

INSPECTION OF GAS CYLINDERS & FITTINGS
WORK INSTRUCTION
UIS-I-20

1. Approval of Inspection Test Plan:

1.1 The Manufacturer has to submit the Inspection Test Plan. This plan is to be reviewed by UIS. UIS are to write their comments, sign it and sent it to the buyer for approval, which is then sent back to the manufacturer.

2. Documents Review:

2.1 Review of inspector assignment and relevant documents (Contract, L/C, Proforma Invoice, and Technical Specification and any special instructions).

2.2 A meeting is to be held with the supplier representative at the inspection site in order to review together the Inspection Test Plan and the documents needed and to discuss the inspection plan and to request any assistance, if necessary.

2.3 Inspector is to be informed by the supplier on main quality system & standards applied for production and testing.

2.4 Check test result records of routine and daily analysis done by quality control personnel at production facilities on each batch or lot of the product.

2.5 Review records and certificates for calibration of the instruments & devices to be used for testing to assure their accuracy.

2.6 Review of welding qualification procedure and welders certificates.

2.7 Review records and certificates of hydrostatic pressure and tightness test of the product to assure that they are 100% tested.

2.8 Review records and certificates of bursting resistance test to check that it had been done as per Standards specified percentage.

2.9 Review of chemical analysis certificate and mechanical properties test certificate for material used (Cylinder Body).

2. Sampling & Visual Inspection

- 2.1 Random samples to be taken according to the standards mentioned in the contract, if any, otherwise as per UIS procedure (UIS-P-10).
- 2.2 Visual inspection to check, painting, serial number, to check that the valves are properly fixed, defects such as rust, damage and the general appearance of the cylinder to meet the requirements.
- 2.3 Dimensional check according to design drawing
- 2.4 Painting line checking:
Check pre-coating preparations.
Check the thickness of anti rust paint.
Check the colour degree.
Check the thickness of the layers of final coating to assure that they are according to specifications.
- 2.5 Dimensional measurements.
- 2.6 Cylinder nominal capacity measurement.
- 2.7 Cylinder tare weight measurement.

3. Testing

- 3.1 All conducted or witnessed tests should be according to contractual standards, their results forms and sheets should be signed by both the inspector & the seller's representative, such tests are:
 - Hydraulic pressure strength test.
 - Tightness of valve test (pneumatic test).
 - Bursting resistance test.
 - Any other applicable standards tests.
- 3.2 In certain cases and if there is a minor percentage of non-conformity regarding the above mentioned tests promptly inform the Technical Department and in order to assure further investigations and tests shall be requested and performed such as:
 - Mechanical and chemical tests to material used (cylinder body)
 - Mechanical tests to the welded area (tensile strength).
 - Radiographic test to the welding (X-Ray).
- 3.3 If the non-conformity percentage is higher than the specified tolerance limit, immediately inform the Technical Department and STOP inspection and loading.

4. Packing Marking and Loading

- To assure that the packaging is as per the requested specifications.
- To assure that the required marking is put on each pallet if required.
- Attend the loading of the pallets to assure that the handling did not damage the gas cylinders and to confirm the quantity loaded.
- The inspector shall follow UIS common practice to supervise loading.

5. Reporting To Technical Department

5.1 Daily reporting directly to Technical Department shall be made on UIS-F-29 form and should include exact inspection location phone No., progress of inspection, non-conformities and any other remarks.

5.2 Upon completion of loading/unloading, Final Inspection Report must be written within 24 hours and sent to the Technical Department, together with the packing list, calibration certificates and any other document, signed, stamped and dated by the inspector.

5.3 The daily and final reports should be complete & clear and should be reviewed signed and stamped by the inspector's own stamp before forwarded to the Technical Department