



**PRODUCT MANUAL FOR
WELDED LOW CARBON STEEL CYLINDERS
EXCEEDING 5 LITRES WATER CAPACITY FOR LOW PRESSURE
LIQUEFIABLE GASES – REQUIREMENTS FOR INSPECTION AND
RECONDITIONING OF USED LPG CYLINDERS
ACCORDING TO IS 13258: 2014**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	Product	:	IS 13258: 2014
	Title	:	Welded Low Carbon Steel Cylinders Exceeding 5 Litre Water Capacity for Low Pressure Liquefiable Gases – Requirements for Inspection and Reconditioning of Used LPG Cylinders
	No. of Amendments	:	NIL
2.	Sampling Guidelines:		
a)	Raw material	:	Please refer ANNEX- A
b)	Grouping guidelines	:	Each Variety of Cylinders shall be tested for GoL/CSoL.
c)	Sample Size	:	Please refer ANNEX- B
3.	List of Test Equipment	:	Please refer ANNEX – C
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – D
5.	Possible tests in a day :	:	Please refer ANNEX – E
6.	Scope of the Licence :	:	Please refer ANNEX- F
7.	Any other guidelines	:	Please refer ANNEX– G

ANNEX A**Raw Material**

Raw Material	Requirement
Foot ring, Stout metal cap shroud and stay plate	Grade 'O' of IS 1079 or IS 2062 or IS 6240 (Any other material as approved by the statutory authority may also be used)
Valve fittings	IS 8737
Zinc wire	IS 12447
Primer	IS 2074
Paint	IS 2932
Powder Coating	IS 13871
V. P. Ring	As per approved design

ANNEX B

Sample Size

For considering grant of licence/inclusion of additional varieties, a trial batch of prototype cylinders as per the approved drawings shall be manufactured during the joint inspection of BIS and Statutory Authority after in-principle approval is received from the statutory authority. Unless otherwise stated by the statutory authority, the trial batch shall be of minimum one-hour production (heat treatment) of prototype cylinders in continuous cycle furnace or 56 prototype cylinders whichever is higher.

Detailed examination and reconditioning of all the cylinders of trial batch shall be done in accordance with Section 1 and Section 2 of IS 13258: 2014 during the joint inspection.

No sample of cylinder is required to be drawn for independent testing.

ANNEX C**List of Test Equipment***Major test equipments required to test as per the Indian Standard*

Sl No.	Tests used in with clause reference	Test Equipment(s)
1.	Valve pad/bung – Cl. 15.1	Thread Plug Gauges
2.	Straightness, Verticality – Cl. 9.1.2	Vernier caliper, Surface plate, Spirit level, Try square, Height Vernier gauge, Goose neck gauge, Ultrasonic thickness gauge
3.	Foot ring – Cl. 9.1.4	Vernier caliper, Angle protector
4.	Heat treatment – Cl. 13	Furnace with temperature recorder, graphs, thermocouples, temperature indicators
5.	Hydrostatic test – Cl. 14	HST test setup with pressure gauges
6.	Valve fixing and Pneumatic leakage test – Cl. 15, 16	Torque Wrench, Pressure gauge
7.	Internal cleaning, drying - Cl 10.6	Rod fitted with light source (extra low voltage inspection lamp) at one end
8.	Coating thickness - Cl 18.2	Elcometer
9.	Exterior corrosion, Denting, Bulging, Gouges, Digs, Cl. 6.1	Scales, Depth gauges or Straight edge

The above list is indicative only and may not be treated as exhaustive.

ANNEX D

Scheme of Inspection and Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipments. The following equipments shall be calibrated at a frequency shown against each and records kept:

1.1.1 Tensile Testing Machine - Once in a year

1.1.2 Pressure Gauges - At least once in a month

1.1.3 Pyrometer used for heat treatment furnace - Once in six months

1.2 QUALITY CONTROL- All units repairing and supplying cylinders shall obtain and hold valid Quality Management System certification in accordance with IS/ISO 9001 from BIS to ensure that the manufacturer adheres to various steps during each stage of manufacturing process constantly.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity. Records of all the tests made at the cylinder manufacturer's work shall be kept for the life time of the cylinder and copies of test certificates shall be forwarded to the purchaser of the cylinder and the inspecting authority.

