



**PRODUCT MANUAL FOR
PLASTIC SEATS AND COVERS FOR
WATER-CLOSETS – THERMOPLASTIC SEATS AND COVERS
ACCORDING TO IS 2548 (PART 2) : 1996**

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 2548 (PART 2) : 1996
	Title	:	PLASTIC SEATS AND COVERS FOR WATER-CLOSETS – THERMOPLASTIC SEATS AND COVERS
	No. of Amendments	:	02
2.	Sampling Guidelines:		
a)	Raw material	:	i. Seats and Covers – As per clause 4.1.1 } IS 2548 (Part 2): ii. Hinging device – As per clause 4.2 } 1996
b)	Grouping guidelines	:	Sample of each grade of seats and covers shall be tested for all requirements to cover that grade in the scope of the licence.
c)	Sample Size	:	2 Nos
3.	List of Test Equipment	:	Please refer ANNEX – A
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – B
5.	Possible tests in a day :		
	(i) Shape (Clause 5.1)	(vi) Buffers and distance pieces (Clause 8)	
	(ii) Finish (Clause 5.2)	(vii) Strength (Clause 9.1)	
	(iii) Colour (Clause 5.3)	(viii) Impact resistance (Clause 9.3)	
	(iv) Dimensions (Clause 6)	(viii) Rigidity of covers and maximum distortion (Clause 9.4)	
	(v) Hinging Device (Clause 7)	(ix) Staining by seat and cover (Clause 9.5)	
6.	Scope of the Licence		
	“Licence is granted to use Standard Mark as per IS 2548 (PART 2) : 1996 with the following scope:		
	Name of the product	PLASTIC SEATS AND COVERS FOR WATER-CLOSETS – THERMOPLASTIC SEATS AND COVERS	
	Grade	Grade 1/ Grade 2	

ANNEX A**List of Test Equipment***Major test equipment required to test as per the Indian Standard*

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Dimensions (Clause 6)	- Steel scale - Vernier caliper - Goose neck caliper - Micrometre
2	Hinging device (Clause 7)	- Vernier caliper - Thread gauge M 8
3	Buffers and Distance piece (Clause 8)	- Vernier caliper
4	Strength (Clause 9.1)	- As per clause B-1, Fig 2 of IS 2548 (Part 2) : 1996 - Square soft pad of size 75 mm and 25 mm thick - Loading arrangement to load the seat with 1150 N - Stop watch
5	Water absorption (Clause 9.2)	- Weighing balance - Vessel of suitable capacity
6	Impact resistance – Seat (Clause 9.3.1)	- Water closet - Frame as per clause D-2.2 of IS 2548 (Part 2) : 1996 - Pendulum as per clause D-2.3 of IS 2548 (Part 2) : 1996 - Testing setup as per clause D-2.4 of IS 2548 (Part 2) : 1996
7	Impact resistance – Cover (Clause 9.3.2)	- Water closet - Seat - Frame as per clause E-2.3 of IS 2548 (Part 2) : 1996 - Pendulum as per clause E-2.4 of IS 2548 (Part 2) : 1996 - Testing setup as per clause E-2.5 of IS 2548 (Part 2) : 1996
8	Rigidity of seat (Clause 9.4.1)	- Firm flat base - Metal support as per clause F-2.2 of IS 2548 (Part 2) : 1996 - Metal loading bar as per clause F-2.3 of IS 2548 (Part 2) : 1996 - Steel scale - Testing setup as per clause F-2.5 of IS 2548 (Part 2) : 1996 - Stop watch

9	Rigidity of cover (Clause 9.4.2)	- Water closet - Seat - Steel scale - Loading arrangement as per clause G-2.4 of IS 2548 (Part 2) : 1996
10	Distortion of seats and cover (Clause 9.4.3)	- Rigid flat base - Steel scale
11	Staining by seats and covers (clause 9.5)	- Cotton cloth - Stop watch
12	Staining and/or other surface deterioration of seats and covers (Clause 9.6)	- Cleanser and polish as declared as per clause 14.2 on label.
13	Surface hardness of seats and covers (Clause 9.7)	- Rockwell hardness tester - Stop watch
14	Endurance test for seats, covers and buffers (Clause 9.8)	- Water closet - Endurance testing arrangement with counter meter

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

ANNEX B

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.

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 2548 (PART 2) : 1996.

4. CONTROL UNIT – All seats and covers moulded using same mould and moulding machine in one continuous run from same batch of raw material shall constitute a control unit.

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

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.

TABLE 1

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub- contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4.1.1	MATERIALS						
	Seats and covers	4.1.1, Annex - A	IS 2548 (Part 2) IS 2267	S	One	Each consignment	Further testing is not required, if material received is accompanied with manufactures test certificate or ISI marked
	Hinging device	4.2	IS 2548 (Part 2) IS 1068 IS 1868	S	One	Each consignment	
5.1	Shapes	5.1	IS 2548 (Part 2)	-	Each seats and cover		-
5.2	Finish	5.2	IS 2548 (Part 2)	-	Each seats and cover		-
5.3	Colour	5.3	IS 2548 (Part 2)	-	Each seats and cover		-
6.	Dimensions of seats and covers	6.1, 6.2, Table 1	IS 2548 (Part 2)	R	Ten	Every 100 Nos	-
7	Hinging device	7.1	IS 2548 (Part 2)	R	Ten	Every 100 Nos	-
8.	Buffers and distance pieces	8.1, 8.2	IS 2548 (Part 2)	R	Ten	Every 100 Nos	-
9.1	Strength	9.1 , Annex B	IS 2548 (Part 2)	R	Two	Each control unit	#

9.2	Water absorption	9.2, Annex C	IS 2548 (Part 2)	R	One	Each control unit	-
9.3	Impact resistance - Seats - Covers	9.3 , Annex D Annex E	IS 2548 (Part 2)	R	Two	Each control unit	-
9.4	Rigidity - Seats - Covers - Distortion of seats and covers	9.4, Annex F Annex G Annex H	IS 2548 (Part 2)	R	One	Each control unit	-
9.5	Staining by seat and cover	9.5, Annex J	IS 2548 (Part 2)	R	One	Each control unit	-
9.6	Staining and/or other surface deterioration of Seats and covers	9.6, Annex K	IS 2548 (Part 2)	R	One	Each control unit	-
9.7	Surface hardness	9.7, Annex L	IS 2548 (Part 2)	R	One	Each control unit	-
9.8	Endurance test for seats, covers and buffers	9.8, Annex M	IS 2548 (Part 2)	S	One for each grade	Once in Six months	

In case of failure four more samples from same control unit shall be tested for the requirement and the control unit shall be accepted if all retested samples pass.

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

Note-2: 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.