



**उत्पाद मैनुअल  
एडजस्टबल एक्सिलरी बैसाखी  
आईएस 5143: 2024 के अनुसार**

**PRODUCT MANUAL FOR  
Adjustable Axillary Crutches  
as per IS 5143: 2024**

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो) अनुरूपता मूल्यांकन (विनियम, 2018 की योजना -I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

*This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity 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.*

|    |                                                          |   |                               |
|----|----------------------------------------------------------|---|-------------------------------|
| 1. | मानक संख्या<br>IS No.                                    | : | IS 5143: 2024                 |
|    | शीर्षक<br>Title                                          | : | Adjustable Axillary Crutches  |
|    | संशोधनों की संख्या<br>No. of amendments                  | : | None                          |
| 2. | नमूना दिशानिर्देश<br>Sampling Guidelines                 |   |                               |
| a) | कच्चा माल<br>Raw material                                | : | As per Cl. 3 of IS 5143: 2024 |
| b) | समूहीकरण दिशानिर्देश<br>Grouping Guidelines              | : | Please refer ANNEX – A        |
| c) | नमूने का परिमाण<br>Sample Quantity                       | : | 2 Crutches                    |
|    |                                                          |   |                               |
| 3. | परीक्षण उपकरणों की सूची<br>List of Test Equipment        | : | Please refer ANNEX – B        |
|    |                                                          |   |                               |
| 4. | निरीक्षण और परीक्षण की स्कीम<br>Scheme of Inspection and | : | Please refer ANNEX – C        |

|                                                                                                |                                                       |                                            |           |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|-----------|
|                                                                                                | Testing                                               |                                            |           |
| 5.                                                                                             | एक दिन में संभावित परीक्षण<br>Possible tests in a day | :                                          | All tests |
| 6.                                                                                             | लाइसेंस का दायरा /Scope of the Licence:               |                                            |           |
| “License is granted to use Standard Mark as per <i>IS 5143: 2024</i> with the following scope: |                                                       |                                            |           |
| Name of the product                                                                            |                                                       | Adjustable Axillary Crutches               |           |
| Type of Material of Crutches                                                                   |                                                       | Wooden Crutches / Aluminium Crutches       |           |
| Variety                                                                                        |                                                       | Fully Withdrawn / Fully Extended           |           |
| Sizes                                                                                          | For Wooden design                                     | Size 1 / Size 2 / Size 3 / Size 4 / Size 5 |           |
|                                                                                                | For Alternate design                                  | Size 1 / Size 2 / Size 3 / Size 4          |           |

**ANNEX -A****Grouping Guidelines**

1. Adjustable Axillary Crutches are classified based on the following:
  - a) Type of Material of Crutches - Wooden Crutches / Aluminium Crutches
  - b) Variety: Fully Withdrawn / Fully Extended
  - c) Sizes
    - i. For Wooden Design - Size 1 / Size 2 / Size 3 / Size 4 / Size 5
    - ii. For Alternate Design - Size 1 / Size 2 / Size 3 / Size 4

2. However, these Crutches are further grouped as below:

| <b>Group</b> |          |                      | <b>Size</b>            |
|--------------|----------|----------------------|------------------------|
| Group 1      | Group 1A | For Wooden Design    | Size 1, Size 2         |
|              | Group 1B | For Alternate Design | Size 1, Size 2         |
| Group 2      | Group 2A | For Wooden Design    | Size 3, Size 4, Size 5 |
|              | Group 2B | For Alternate Design | Size 3, Size 4         |

3. For considering Grant of Licence/ Change in Scope of Licence, one sample of any Size from each of the Sub - group for each type of material of crutches and variety shall be tested for all requirements to cover all other sizes in that group.
4. 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.
5. During the operation of the Licence, BO shall ensure that all the variety(ies) covered in the Scope of the Licence are tested in rotation, to the extent possible.

