

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Pipe Couplings, Bite and Compression Type**

with type designation(s)

L - according to DIN2353, S - according to DIN2353

Issued to

**DISTRIBUIDORA INTERNACIONAL CARMEN, S.A -DICSA-
Zaragoza Zaragoza, Spain**

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems**DNV GL class programme DNVGL-CP-0185 – Type approval – Mechanical joints****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Type:	Temperature range:	Max. working press.:	Sizes:
L - according to DIN2353	-40°C to +400°C	630 bar / 315 bar / 160 bar (dependent on size)	6,8,10,12,15,18,22,28,35,42
S - according to DIN2353	-40°C to +400°C	630 bar / 400 bar / 315 bar (dependent on size)	6,8,10,12,14,16,20,25,30,38

Issued at **Høvik** on **2017-02-08**This Certificate is valid until **2022-02-07**.for **DNV GL**DNV GL local station: **Barcelona**Approval Engineer: **Adel Samiei**

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Marianne Spæren Marveng
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

Fittings according to DIN 2353

Materials in body and cutting ring: austenitic stainless steels 316 (UNS S31600) and 316L (UNS S31603)
Couplings are manufactured at DICS A, Zaragoza, Spain.

Application/Limitation

Couplings covered by this certificate may be used in below applications (as described in DNV GL ship rules Pt.4 Ch.6 Sec.9 Table 12 & 13):

- | | |
|---|--|
| <p><i>I.</i> Flammable fluids (flash point $\leq 60^{\circ}\text{C}$)</p> <ul style="list-style-type: none">- Vent lines- Cargo oil lines ⁽³⁾- Crude Oil Washing lines ⁽³⁾ <p><i>II.</i> Inert gas</p> <ul style="list-style-type: none">- Water seal effluent lines- Scrubber effluent lines- Main lines ⁽³⁾- Distribution lines ⁽²⁾⁽³⁾ <p><i>III.</i> Flammable fluids (flash point $> 60^{\circ}\text{C}$)</p> <ul style="list-style-type: none">- Fuel oil lines ⁽¹⁾- Lubricating oil lines ⁽¹⁾- Hydraulic Oil ⁽¹⁾- Thermal Oil ⁽¹⁾- Cargo oil lines ⁽³⁾ | <p><i>IV.</i> Fresh water</p> <ul style="list-style-type: none">- Cooling water system- Condensate return- Non-essential system <p><i>V.</i> Sanitary/drains/scuppers</p> <ul style="list-style-type: none">- Deck drains (internal) ⁽²⁾- Sanitary drains- Scuppers and discharge (overboard) <p><i>VI.</i> Sounding/vent</p> <ul style="list-style-type: none">- Water tanks/Dry spaces- Oil tanks (f.p. $> 60^{\circ}\text{C}$) ⁽¹⁾ <p><i>VII.</i> Miscellaneous</p> <ul style="list-style-type: none">- Starting/Control air- Service air (non-essential)- Brine- CO₂ system- 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 above bulkhead deck of passenger ships and freeboard deck of cargo ships.

⁽³⁾ Only in pump rooms and open decks

Type	Sizes (mm)	Maximum working pressure
L	6,8,10,12	630 bar
	15,18	315 bar
	22,28,35,42	160 bar
S	6,8,10,12,14	630 bar
	16,20,25,30	400 bar
	38	315 bar

For elevated temperatures the maximum allowable pressure have to be reduced according to DNVGL-CP-0185 Section 2 Table 1.

The approval is only valid when the couplings are assembled with tubing of correct temper and tolerances as recommended by the manufacturer.

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

Type Approval documentation

Tests carried out

Burst, tightness, repeated assembly, vibration/pressure pulsation, pull-out test

Marking of product

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

- Manufacturer's name or trademark

Job Id: **262.1-017905-1**
Certificate No: **TAP00000U6**

- Type designation
- Material
- Pressure rating

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform a survey - every second year and before the expiry date of this certificate - to verify that the conditions for the type approval are complied with and to witness burst testing of samples of couplings selected at random from stock or from the running production.