DNV·GL

Certificate No:
TAP00001WA

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pipe System with Couplings

with type designation(s)
CUNIPRESS: Press fitting system in CuNi 90/10

Issued to
Ilta Inox S.p.A. - Division CHIBRO
Montano Lucino CO, Italy

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 :

Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.

Temperature range:	**-20°C to +95°C**
Max. pressure:	**13 bar**
Design:	**Press fittings**

Issued at **Høvik** on **2019-10-17**

This Certificate is valid until **2024-10-16**.
DNV GL local station: **Italy/Malta CMC**

Approval Engineer: **Adel Samiei**

for **DNV GL**
Digitally Signed By: Zeinab Sharifi
Location: DNV GL Høvik, Norway

Zeinab Sharifi
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

CUNIPRESS piping system including:

- Press fittings made of 90/10 copper-nickel alloy according to UNS C70600 (Threaded connection in accordance with ISO 7-1 or EN10226-1)
- Cold drawn (seamless) pipes made 90/10 copper-nickel alloy according to UNS C70600
- O-ring seal made of synthetic rubber

Outside diameter (mm)	15	18	22	28	35	42	54	76.1	88.9	108
Pipe Thickness (mm)	1	1	1	1.5	1.5	1.5	1.5	2	2	2.5

Application/Limitation

Pipe system covered by this certificate is approved to be used in below applications and in class III piping systems:

1) Flammable fluids (flash point ≤ 60°C)
- Cargo oil lines (2)
- Crude oil washing lines (2)
- Vent lines

2) Inert gas
- Water seal effluent lines
- Scrubber effluent lines
- Main lines (1)(2)
- Distributions lines (2)

3) Flammable fluids (flash point > 60°C)
- Cargo oil lines (2)
- Fuel oil lines (1)
- Lubricating oil lines (1)
- Hydraulic oil (1)
- Thermal oil (1)

4) Fresh water
- Cooling water system
- Condensate return
- Non-essential system

5) Sea water
- Bilge lines
- Water filled fire extinguishing systems, e.g. sprinkler systems
- Non water filled fire extinguishing systems, e.g. foam, drencher systems
- Fire main (not permanently filled)
- Ballast system
- Cooling water system
- Tank cleaning services
- Non-essential systems

6) Sanitary/drains/scuppers
- Deck drains (internal) (3)
- Sanitary drains

7) Sounding/vent
- Water tanks/dry spaces
- Oil tanks (f.p. > 60°C) (1)

8) Miscellaneous
- Service air (non-essential)
- Brine
- Steam

(1) Not inside machinery spaces of category A or accommodation spaces. May be accepted in other machinery spaces provided the joints are located in easily visible and accessible positions.
(2) Only in pump rooms and open decks
(3) Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.

Threaded joints shall not be used for piping systems conveying toxic or flammable media or services where fatigue, severe erosion or crevice corrosion is expected to occur. Otherwise they are allowed for Class III piping systems when outside diameter is not more than 60.3 mm (reference is made to DNV GL Ship Rules pt.4 Ch.6 Sec.9 [5.2.6].

The piping system may not penetrate enclosed spaces below the freeboard deck (e.g. watertight- or fire bulkheads).

The components are to be mounted according to manufacturer's instructions and with the equipment (e.g. pressing machine) as described in the manufacturer’s catalogue.

Pipe system covered by this certificate shall not be installed in system where pressure pulsation occurs.

Type Approval documentation

Burst Pressure and tightness test reports for Ø15, Ø54 and Ø108 (13 bar) dated 2019-07-19,
Fire test report 62/10, 60/10 & 57/10 (15, 54 and 108) 13 bar (issued by WTD71),

Tightness test report dated 2019-10-20 Ø28 - 13 bar,
Test report L.R.004/97/PM/rb/1 including vacuum test report (NBR), fire test, vibration test, hydraulic pressure test (Ø28, Ø76.1, Ø108),
Manufacturere catalogue 09/2015-B
Pull out test report dated 2008-02-27 stamped as witnessed by DNV surveyor
Vibration test report number 10406
Test report number DTP-3030-98-J-467 dated 1998-03-06

Tests carried out

Tightness test, burst pressure test, Pull-out, Vibration, fire test, vacuum test

Marking of product

For traceability with this type approval, each fitting is at least to be marked with:

- Manufacturers name or trademark
- Size

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 approval are complied with. Reference is made to DNVGL-CP-0338.