



DET NORSKE VERITAS

**TYPE TEST CERTIFICATE
OF
FLUID CONTROLS PVT. LTD.**

OFFICE: J.V.PATEL, ITI COMPOUND, B. MADHURKAR MARG, MUMBAI – 400 013, INDIA.
FACTORY: T-169, MIDC, BHOSARI, PUNE – 411 026, INDIA.

The under mentioned surveyor did visit the facilities of the above manufacturer of metallic tube connections(Single ferrule fittings), between 1st April 2016 to 22nd September 2016 for the performance appraisal of tests mentioned below and conducted on under mentioned sizes of fittings as per mentioned norms .

Material Grade of Fittings: Stainless Steel ASTM A276 TP SS 304 or equivalent.
Material Grade of Tube : Stainless Steel ASTM A269 TP SS 316 Seamless.

1. Test Parameters used:

- Temperature during testing: Ambient ($25 \pm 10^{\circ}\text{C}$).
- Test pressure retained within $\pm 5\%$ PSIG.
- Test medium demineralised water/SAE grade 10W oil for hydraulic tests.
- Metallurgical tests done at NABL approved laboratory.

2. Size of mechanically attached fittings with respect to Tube OD x Wall Thickness (WT)):

Size
10 MM OD x 1.5 MM WT
18 MM OD x 2.0 MM WT
22 MM OD x 2.0 MM WT
42 MM OD x 3.0 MM WT

3. Following tests are conducted as per below mentioned standards and witnessed along with review of relevant documents.

Test	Standard
Repeated Assembly Test	ISO 19879
Leakage Test	ISO 19879
Proof Test	ISO 19879
Burst Test	ISO 19879
Cyclic Endurance Test	ISO 19879
Vaccum Test	ISO 19879
Overtightning Test	ISO 19879
Vibration Test	ISO 19879
Cyclic endurance (impulse) Test with Vibration	ISO 19879
Pull out test	IACS P2.11:2001
Salt Mist Test	IEC 60068-2-52

All the above tests have been found satisfactory. The details of the applicable test pressures with reference to various tests mentioned above have been witnessed and attested by DNV in the report of the manufacturer.

The above mentioned fittings meet the requirement of above mentioned standards with reference to the tests which mentioned in the specification and conducted herein.



Naresh

Naresh Turerao
Surveyor of **DET NORSKE VERITAS AS**