2.1 In addition to above, the following documents shall be made available to the Inspecting Officer:

- i) Document showing the approval of PESO for the de-gassing station and procedures as per Clause 7.1 of IS 13258: 2014.
- ii) Design document of all detachables for individual parts shall be in line with the approved drawing of the owner as detailed in their drawing as per clause 9.1 and 9.1.1 of IS 13258: 2014.
- iii) Document showing approval of PESO for chemical cleaning as per Clause 10.2 of IS 13258: 2014.
- iv) Document showing approval of PESO if internal cleaning is done with the use of solvent as per clause 10.3.1(b) of IS 13258: 2014.
- v) Document showing approval of PESO if internal cleaning is done by blasting as per clause 10.3.2 (a) of IS 13258: 2014.
- vi) Approval of PESO if any other colour of synthetic enamel paint is used as per clause 18.2 (c) of IS 13258: 2014.

3.0 LABELLING AND MARKING– As per the requirements of IS 13258:2014.

3.1 In case the Licence Number (CM/L No.) of the original LPG Cylinder manufacturer on the foot ring and / or vertical stay plate of VP ring is not clear, it shall be stamped again on the foot ring and/ or Vertical stay plate.

4.0 CONTROL UNIT: For the purpose of this scheme, Batch shall be as under:

4.1 *Batch* – A batch shall consist of LPG cylinders of identical type and design from same owner offered for BIS lot inspection at a time.

4.2 The identity of each batch shall be maintained.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1 and the tests as per Annexure I shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 A certificate as per Annexure II shall be issued by the BIS Inspecting Officer in respect of every batch of cylinders marked with BIS Standard Mark.

6. HEAT TREATMENT-The heat treatment of the cylinders shall be done as per clause 13 of IS 13258: 2014 and records shall be maintained as per Table 8 of Annexure I.

6.1 Adequate care shall be taken to ensure the consistency of heat treatment cycle. The deviation of temperature shall be within the specified temperature range. In case the temperature goes outside the specified limits, furnace shall be stopped. Heat treatment shall be resumed only after attaining the requisite temperature and the furnace temperature is maintained between the specified limits. The complete records of heat treatment cycle and interruptions of cycle shall be maintained.

7. REJECTIONS – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016. A separate record shall be maintained giving information relating to the rejection of the production not conforming to the requirements of specification and the method of its disposal. Such material shall in no case be stored together with that conforming to the Specification.

TABLE 1

(1)				(2)	(3)		
Test Details				Test equipment Required (R) or Sub-contracting permitted (S)	No. of samples	Frequency	Remarks
Cl.	Requirement	Test Method					
		Clause	Reference				
9.1	Design and Drawing	9.1, 9.1.1	IS 13258	--	Drawings shall be approved by statutory authority.		
8	Material						
18.2	Zinc wire / Primer/ Paint/Powder Coating/ Grits	18.2	IS 13258	S	----	Each consignment	Primer/Paint shall be ISI Marked. No further testing is required, if accompanied with test certificate or ISI Marked. The approved material as per drawing shall only be used.
15.1	Valve	15.1	IS 13258	S	----	Each consignment	Shall be ISI marked.
	Foot ring/Stout metal Cap Shroud/ Stay plate VP Ring tube	8	IS 13258	S	----	Each consignment	The material shall be ISI Marked and the cylinder repairer shall obtain test certificates for each consignment. The approved material as per drawing shall only be used.
12	Receipt of cylinders before reconditioning	12	IS 13258	R	Each cylinder		Record shall be maintained as per Table 1 of Annexure I.
6.1	External inspection	6.1, 10.1	IS 13258	R	Each cylinder		Record shall be maintained as per Table 2 of Annexure I.
10	Detailed examination:						
7	De-gassing of cylinders	7.1, 7.2	IS 13258	R	Each cylinder		Records shall be maintained as per Table 3 of Annexure I.

