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उत्पाद मैनुअल

खेल के जूते भाग 1 सामान्य प्रयोजन

IS 15844 (Part 1): 2023 के अनुसार

**Product MANUAL FOR
SPORTS FOOTWEAR PART -1 GENERAL PURPOSE
ACCORDING TO IS 15844 (Part 1): 2023**

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 IS No.	:	IS 15844 (Part 1): 2023
	शीर्षक Title	:	SPORTS FOOTWEAR PART -1 GENERAL PURPOSE
	संशोधनों की संख्या No. of amendments	:	2
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Declaration for raw material of components to be submitted by manufacturer Note: This section indicates the requirements for raw material (if specified in the IS) for which compliance is to be established during Grant of Licence/Change in Scope of Licence/Factory Surveillance
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer Annex A
c)	नमूने का परिमाण Sample Quantity	:	4 Pairs of footwear for each variety. (3 pairs of footwear for physical testing and one pair for chemical analysis.). Components may be provided if required.

			Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in Scope of Licence/ Factory Surveillance (incase of market surveillance, effort may be made to procure therequired quantity of product sample, as far as possible since raw material sample may not be available in market)
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request		1. Category, Type and sizes 2. Wash ability(Applicable for Type 1 only) Note: Apart from the above, any other requirements/parameters may also be declared as per the standard, as applicable.
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer Annex – B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer Annex – C Note: Please see Cl. 5 of the SIT for Applicability of SIT for Small and Micro Scale Enterprises
5.	एक दिन में संभावित परीक्षण Possible tests in a day All tests are possible, on conditioned samples as applicable. Note: This section is for the guidance of BIS Certification Officers/Technical Auditors of BIS Authorized Outside Surveillance Agencies (OSAs) during factory inspection to provide readyreference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.		
6.	लाइसेंस का दायरा Scope of the Licence : Licence is granted to use Standard Mark as per IS 15844 (Part 1): 2023 with the following scope:		
	Name of the product	Sports Footwear	
	Category, Type and sizes	a) Kids (sizes to be declared), and/or b) Adult (sizes to be declared) 1) Type 1 2) Type 2	
	Washability (Applicable for Type 1 only)	Washable/non washable	

ANNEX A

GROUPING GUIDELINES

As per the Indian Standard, following varieties for sports footwear may be applicable:

- a) Based on use, sports footwear are divided into the following Category –
 - a. Kids
 - b. Adult
- b) Adult Category of Footwear are further classified into two types as given below:
 - a. Type 1
 - b. Type 2
- c) Washability - Washable/non washable

The requirement given is relaxed for Type 2 Adult footwear and relaxed even further for Kids category of footwear when compared with Type 1 adult category sports footwear.

The following Grouping guidelines shall apply for Grant of Licence (GOL)/ Change in Scope of Licence (CSOL):

1. Each category and each Type of footwear of any size may be tested to cover the category and Type for all sizes in the scope.
2. If **washable** footwear is tested, **non-washable** footwear may also may be included for Type 1, adult category. (Not applicable for Type 2 adult category and Kids category)

If certain materials have already been tested (and footwear made from these materials already covered in the scope of licence on that basis), new varieties of footwear may be added in the scope of licence without chemical testing of those materials which have already been tested before, provided that there is no change in the type/nature of the material and/or the source of material. In such cases, the manufacturer seeking relaxation from chemical testing for certain materials, shall declare that there is no change in the type/nature and/or the source of the materials already tested.

Scope of licence shall be restricted based on the manufacturing and testing facilities available.

During operation of licence, samples of each variety covered in the scope of licence, shall be tested in rotation, to the extent possible