**ANNEX- B**  
**LIST OF TEST EQUIPMENTS**  
**(INDICATIVE LIST, FOR GUIDANCE ONLY)**

| Sl. No. | Tests used in with Clause Reference                                                                        | Test Equipment                                 |
|---------|------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| 1       | Dimensions (Cl No.4)                                                                                       | Micrometer                                     |
|         |                                                                                                            | Vernier calliper                               |
|         |                                                                                                            | Steel tape                                     |
|         |                                                                                                            | Steel scale                                    |
| 2       | Workmanship & Finish (Cl No 5)                                                                             | Salt spray chamber                             |
|         |                                                                                                            | Pressure gauge                                 |
|         |                                                                                                            | Pipette                                        |
| 3       | Drop Test (Cl No 6.2)                                                                                      | Arrangement for drop test                      |
| 4       | Strength Test (Cl No 6.1)                                                                                  | Arrangement for strength test                  |
|         |                                                                                                            | Weight for strength test (50 kg, 20 kg))       |
|         |                                                                                                            | Angle protractor & Tri-Square                  |
| 5       | Determination of Nickel Thickness (IS 1068 read with Cl 5.1)                                               | BNF jet apparatus with stand and constant head |
|         |                                                                                                            | Thermometer                                    |
| 6       | Determination of Nickel Thickness and Anodic coating (IS 1068 read with Cl 5.1 & IS 1868 read with Cl 5.2) | Beakers                                        |
|         |                                                                                                            | Measuring cylinders                            |
|         |                                                                                                            | Stop watch                                     |
| 7       | Determination of Nickel Thickness and Anodic coating (IS 1068 read with Cl 5.1 & IS 1868 read with Cl 5.2) | Funnel (3" dia)                                |
| 8       | Chrome test (IS 1068 read with Cl 5.1)                                                                     | Acetone                                        |
|         |                                                                                                            | HCl                                            |
|         |                                                                                                            | Antimony Trioxide                              |
| 9       | Nickel test (IS 1068 read with Cl 5.1)                                                                     | CuSO <sub>4</sub>                              |
|         |                                                                                                            | FeCl <sub>3</sub>                              |
| 10      | Ni/ Cr test (IS 1068 read with Cl 5.1)                                                                     | Weighing balance                               |
| 11      | Determination of thickness of Anodic coating (IS 1868 read with Cl 5.2)                                    | Chromic acid                                   |
| 12      |                                                                                                            | Phosphoric acid                                |
| 13      | Ni/ Cr coating test (IS 1068 read with Cl 5.1)                                                             | Glass ring (dia- 25mm)                         |
| 14      | Determination of hardness of rubber tip (Cl 5.1)                                                           | Rubber hardness tester                         |

**ANNEX C**  
**SCHEME OF INSPECTION AND TESTING**

**1. QUALITY ASSURANCE PLAN**

- 1.1. It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.
- 1.2 The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

**1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:**

- 1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: Adjustable Axillary Crutches of same size manufactured in a day from same consignment of raw material shall constitute a control unit.
- 1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in Table 1.
- 1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.
- 1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

- 2. ENSURING COMPLIANCE THROUGH TESTING-** It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

- 2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as “R” or other tests which can be subcontracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

- 2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional.**

- 2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done

from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

**2.3 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as “R” in Column 2 of Table 1),** where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website [www.bis.gov.in](http://www.bis.gov.in). (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

**2.4 TEST RECORDS-** The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

**3. PACKING AND MARKING** - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each Adjustable Axillary Crutches provided always that the crutches so marked conforms to each requirement of the specification.

3.1 Marking on each Crutches meter shall be done as per Cl. 7.1 of IS 5143: 2024

3.2 **Additional Marking requirements:** The Crutches shall also be marked with the following additional requirement on its packaging:

a) “For BIS certification details please visit [www.bis.gov.in](http://www.bis.gov.in)”

3.3 All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark.

**4. HYGIENIC CONDITIONS (if applicable) – NA.**

**5. REJECTION** - 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<br>R: required (or)<br>S:Sub-contracting permitted | Levels of Control                                                                                                                                                                                                                   |                   |                                                                                        |
| Cl.          | Requirement            | Test Methods                                   |           |                                                                               | No. of Sample                                                                                                                                                                                                                       | Frequency         | Remarks                                                                                |
|              |                        | Clause                                         | Reference |                                                                               |                                                                                                                                                                                                                                     |                   |                                                                                        |
| 3            | Materials              | 3                                              | IS 5143   | S                                                                             | One                                                                                                                                                                                                                                 | Each consignment  | No further testing is required if accompanied with the Test Certificate or ISI marked. |
| 4            | Shape and Dimension    | Fig. 1 with Table 1 and/or Fig. 2 with Table 2 | IS 5143   | R                                                                             | Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity |                   |                                                                                        |
| 5            | Workmanship and Finish | 5.1<br>5.2                                     | IS 5143   | R                                                                             |                                                                                                                                                                                                                                     |                   |                                                                                        |
| 6            | Tests                  |                                                |           |                                                                               |                                                                                                                                                                                                                                     |                   |                                                                                        |
| 6.1          | Strength test          | 6.1.1<br>6.1.2<br>6.1.3                        | IS 5143   | R                                                                             | One                                                                                                                                                                                                                                 | Each control unit |                                                                                        |
| 6.2          | Drop test              | 6.2                                            | IS 5143   | R                                                                             | One                                                                                                                                                                                                                                 | Each control unit |                                                                                        |