10.2	External cleaning	10.2	IS 13258	R	Each cylinder	Record shall be maintained as per Table 3 of Annexure I.
10.3	Internal cleaning	10.3	IS 13258	R	Each cylinder	Record shall be maintained as per Table 3 of Annexure I.
10.4	Tare weight verification	10.4	IS 13258	R	Each cylinder	Record shall be maintained as per Table 4 of Annexure I.
10.5	External inspection and Verification of wall thickness	10.5.1, 10.5.1.1	IS 13258	R	Each cylinder	Record shall be maintained as per Table 5 of Annexure I.
10.6	Internal inspection	10.6	IS 13258	R	Each cylinder	Record shall be maintained as per Table 4 of Annexure I.
11	Segregation of cylinders	11.1, 11.2	IS 13258	R	Each cylinder	
12	Reconditioning					
	Removal of Foot ring and Valve protection Ring	12.1	IS 13258	R	Each cylinder	
	Checking of surface	12.1.1	IS 13258	R	Each cylinder	Record shall be maintained as per Table 6 of Annexure I
	Grinding of surface and Verification of wall thickness	12.1.1, 10.5.1.1	IS 13258	R	Each cylinder	Record shall be maintained as per Table 6 of Annexure I
	Fixing of new Foot ring and valve protection Ring / Shroud	9.1.2, 9.1.3, 9.1.4, 12.2	IS 13258	R	Each cylinder	Record shall be maintained as per Table 7 of Annexure I
13	Heat treatment	13.1, 13.2	IS 13258	R	Each cylinder	The cylinders shall be heat treated as per scheme of manufacture duly approved and a complete record of heat treatment cycle shall be maintained as per Table 8 of Annexure I. Also see Cl. 6 of SIT.

14	Hydrostatic test	14.1, 14.1.1, 14.1.2	IS 13258	R	Each cylinder	Records shall be maintained as per Table 9 of Annexure I
15	Fixing of valve	15.1	IS 13258	R	Each cylinder	Records shall be maintained as per Table 10 of Annexure I.
16	Pneumatic test	16.1, 16.2	IS 13258	R	Each cylinder	Records shall be maintained as per Table 11 of Annexure I.
17	De-shaping of unserviceable cylinders	17	IS 13258	R	Each cylinder	Record shall be maintained as per Table 12 of Annexure I.
18	Preparation for Despatch:					
	Internal cleaning and drying	18.1	IS 13258	R	Each cylinder	Records shall be maintained as per Table 10 of Annexure I.
	Grit blasting	18.2	IS 13258	R	Each cylinder	Records shall be maintained as per Table 13 of Annexure I.
	Zinc Coating	18.2	IS 13258	R	One cylinder out of every 50 cylinders	Records shall be maintained as per Table 13 of Annexure I.
	Coating thickness	18.2	IS 13258	R	One cylinder out of every 50 cylinders	Records shall be maintained as per Table 13 of Annexure I.
19	Records	19	IS 13258	R	Each cylinder	Records shall be maintained as per Annexure I (Table 1 to Table 15) Test Certificate shall be maintained as per Annexure II
20	Markings	20	IS 13258	R	Each cylinder	Records shall be maintained as per Table 15 of Annexure I

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: The control unit and levels of control as decided by the Bureau are obligatory to which the licensee shall comply with.

ANNEXURE I**Table 1- Record of incoming cylinders for Reconditioning**

Date of receipt:

Name of owner:

Max working pressure in MPa:

Document reference of owner:

Test pressure in MPa:

Water capacity in litres:

Sl. No.	Name of cylinder manufacturer	CM/L no of each cylinder	Batch no of each cylinder	Serial no of each cylinder	Month & year of manufacture of each cylinder	Gross weight in kg	Tare weight in kg	Presence of the symbol "R" on the vertical stay of VP ring or foot ring	Whether cylinder is serviceable or unserviceable
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

Note: At this stage, if Col. No. (2), (3), (4), (5) of Table 1 and Max. WP is not decipherable and the symbol R is present in Col No. (10), the cylinders shall be declared as unserviceable and shall be rejected.

