



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAP00000U6**  
Revision No:  
**2**

## 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.U. (DICSA)**  
**Zaragoza, Spain**

is found to comply with  
**DNV class programme DNV-CP-0185 – Type approval – Mechanical joints**  
**DNV rules for classification – Ships Pt.4 Ch.6 Piping systems**  
**DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021**

## Application :

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

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)	O.D. in mm: 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)	O.D. in mm: 6, 8, 10, 12, 14, 16, 20, 25, 30 & 38

Issued at **Høvik** on **2022-05-10**

for **DNV**

This Certificate is valid until **2027-02-07**.

DNV local station: **Barcelona FIS**

Approval Engineer: **Jane Lozanov**

**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.

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

Compression fittings constructed according to DIN 2353.

Materials in body and cutting ring:

- austenitic stainless steels 316 (UNS S31600) and 316L (UNS S31603)
- carbon steel 11SMnPb30 from EN 10277-3 and EN 10087

Couplings are manufactured at DICSA, Zaragoza, Spain.

## Application/Limitation

Couplings covered by this certificate may be used in below applications (as described in DNV ship rules Pt.4 Ch.6 Sec.9 Table 9 & 10):

- |   |   |
|---|---|
| <p><i>I.</i> Flammable fluids (flash point <math>\leq 60^{\circ}\text{C}</math>)</p> <ul style="list-style-type: none"> <li>- Cargo oil lines <sup>3)</sup></li> <li>- Crude oil washing lines <sup>3)</sup></li> <li>- Vent lines</li> </ul> <p><i>II.</i> Inert gas</p> <ul style="list-style-type: none"> <li>- Water seal effluent lines</li> <li>- Scrubber effluent lines</li> <li>- Main lines <sup>3)</sup></li> <li>- Distribution lines <sup>2),3)</sup></li> </ul> <p><i>III.</i> Flammable fluids (flash point <math>&gt; 60^{\circ}\text{C}</math>)</p> <ul style="list-style-type: none"> <li>- Cargo oil lines <sup>3)</sup></li> <li>- Fuel oil lines <sup>1)</sup></li> <li>- Lubricating oil lines <sup>1)</sup></li> <li>- Hydraulic oil <sup>1)</sup></li> <li>- Thermal oil <sup>1)</sup></li> </ul> | <p><i>IV.</i> Fresh water</p> <ul style="list-style-type: none"> <li>- Cooling water system</li> <li>- Condensate return</li> <li>- Non-essential system</li> </ul> <p><i>V.</i> Sanitary/drains/scuppers</p> <ul style="list-style-type: none"> <li>- Deck drains (internal) <sup>2)</sup></li> <li>- Sanitary drains</li> <li>- Scuppers and discharge (overboard)</li> </ul> <p><i>VI.</i> Sounding/vent</p> <ul style="list-style-type: none"> <li>- Water tanks/dry spaces</li> <li>- Oil tanks (f.p. <math>&gt; 60^{\circ}\text{C}</math>) <sup>1)</sup></li> </ul> <p><i>VII.</i> Miscellaneous</p> <ul style="list-style-type: none"> <li>- Starting/control air</li> <li>- Service air (non-essential)</li> <li>- Brine</li> <li>- CO<sub>2</sub> system <sup>1)</sup></li> <li>- Steam</li> </ul> |
|---|---|

- 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 has to be reduced according to DNV-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

DICSA product description

DICSA instruction manual I071900 dated 2015-10-27

IMA test report K024/16 dated 2016-10-11 (pull-out and pressure pulsation/vibration tests)

IMA test report K135/15 dated 2016-02-08 (pull-out and pressure pulsation/vibration tests)

Witnessed burst test reports by DNV surveyor: IPP131018/1,4,5 & 6 dated 2016-10-18 and IPP170119/1,2 & 3 dated 2017-01-19

Repeated assemblies and leakage test reports: ET151027/1, ET151027/2, ET161024/1, ET161024/2, ET151029/1, ET161025/1, ET151029/2, ET161025/2, ET161026/1, ET15114/1, ET161026/2, ET15114/2, ET161027/1, ET151111/1, ET161027/2, ET151111/2, ET161028/1, ET151112/1, ET161028/2, ET151112/2

Burst test report (for carbon steel couplings) nos.: IPP17620/1, IPP17620/2, IPP17620/3, IPP17620/4, IPP17620/5, IPP17620/6 and IPP17620/7 witnessed by DNV surveyor dated 2017-06-20

Test report No. K086/17 (pull-out, pressure pulsation & vibration for carbon steel couplings) from IMA Dresden dated 2017-10-11.

Burst pressure tests: IPP22328/1, IPP220328/2, IPP22328/3, IPP22328/4, IPP22328/5, IPP220328/6, IPP22328/7, IPP22328/8, IPP22328/9, IPP22328/10, IPP22328/11 and IPP22328/12 witnessed by DNV surveyor, dated 2022-03-28.

### **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
- Type designation
- Material of construction
- Pressure rating

### **Periodical assessment**

For retention of the Type Approval, a DNV 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 DNV-CP-0338.