pressure Test dated 122000124-2 dated 04-03-2020
Test Certificate 804693; 804694;804695; 804696;804697; "Fire Resistance "by Phoenix Compound Technology dated 25-09-2008
Test Certificate 805308; 805309; 805310; 805311 "Fire Resistance "by Phoenix Compound Technology dated 29-10-2008
Test Report 029-14; 030-14; 034-14; 035-14; 001-12 "Fire Resistance" by IHA Dresden

Techn. Datasheet Pressing tool "Pressgun 5"
Corrosion Tables Urea, Dechema material-tables "Urea"
Type Approval Assessment Report dated 2018-12-12.
Techn. Data-Sheets Profipress, Sanpress, Sanpress Inox, Seapress
Techn. Catalogue phb7_9_werkzeuge; Chapter 9 „Werkzeugsysteme“
List "Minimum Pipe Wall-Thickness"
Bestätigungsschreiben "Technisch baugleich" dated 10-12-2019
Burst Pressure Test Reports dated January 2020

Tests carried out

Tightness, Burst, Pressure-Pulsation, Vibration, Pull-out Vacuum- and Fire Resistance Test.

Production place

- Viega Supply Chain GmbH & Co. KG, Viega Str. 1, 99518 Großheringen, Germany
- Viega LLC, 2211 Viega Ave McPershon Kansas, USA.

Marking of product

Marking	Example
Manufacturer´s name	Viega
Nominal Diameter	15x1/2

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with. Refer to DNVGL-CP-0338, Sec.4.