Table 2- Record of External Inspection as per Cl. 6.1 of IS 13258

Date(s) of inspection:

Sl. No. of serviceable cylinders	Type of Defect																		Whether cylinder is serviceable or Unserviceable
	Bulge	Dent	Cut or gouge	Intersecting cut or gouge	Dent containing cut or gouge	Crack	Lamination	Dig	Bottom shell thickness	Foot ring bottom clearance	Isolated corrosion pits	Area corrosion	General corrosion	Line corrosion	Service corrosion	Depressed bung	Arc or torch burns	Fire damage	

Note: Decision w.r.t unserviceability of the cylinders shall be taken based on the rejection criteria stipulated in Table 1 to Table 3 of IS 13258

Table 3 – Record of de-gassing, external cleaning and internal cleaning as per Cl. 7, Cl. 10.2 and Cl. 10.3 respectively of IS 13258

Date(s) of degassing, external cleaning, internal cleaning:

Method of external cleaning:

Method of internal cleaning:

Sl. No. of serviceable cylinders	If contamination by oil or similar fluid is observed, method of cleaning adopted	If cylinder is affected by rust or other foreign matter, method of cleaning adopted	Remarks
	Steam cleaning <i>or</i> Approved solvent <i>or</i> Use of magnet	Approved blasting, rotary wire brushing or rumbling procedure or burnt out treatment* in furnace	

* In the case of burnt out treatment, all free rust and scale shall be removed as per Cl. 10.3.1 of IS 13258 and records to be maintained.

Table 4 – Record of tare weight verification and internal inspection as per Cl. 10.4 and Cl. 10.6 respectively of IS 13258

Date of verification:

Sl. No. of serviceable cylinders	Tare weight as per Table 1 of Annexure I	Observed tare weight	% loss in tare weight	Internal inspection	Whether cylinder is serviceable or unserviceable

Note: Decision w.r.t unserviceability of the cylinders shall be taken based on the rejection criteria stipulated in Cl. 10.4 and Cl. 10.6 of IS 13258

Table 5- Record of grinding of cylinders after external inspection to achieve a defect free surface as per Cl. 10.5 of IS 13258

Date of grinding:

Sl. No. of serviceable cylinders	Type of repairable defect as per Table 2 above	Wall thickness after grinding acceptable or not	Remarks

Table 6 - Record of inspection of cylinders

Date of inspection:

Sl. No. of serviceable cylinders	Type of defect		Wall thickness	Whether cylinder is serviceable/ repairable or unserviceable	Type of repairable defect (for repairable cylinders)	Record of grinding of cylinders declared as "Repairable" to achieve a defect free surface as per Cl. 10.5.1 of IS 13258: 2014		* Whether cylinder serviceable or not	Remarks
	Line corrosion	Pits				Date of grinding	Wall thickness		

* Decision w.r.t unserviceability of the cylinders shall be taken based on the rejection criteria stipulated in Cl. 10.5.1.1 of IS 13258

Table 7 - Record of Inspection of weld defects as Clause 12.2 of IS 13258

Date of inspection:

Name of welder:

Sl. No. of serviceable cylinders	Conformity to welding checks as per Cl. 7 of IS 3196 (Part 1)	VP Ring [Check for weld as per clause of IS 3196 (Part 1)]				Foot ring and check for weld as per Cl. 10.2 of IS 3196 (Part 1)							Straightness as per Cl. 9.1.2 of IS 13258	Verticality as per Cl. 9.1.2 of IS 13258	Whether cylinder is serviceable/ repairable or unserviceable
		Cl. 9.3.1	Cl. 9.3.2	Cl. 9.3.3	Cl. 9.3.4	Type of weld/(shall be intermittent)	Position from circumferential weld	Thickness of sheet	If bottom edge is curled up	Holes for ventilation	Deviation from the vertical shell	Position of bottom ring			

Table 8 - Record of Heat Treatment as per Cl. 13 of IS 13258

Approval of PESO:

Stress relieving temperature:

Duration in minutes:

Date:

Name of operator:

Shift:

Sl No. of serviceable cylinders (From ----- To-----)	Batch No./Quantity	Time in	Time out

Table 9 - Record of Hydrostatic test as per Cl. 14 of IS 13258

Batch No.:

Test Pressure: 25 Kgf/cm²

Duration: 30 Seconds

Sl. No. of serviceable cylinders	Reduction in pressure noticed	Any leakage/visible bulge/ deformation	Whether cylinder is serviceable/ repairable or unserviceable

Note: Decision w.r.t unserviceability of the cylinders shall be taken based on the rejection criteria stipulated in Cl. 14 of IS 13258

Table 10-Record of bung thread cleaning and internal cleaning before fixing of valve as per Cl. 15 of IS 13258

Batch No.:

Date of cleaning:

