



## PRODUCT MANUAL FOR HOT ROLLED STEEL SECTIONS FOR DOORS, WINDOWS AND VENTILATORS ACCORDING TO IS 7452: 1990

*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.	<b>Product</b>	:	IS 7452: 1990
	<b>Title</b>	:	Hot Rolled Steel Sections for Doors, Windows and Ventilators
	<b>No. of Amendments</b>	:	NIL
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	As per clause 5 of IS 7452: 1990
b)	<b>Grouping guidelines</b>	:	One sample of any Profile Designation shall be tested to cover all Designations in the Scope of Licence.
c)	<b>Sample Size</b>	:	For Mechanical tests - Section of length 1.5 m For Chemical tests - 50 gm drillings or 5 pieces of 50 mm x 50 mm
3.	<b>List of Test Equipment</b>	:	Please refer <a href="#">ANNEX – A</a>
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer <a href="#">ANNEX – B</a>
5.	<b>Possible tests in a day:</b>		
	(a) Dimensions and dimensional tolerance (Clause 6) (b) Mass (Clause 7) (c) Surface finish (Clause 8) (d) Bend test (Clause 9)		
6.	<b>Scope of the Licence:</b>		
	Licence is granted to use Standard Mark as per IS 7452:1990 with the following scope:		
	Name of the product	Hot Rolled Steel Sections for Doors, Windows and Ventilators	
	Designation of profile	As per Fig 2 of IS 7452: 1990	

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

<b>Sl. No.</b>	<b>Tests used in with Clause Reference</b>	<b>Test Equipment</b>
1	Material (Clause 5.1)	- All chemical and physical testing arrangement as per IS 2830, IS 2831 or IS 6914
2	Dimensions (Clause 6)	- Vernier Caliper - Micrometer - Radius gauges - Steel tape
3	Mass (Clause 7)	- Weighing balance - Steel tape/scale
4	Bend Test (Clause 9)	- Bend test equipment - Mandrels of required diameter

*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 requirements of IS 7452: 1990

**4. CONTROL UNIT** – All profiles of same designation produced from same heat/cast of steel in a day under similar manufacturing conditions 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.

**6. 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 <b>R: Required (or)</b> <b>S: Sub-contracting</b> <b>permitted</b>	Levels of Control		
Clause	Requirement	Test Method			Number of Sample	Frequency	Remarks
		Clause	Reference				
5.1	Material	-	IS 2830, IS 2831 IS 6914	S	One	Each cast/heat/ consignment	No further testing is required if material received is with test certificate or ISI marked.
6	Dimensions	6.1, 6.2, Fig.2	IS7452	R	One	Half -an-hour production from each rolling mill for each designation	
7	Mass and Mass Tolerances	7.1, 7.2, Fig. 2	IS 7452	R	One		
8.1	Surface Finish	8.1	IS 7452	R	All	Adequate inspection to ensure that each section is free from surface defects.	
9	Bend Test	9.1 to 9.5	IS 7432 IS 1599	R	One	Each Control Unit	In case of failure, twice the number of samples from the same control unit shall be tested and the control unit may be accepted if the 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.