



TYPE APPROVAL CERTIFICATE

Certificate No:
TAP00000J7
Revision No:
1

This is to certify:

That the Pipe Couplings, Bite and Compression Type

with type designation(s)
SO

Issued to
SERTO AG
Frauenfeld, TG, Switzerland

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
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: -55°C up to +300°C
Max. working press.: 250 bar
Sizes: 2 mm up to 28 mm

Issued at **Hamburg** on **2022-03-01**

This Certificate is valid until **2027-02-28**.

DNV local station: **Augsburg**

Approval Engineer: **Christian Kaemmer**

for **DNV**

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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.

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

Design: Compression type pipe coupling consisting of base part, compression ferrule, union nut. Flat metallic sealing. When the union nut is tightened, the compression ferrule is deformed by the inside taper of the union nut, necking the tube slightly without damaging or notching it.

Material:

Base part:	Stainless Steel:	1.4571/ X6CrNiMoTi17-12-2
Compression ferrule:	Stainless Steel:	1.4571/ X6CrNiMoTi17-12-2
Union nut:	Stainless Steel:	1.4571/ X6CrNiMoTi17-12-2

Tubes: Seamless cold-drawn stainless-steel pipes acc. to DIN EN 10216-5/ EN ISO 1127.

Application/Limitation

The pipe coupling system is type approved for application in pipe class I, II and III-piping systems, as listed in DNV Ship Rules Pt. 4, Ch. 6, Sec. 9, Table 8 & 9 & 10.

Classed as Compression Coupling, Bite-type, Fire resistant.

Pipe Coupling Components	Tube OD [mm]	Maximum Working Pressure
SO 50001-2	2	250 bar
SO 50001-3	3	250 bar
SO 50001-4	4	250 bar
SO 50001-5	5	250 bar
SO 50001-6	6	200 bar
SO 50001-8	8	200 bar
SO 50001-10	10	160 bar
SO 50001-12	12	160 bar
SO 50001-15	15	100 bar
SO 50001-18	18	100 bar
SO 50001-22	22	64 bar
SO 50001-28	28	40 bar

Pressure reduction factors:

For service temperatures above +50 °C the pressure for stainless steel is to be reduced according to the pressure reduction factors:

-55°C	0%
50°C	-5%
100°C	-15%
150°C	-23%
200°C	-29%
250°C	-33%

Pipe couplings with pipe threads sealing along the thread are limited in the application.
Pipe couplings with parallel thread are not approved for pipe class I and II and tapered or parallel thread is not approved for toxic or flammable media or services where fatigue, severe erosion or crevice corrosion is expected to occur.
Tube fittings made of stainless steel are not permitted in seawater systems.
A tube grade suitable for cold bending and flaring is to be used.
For the assembly and the installation of the joints manufacturer's instructions are to be observed.
The wall thickness of the tubes/pipes is to be in accordance with current DNV Rules.

For installation in vessels with class notation of "tankers for liquefied gas", couplings covered by this certificate shall only be used for accessory lines and instrumentation lines with external diameters of 25 mm or less. Reference is made to DNV rules Pt.5 Ch.7 Sec.5 [8.2.1].

Couplings covered by this certificate must not be installed in systems subject to pressure below atmospheric.

Panel Mount Union (Bulkhead tube couplings) of type SO 51521, SO 51521 RED, SO 51524, SO 51524 RED, SO 52721 are not approved through tank walls, fire divisions, watertight deck and bulkheads.

Type Approval documentation

Tests carried out

Marking of product

For traceability to this Type Approval the couplings are to be marked:

- Manufacturer's name or trade mark
- Type designation
- Maximum working pressure
- Size

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>