Sl. No. of serviceable cylinders	Bung thread cleaning					Internal cleaning for removal of:						Whether cylinder is serviceable/ repairable or unserviceable
	Freedom from grit	Zinc	Other foreign matter	Breaking of scale	Re-correction of distortion	Water	Grit	Welding slag	Flux	Metal	Any other foreign particles	

Note: Decision w.r.t unserviceability of the cylinders shall be taken based on the rejection criteria stipulated in Cl. 15 of IS 13258

Table 11-Record of pneumatic test as per Cl. 16.1 of IS 13258: 2014

Batch No.:

Quantity:

Date of test:

Air pressure: 12 Kgf/cm²

Duration: 1 minute

Sl. No. of serviceable cylinders	Leakage observed	Whether cylinder is serviceable or Unserviceable

Note: Decision w.r.t unserviceability of the cylinders shall be taken based on the rejection criteria stipulated in Cl. 16.1 of IS 13258

Table 12- Record of de-shaping of unserviceable cylinders as per Cl. 17 of IS 13258

Batch number:

Qty:

Sl. No. of un-serviceable cylinders	Sl. No. of cylinder of Manufacturer	Manufacturer's identity	Date of rejection	Cause of rejection	Date of de-shaping

Table 13-Record of grit blasting, metalizing, painting coating thickness as per Cl. 18 of IS 13258

Batch No.

Sl. No. From ----- To -----

Date:

Sl. No. of serviceable cylinders	Date of cleaning & drying	Date of grit blasting	Result OK/ Not OK	Minimum thickness of zinc	Use of zinc chromate	Use of synthetic enamel paint	Use of powder coat or stoving primer coat and enamel coated	Total minimum thickness observed (67µ min.)						Remarks	
								1	2	3	4	5	Avg.		

Table 14 - Record of reconditioning of cylinders

Batch No.:

Date:

Sl. No. of cylinder	Original Manufacturer's name	Date of manufacture	Date of repair	Details of repairs carried out

Table 15 - Record of Marking

Cylinder No.	Original markings on the foot ring and vertical stay plates of V P Ring as applicable							Marking on foot ring			Letter R on vertical stay plate as close to BIS Certification Mark	Remarks
	Original Sl. No./ Batch No.	BIS Certification Mark, Manufacturer's name or initials	Repairer's identification Mark	New tare weight and gross weight of cylinder	Month & year of manufacture, retest and reconditioning	Maximum working pressure, test pressure in MPa	Water capacity					

Annexure II

TEST CERTIFICATE

(Reconditioning and Testing of Used LPG Cylinders)

Name and address of repairer:

Certificate No.:

Date :

CM/L No.:

Owner (Name of the customer) :

Order No. :

Batch Number :

Cylinder description: _____ litres water capacity, _____ piece welded LPG cylinders, working pressure: _____ Kgf/cm²/ MPa.

This is to certify that the LPG cylinders as per the details given above have been repaired as per details given in Appendix 1, re-inspected and tested at M/s. _____

These cylinders have passed all the requisite tests as specified in IS 13258:2014 and are declared fit for use.

Appendix 2 gives the list of cylinders segregated as unserviceable, rejected and scrapped.

Total Quantity passed:

Total Quantity rejected:

Details of Inspection and Testing:

- i) Visual examination (External & Internal)
- ii) Stress relieving at _____°C maximum for _____ minutes
- iii) Hydraulic pressure test at _____ MPa.
- iv) Surface preparation, Metalizing and Painting.
- v) Checking of Bung threads and valve fixing
- vi) Pneumatic Test at _____ MPa.
- vii) New Tare weight of the cylinder punched.

QUALITY CONTROL INCHARGE
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BUREAU OF INDIAN STANDARDS

APPENDIX 1

(LIST OF CYLINDERS ACCEPTED)

Repairer's Name : Certificate number :
 Owner : Order number :
 Batch number : Date :

Sl. No. of cylinder	Original Manufacturer's name/Identity	Date of manufacture/Test	Date of repair/Test	Details of repairs carried out

QUALITY CONTROL INCHARGE
 OF THE FIRM

INSPECTING OFFICER
 BUREAU OF INDIAN STANDARDS

APPENDIX 2

(LIST OF CYLINDERS UNSERVCEABLE)

Repairer's Name : Certificate number :
 Owner : Order number :
 Batch number : Date :

