



**PRODUCT MANUAL
FOR
ADJUSTABLE AXILLARY CRUTCHES
ACCORDING TO IS 5143:1988**

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 5143:1988
	Title	:	Adjustable Auxiliary Crutches
	No. of Amendments	:	3
2.	Sampling Guidelines:		
a)	Raw material	:	As per Clause 2 of IS 5143:1988
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	2 Crutches
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
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 5143:1988 with the following scope:		
	Name of the product	Adjustable Axillary Crutches	
	Sizes	Size 1/ Size 2/ Size 3/ Size 4/ Size 5	
	Type	Aluminium Crutch/ Wooden Crutch	

ANNEX A**Grouping Guidelines**

1. IS 5143:1988 specifies functional and dimensional requirements of adjustable axillary wooden or aluminium crutches which are classified based on sizes as given below:

Size	Remarks
Size 1, Size 2	Figure 1 and Table 1 of IS 5143
Size 3, Size 4, Size 5	Figure 2 and Table 2 of IS 5143

2. The requirements of Strength for Size 1/Size 2 are same and that of Size 3/Size 4/Size 5 are same.
3. Considering the above, the Crutches are grouped as given below:

Group	Size
Group 1	Size 1, Size 2
Group 2	Size 3, Size 4, Size 5

4. For considering GoL/CSoL, one sample from any Size from each group shall be tested for all requirements to cover all Sizes in that group. Separate samples shall be tested for Wooden crutches and Aluminium crutches.
5. The Firm shall declare the varieties of Crutches they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
6. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible

ANNEX B**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 (Cl No.3)	Micrometer
2		Vernier calliper
3		Steel tape
4		Steel scale
5	Workmanship & Finish (Cl No 4)	Salt spray chamber
6		Pressure gauge
7		Pipette
8	Drop Test (Cl No 5.2)	Arrangement for drop test
9	Strength Test (Cl No 5.1)	Arrangement for strength test
10		Weight for strength test (50 kg, 20 kg)
11		Angle protractor & Tri-Square
12	Determination of Nickel Thickness (IS 1068 read with Cl 4.1)	BNF jet apparatus with stand and constant head
13		Thermometer
14	Determination of Nickel Thickness and Anodic coating (IS 1068 read with Cl 4.1 & IS 1868 read with Cl 4.2)	Beakers
15		Measuring cylinders
16		Stop watch
17	Determination of Nickel Thickness and Anodic coating (IS 1068 read with Cl 4.1 & IS 1868 read with Cl 4.2)	Funnel (3" dia)
18	Chrome test (IS 1068 read with Cl 4.1)	Acetone
19		HCl
20		Antimony Trioxide
21	Nickel test (IS 1068 read with Cl 4.1)	CuSO ₄
22		FeCl ₃
23	Ni/ Cr test (IS 1068 read with Cl 4.1)	Weighing balance
24	Determination of thickness of Anodic coating (IS 1868 read with Cl 4.2)	Chromic acid
25		Phosphoric acid
26	Ni/ Cr coating test (IS 1068 read with Cl 4.1)	Glass ring (dia- 25mm)
27	Determination of hardness of rubber tip (Cl 4.1)	Rubber hardness tester

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 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 5143:1988.

4. CONTROL UNIT – Adjustable auxiliary crutches manufactured in a single run of production out of the material from the same consignment 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 R: required (or) S: Subcontracting permitted	LEVELS OF CONTROL		
Cl	Requirements	Test Method			No. of Samples	Frequency	Remarks
		Clause	Reference				
2	Materials	2	IS 5143:1988	S	One	Each consignment	No further testing is required if accompanied with the Test Certificate or ISI marked.
3	Shape and Dimension	Fig. 1 with Table 1 and/or Fig. 2 with Table 2	IS 5143:1988	R	Five	Each control unit	In case of failure each piece shall be tested
4	Workmanship and Finish	4.1	IS 5143:1988	R	Each piece	--	--
5.1	Strength test	5.1.1, 5.1.2, 5.1.3	IS 5143:1988	R	Two	Each control unit	If both samples fail, control unit shall be rejected. If one sample fails, two more samples shall be tested and both should pass, otherwise control unit shall be rejected
5.2	Drop test	5.2	IS 5143:1988	R	Each piece	---	---

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.