

**TYPE APPROVAL CERTIFICATE****This is to certify:****That the Pipe Couplings, Flared or Welded Nipple Type**with type designation(s)  
**37° flare couplings to SAE J514. JIC-fittings. With or without O-ring.**

Issued to

**Custom Fittings Ltd**  
**CLECKHEATON, WEST YORKSHIRE, United Kingdom**

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: -40°C to +90°C (See page 2 of certificate)**  
**Max. working press.: 250 to 600 bar (See page 2 of certificate)**  
**Sizes: 6 to 38 mm**Issued at **Høvik** on **2020-09-01**for **DNV GL**This Certificate is valid until **2025-03-03**.DNV GL local station: **Manchester**Approval Engineer: **Andreas Hansen****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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



Job Id: **262.1-004421-4**  
 Certificate No: **TAP000008N**  
 Revision No: **1**

## Product description

JIC 37° compression couplings of flared type, delivered with or without O-rings according to type approval holders product catalogue.

### Materials:

Couplings: Stainless steel AISI 316L according to ASTM A276 or equivalent.  
 O-ring: Nitrile rubber, hardness 90 shore

## Application/Limitation

Max. working pressures at room temperature for each size shall be according to the below table:

Tube OD (mm)	Max. working pressure without O-ring (bar)	Max. working pressure with O-ring (bar)
6	430	600
8	430	600
10	430	600
12	350	490
16	350	490
20	350	490
25	250	430
30	250	430
38	250	430

Temperature range: -30°C to +90°C for couplings with O-rings.  
 -40°C to + 90°C for couplings without O-rings

At elevated temperatures, the maximum working pressures shall be reduced by a correction factor as the below table:

Temperature (°C)	20	50	90
Correction factor	1	0.95	0.87

Couplings covered by this certificate are approved to be installed in piping systems classes I, II and III and below applications:

<p><b>1) Flammable fluids (flash point ≤ 60°C)</b></p> <ul style="list-style-type: none"> <li>- Cargo oil lines <sup>(1)</sup></li> <li>- Crude oil washing lines <sup>(1)</sup></li> <li>- Vent lines</li> </ul> <p><b>2) Inert gas</b></p> <ul style="list-style-type: none"> <li>- Water seal effluent lines</li> <li>- Scrubber effluent lines</li> <li>- Main lines <sup>(1)</sup></li> <li>- Distributions lines <sup>(1)</sup></li> </ul> <p><b>3) Flammable fluids (flash point &gt; 60°C)</b></p> <ul style="list-style-type: none"> <li>- Cargo oil lines <sup>(1)</sup></li> <li>- Fuel oil lines</li> <li>- Lubricating oil lines</li> <li>- Hydraulic oil</li> <li>- Thermal oil</li> </ul>	<p><b>4) Fresh water</b></p> <ul style="list-style-type: none"> <li>- Cooling water system</li> <li>- Condensate return</li> <li>- Non-essential system</li> </ul> <p><b>5) Sanitary/drains/scuppers</b></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><b>6) Sounding/vent</b></p> <ul style="list-style-type: none"> <li>- Water tanks/dry spaces</li> <li>- Oil tanks (f.p. &gt; 60°C)</li> </ul> <p><b>7) Miscellaneous</b></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</li> <li>- Steam</li> </ul>
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(1) Only in pump rooms and open decks

(2) Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.

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Threaded joints where pressure-tight joints are made on the threads with parallel or tapered threads, are not allowed for piping systems conveying toxic or flammable media or services where fatigue, severe erosion or crevice corrosion is expected to occur.

Threaded joints in CO<sub>2</sub> systems are only allowed inside protected spaces and in CO<sub>2</sub> cylinder rooms. For other applications, these threaded joints are only to be allowed for

- with tapered thread: Class I, II and III piping systems
- with parallel thread: Only class III piping systems

Tube material may be one or more of the following:

AISI-316, AISI-316L, AISI-304L, Titan, Duplex, Super Duplex, Copper Nickel.

The approval is only valid when the couplings are assembled with tubing of correct temper and tolerances in accordance with ASTM A269 or EN 10305-1.

These couplings should not be used on tubes in cold fabricated (hard temper) conditions.

Couplings are not to be installed in systems subject to vacuum condition.

### **Type Approval documentation**

- Manufacturer's catalogue "J.I.C. 37° FLARE FITTINGS IN 316 STAINLESS STEEL" No. CF105D 2005.

Drawings:

- UCO-5BP-4-4, UCO-5BP-6-6, UCO-5BP-8-8, UCO-5BP-10, UCO-5BP-12,
- UCO-5BP-16, UCO-5BP-20, UCO-5BP-24, UCO-5BP-32, UFC-5NT-4-4, UFC-5NT-6-6, UFC-5NT-8-8, UFC-5NT-10, UFC-5NT-12, UFC-5NT-16, UFC-5NT-20, UFC-5NT24, UFC-5NT, UC-5NT-4-4, UC-5NT-6-6, UC-5NT-8-8, UC-5NT-10, UC-5NT-12,
- UC-5NT-16, UC-5NT-20, UC-5NT-24, UC-5NT-32, U-500-4, U-500-5, U-500-6,
- U-500-8, U-500-10, U-500-12, U-500-16, U-500-20, U-500-24.
- Specification sheet.
- DNV test report no. 95-1094 dated 95-07-06.
- LAPI test reports Ref.748/04/AC, 749/04/AC and 750/04/AC dated 2004-07-20.
- DNV Retention Survey Report SHF 04/6633 dated 2004-10-19.
- Test report of Burst testing witnessed by DNV dated 2004-11-16.
- Renewal burst test report witnessed by DNV GL Surveyor, dated 2020-06-02

### **Tests carried out**

Pressure pulsation test, Vibration test, Leakage test, Burst test, Fire test (only for stainless steel couplings with O-ring).

### **Marking of product**

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

- Material grade
- Cast identification code

Example: 316/\*\*\*\*\* (where \*\*\*\*\* indicates cast code)

### **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.