Sl. No. of cylinder	Original Manufacturer's name/Identity	Date of manufacture.	Date of rejection	Reasons for rejection

QUALITY CONTROL INCHARGE
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 BUREAU OF INDIAN STANDARDS

ANNEX E

Possible Tests in a Day

1. Hydrostatic test (Cl. 14)
2. Valve fixing and Pneumatic leakage test (Cl 15)
3. Internal cleaning and drying (Cl 10)
4. Tare weight (Cl 10.4)
5. Coating thickness (Cl 18.2)
6. Markings (Cl. 20)

ANNEX F

Scope of Licence

“Licence is granted to use Standard Mark as per IS 13258: 2014 with the following scope:	
Name of the product	Welded Low Carbon Steel Cylinders Exceeding 5 Litre Water Capacity for Low Pressure Liquefiable Gas – Requirements for Inspection and Reconditioning of Used LPG Cylinders
Variety	Water capacity (litres)
Any other aspect	PESO approved drawing number and approval number

Annex G**Format for Lot inspection of Reconditioned LPG Cylinders according to IS 13258: 2014**

- 1) Name of the Unit-
- 2) Licence Number-
- 3) Date of Lot Inspection –
- 4) Batch Number/ Control Unit –

Table – A
Audit of Records

Sr. No.	Requirements	Clause Reference of IS 13258: 2014	Test certificates	Observation
01	Foot Ring	9.1.4	Test certificates Available/ Not available	Satisfactory/ Not Satisfactory
02	Valve Protection Ring	9	Test certificates Available/ Not available	Satisfactory/ Not Satisfactory
03	Valves	15.1	Test certificates Available/ Not available	Satisfactory/ Not Satisfactory
04	Calibration of Instruments		Calibration certificate Available/ Not available	Satisfactory/ Not Satisfactory
05	Record of Stage Inspection	As per SIT/ Levels of Control	Stage Inspection Record Available/ Not available	Satisfactory/ Not Satisfactory

Table- B

Stage Auditing of Inspection and Reconditioning Process

Date of Lot Inspection :

Sr. No.	Requirement / Stage	Observations
01	External Cleaning	Satisfactory/Not Satisfactory
02	Internal Cleaning	Satisfactory/ Not Satisfactory
03	Tare weight Verification	Satisfactory/ Not Satisfactory
04	External Inspection	Satisfactory/ Not Satisfactory
05	Internal Inspection	Satisfactory/ Not Satisfactory
06	Removal of Footring and Valve Protection	Satisfactory/ Not Satisfactory
07	Fixing new Footring and Valve Protecting Ring/Shroud	Satisfactory/ Not Satisfactory
08	Heat Treatment	Satisfactory/ Not Satisfactory
09	Hydrostatic Test	Satisfactory/ Not Satisfactory
10	Grit Blasting	Satisfactory/ Not Satisfactory
11	Metalizing Coating Thickness	Satisfactory/ Not Satisfactory
12	Primer Coating/ Paint Coating	Satisfactory/ Not Satisfactory
13	Tare Weight	Satisfactory/ Not Satisfactory
14	Valve Fixing	Satisfactory/ Not Satisfactory
15	Pneumatic Test	Satisfactory/ Not Satisfactory
16	Deshaping	Satisfactory/ Not Satisfactory

Table- C

Inspection & Testing prior to the release of Batch

Sr. No.	Tests	Clause Reference of IS 13258	Number of samples	Observation
1.	Valve fixing using approved jointing compound at specific torque	15.1	1 cylinder out of every 250 cylinders or part thereof an inspection lot	Satisfactory/Not Satisfactory
2.	Pneumatic leakage test	16	1 cylinder out of every 250 cylinders or part thereof an inspection lot	Satisfactory/ Not Satisfactory
3.	Total minimum combined coating thickness	18.2	1 cylinder out of every 250 cylinders or part thereof an inspection lot	Satisfactory/ Not Satisfactory Coating: Minimum: Maximum:
4.	Markings	20	1 cylinder out of every 500 cylinders or part thereof an inspection lot	Satisfactory/ Not Satisfactory

Remark:

1. Batch – Accepted / Not Accepted
2. Test Certificate – Enclosed

Deviations if any:

Signature of QCI
Name:
Date:

Signature of BIS IO
Name & Designation:
Date: