



PRODUCT MANUAL FOR CAST IRON MANHOLE COVERS AND FRAMES ACCORDING TO IS 1726: 1991

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 1726: 1991
	Title	: CAST IRON MANHOLE COVERS AND FRAMES
	No. of amendments	: Nil
2.	Sampling Guidelines	
a)	Raw material	: Cast Iron – Clause 4.1 of IS 1726: 1991
b)	Grouping Guidelines	: Please refer Annex – A
c)	Sample Size	: Manhole cover and frame – 1 set
3.	List of Test Equipment	: Please refer Annex – B
4.	Scheme of Inspection and Testing	: Please refer Annex – C
5.	Possible tests in a day:	: All tests possible in a day
6.	Scope of the Licence:	
	Licence is granted to use Standard Mark as per IS 1726: 1991 with the following scope:	
	Name of the product	Cast Iron Manhole Covers and Frames
	Grade designation/Type and sizes	

ANNEX A**Grouping Guidelines**

1. Cast Iron Manhole covers and frames as per IS 1726: 1991 are classified as given below:

Grade	Grade Designation	Type/Shape of Cover	Size
Light-Duty	LD - 2.5	Rectangular	450 × 600
		Square	450 × 450 400 × 400
		Circular	370 350
Medium-Duty	MD - 10	Circular	450 480 500
		Rectangular	450 × 600
Heavy-Duty	HD - 20	Circular	500 560 600
		Lamphole	350
		Square	560 × 560
		Rectangular (Scrapper manhole)	450 × 900
Extra-Heavy-Duty	EHD - 35	Circular	560 600
		Square	560 × 560
		Rectangular (Scrapper manhole)	600 × 900

2. Considering the above, the following grouping guidelines are developed for GoL/CSoL:

a) ***Circular and Lamp Hole***

- One sample of manhole cover and frame from highest grade designation and highest size from circular shape shall be tested to cover all sizes and grade designations of circular shape up to and including the grade designation and size tested.
- If sample of circular shape manhole cover and frame of grade HD -20 is tested, lamp hole shape may also be covered in the scope of licence

b) ***Rectangular, Square and Rectangular (Scrapper Manhole)***

- One sample of manhole cover and frame from highest grade designation and highest size from rectangular, rectangular (scrapper manhole) or square shape shall be tested to cover all sizes and grade designations of rectangular, rectangular (scrapper manhole) and square shape upto and including the grade designation and size tested.

4. The Firm shall declare the varieties they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.

5. During the operation of the Licence, BO shall ensure that all the types and sizes covered in the Licence are tested in rotation, to the extent possible.

ANNEX B**List of Testing Equipment**

Major test equipment required to test as per requirements of Indian Standard.

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Material (Clause 4.1)	<ul style="list-style-type: none"> - Universal testing machine - Hardness testing facility with standard block and eye piece
2	Key holes and keys (Clause 5.2) Dimensions (Clause 7)	<ul style="list-style-type: none"> - Steel tape/scale - Vernier caliper - Angle protractor - Micrometer
3	Weight of manhole cover and frame (Clause 6.2)	<ul style="list-style-type: none"> - Weighing balance
4	Load test (Clause 10)	<ul style="list-style-type: none"> - Hydraulic load test apparatus with load gauge - Bearing block - Stop watch
5	Coating (Clause 8)	<ul style="list-style-type: none"> - Hot air oven - Deep freezer to maintain temperature of 0 °C - Thermometer

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

ANNEX C

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 equipment.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING AND MARKING – As per the requirement of IS 1726: 1991.

4. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, 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.

4.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

5. 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.

TABLE 1

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
4	Material	4.1	IS 1726 IS 210	R	No. of tests shall be as per clause 12, Table 1 of IS 210: 2009		
5	Manufacture and Workmanship	5.1, 5.2, 5.3, Fig 1 to 3	IS 1726	R	Each Cover and frame	-	-
6.1	Performance Requirement (Load Test)	6.1, 10 Table 1, Table 3	IS 1726	R	One	50 or part thereof for each grade type/shape and size manufactured	Provision of clause 10.1 of IS 1726: 1991 applicable in case of failure of sample in load test.
6.2	Minimum weight	6.2	IS 1726	R	Each cover and frame		As per agreement between manufacturer and purchaser.
7	Dimensions and Tolerances	7.1,7.1.1, Table 2, Table 4 Fig 3 to 9	IS 1726	R	Each Cover and frame	-	#
8	Coating	8.1	IS 1726	R	Once a week	-	-

For designs other than those given in Fig 3 to 9, dimensions may be mutually agreed between the manufacturer and the purchaser.

Note-1: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.