



**PRODUCT MANUAL FOR  
MODULAR LOWER LIMB ORTHOTIC COMPONENTS –  
STIRRUPS, SPLIT  
ACCORDING TO IS 9471(PART 2):1980**

*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 9471 (Part 2):1980
	<b>Title</b>	:	Modular Lower Limb Orthotic Components - Stirrups, Split
	<b>No. of Amendments</b>	:	1
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	As per clause 4 of IS 9471 (Part 2): 1980
b)	<b>Grouping guidelines</b>	:	Sample from each Size and Type shall be tested to cover Split Stirrups of that particular Size and Type in the scope of licence.
c)	<b>Sample Size</b>	:	One piece
3.	<b>List of Test Equipment</b>	:	Please refer ANNEX –A
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX –B
5.	<b>Possible tests in a day</b>	:	(i) Shape and Dimensions (ii) Workmanship and finish
6.	<b>Scope of the Licence:</b>		
	“Licence is granted to use Standard Mark as per IS 9471(Part 2): 1980 with the following scope:		
	Name of the product	Modular Lower Limb Orthotic Components -Stirrups, Split	
	Type	Type1/ Type 2/ Type 3/ Type 4	
	Sizes	Size 1/ Size 2/ Size 3	

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

Sr. No.	Test Equipment	Tests Used with clause reference
1	1. Dial/digital vernier caliper 2. Steel scale 3. Micrometer 4. Radius gauge	Dimensions – Cl 3
2	1. Distilled water 2. Glacial acetic acid 3. Diphenyl carbozide 4. Wetting agent (sulphonated alcohol type) 5. Concentrated hydrochloric acid (relative density 1-16) 6. Sodium hypochlorite (10-15% solution) 7. Hydrogen peroxide 8. Antimony trioxide 9. Cu disc 10. Heat insulated chamber	Workmanship and finish - Cl 5
3	1. Mandrel 2. Induction furnace 3. Acidified potassium iodide/starch sol. 4. Dilute Hydrochloric acid 5. Iron accelerator 6. Potassium iodate 7. Tin accelerator 8. Oxygen 9. Ammoniacal Zinc Sulphate Solution 10. Hex-chloroplatinic Acid, 11. Hydrochloric Acid 12. Standard Potassium Iodate Solution, 13. Starch-Iodide Solution 14. Hydrogen Sulphide Evolution Apparatus 15. Nitrogen 16. Copper Sulphate 17. Sulphuric acid 18. Orthophosphoric acid	Workmanship and finish - Cl 5.1

*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 requirements of IS 9471 (Part 2).

**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**

<b>(1)</b>				<b>(2)</b>	<b>(3)</b>		
<b>Test Details</b>				<b>Test equipment requirement R: required (or) S: Sub-contracting permitted</b>	<b>Levels of Control</b>		
<b>Cl.</b>	<b>Requirement</b>	<b>Test Methods Clause</b>	<b>Reference</b>		<b>No. of Sample</b>	<b>Frequency</b>	<b>Remarks</b>
3	Shape and Dimensions	3.1 to 3.3	IS 9471 (Part 2)	R	Each split stirrup	Any stirrup, split not meeting the requirement shall not be marked and shall be rejected.	
4	Material	4	IS 9471 (Part 2)	-	Each consignment	Material used in the manufacture of split stirrup shall be ISI marked	
5	Workmanship and Finish	5, 5.1	IS 9471 (Part 2)	R	Each split stirrup	Any split stirrup not meeting the requirement shall not be marked and shall be rejected.	

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 B.O. Head.