LIST OF TEST EQUIPMENTS
(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sl no	Tests used in with Clause reference	Test Equipment/ Chemical
1	toe spring – SI no ii), Table 1, Cl 5	vernier calliper, Scale
2	Bond performance, a) Upper to sole/mid sole/ composite sole, b) Interlayer bond strength, SI no iii), Table 1, Cl 5	Tensile testing machine with a chart recorder, clamping jaws for tensile tester, razor or sharp knife, steel scale, sample press, humidity chamber,
3	Energy Absorption at Seat Region - SI no iv), Table 1, Cl 5	Test equipment, capable of measuring compressive force up to 6000 N, Test punch as per Cl 5.14.1 of IS 15298 Part 1
4	Complete Shoe Flexing - SI no v), Table 1, Cl 5	As per IS 8085(Part 16)/ISO 24266 '
5	Washability - SI no vi), Table 1, Cl 5	As per IS 8085(Part 15)
6	Slip Resistance - SI no vii), Table 1, Cl 5	A slip resistance test machine incorporates as per E-4 of Annex E, with a secure attachment point, Dry, absorbent paper towel, conditioning chamber and arrangement to maintain room temperature at 27+2 °C and requirements as per Annex N
7	Abrasion resistance - SI no viii), Table 1, Cl 5	Abrasion machine as per 5.1 of IS 3400 (Part 3)/ ISO4649, abrasive sheet, Hollow drill, balance, standard reference compounds. Conditioning chamber, arrangement for keeping ambient temperature, standard reference compounds
8	Chemical Requirement - SI no x), Table 1, Cl 5	As per IS 17011
9	Hydrolysis resistance - SI no xi), Table 1, Cl 5	as per IS 16255/ ISO 5423 : 1992
10	Lead content SI no xii), Table 1, Cl 5	Nessler cylinders, P-Nitrophenol indicator Sol, Dil Hydrochloric acid, hydrogen sulphide solution, Standard lead solution, whatman filter paper
11	Tear strength - SI no i), Table 2, Cl 6	Tensile testing machine as per 4.1 of IS 5914(Part 5:Sec2):2023, thickness gauge, press knife as per IS 5914(Part 5:Sec2):2023, conditioning chamber
12	Colour Fastness rubbing – SI no ii), Table 2, Cl 6	Rub fastness test apparatus, Rubbing material, vacuum-desiccator, Vacuum pump, Demineralized water grade 3, Grey scale for assessing change in colour, Grey scale for assessing staining
13	Stitch Tear strength – SI no iii), Table 2, Cl 6	metal wire, punch, testing machine as per 3.3 of LP 8 of IS 5914
14	Colour Fastness to light – SI no iv), Table 2, Cl 6	Laboratory exposure devices as per 5.2 of IS/ISO 105-B02:2014. Black –standard thermometer/black-panel thermometer, Covers, Colour matching lamps, Assessment cabinet, Sample mounting card, Assessment mask, Grey scale for assessing change in colour, blue wool reference material (Cl 5.1) water of quality Grade 3 minimum in accordance with ISO 3696
15	Breaking strength –SI No i), table 3, Cl 6, Elongation at break, - SI No ii), table 3, Cl 6	Constant rate of extension (CRE) tensile testing machine as per Cl 5.1 of IS 7016 (Part 2), Clamping device, Equipment for cutting test pieces and fraying them down to the required width, arrangement for maintaining test temperature of 27 °C
16	Flexing resistance –SI No iv), table 3, Cl 6	Test machine as per IS 8085 (Part 20)/ ISO 17694

17	Hydrolysis resistance –SI No vi), table 3, Cl 6; SI No ii), table 7, Cl 6	Micrometer, Oven, Dessicator, Flexing machine (as per Annex C of ISO 5423) in a refrigerated cabinet Piercing chisel Cutting/buffing machine to reduce the thickness of the test piece,Condition chamber
18	Bursting Strength – SI No vii), table 3, Cl 6	Bursting tester as per 6.1 of IS 1966 (Part 2)
19	Tear strength- SI No 1), table 4, Cl 6, SI No iii), table 3, Cl 6	ISO 3377-2 for leather; ISO 4674-1:2003, method B, for coated fabric and textile.
20	Abrasion resistance – SI No ii), table 4, Cl 6; SI No ii), table 6, Cl 6	Abrasion Machine as per cl. 6.12.2.1 of IS 15298 (Part 1), Reference Abradant Pad, Backing, Fabric Punch, Weight, Specimen Holder, Abrading Base, Balance, Conditioning Chamber, Dial Gauge, Filler Gauge, Woven felt, Hygrometer, Arrangement for maintaining test condition of $(27 \pm 2) ^\circ\text{C}$ and $(65 \pm 5) \% \text{RH}$, Thermometer.
21	Colour fastness to rubbing (crocking), - SI No iii), table 4, Cl 6	apparatus as per 4.1 of ISO 105-X12, Cotton rubbing cloth, Soft-back waterproof abrasive paper, Grey scale
22	Colour fastness to perspiration SI No iv), table 4, Cl 6	stainless-steel frame as per Cl 4.1 of IS 6191 (Part 6) : 2023 ISO 11641 : 2012, Oven, Adjacent fabrics, Alkaline artificial perspiration solution, Acid artificial perspiration solution, Fine-grained adhesive paper, Grey scale for assessing staining, Rub fastness test apparatus, Spectrophotometer or colorimeter, vacuum- desiccator, Vacuum pump, ph meter, Volumetric flask, Hydrochloric acid solution, Demineralized water grade 3, Grey scale for assessing change in colour
23	Water vapour permeability and Water vapour coefficient – SI No v), table 4, Cl 6, SI no iii), Table 2, Cl 6, SI No v), table 3, Cl 6	Permeability Appts as per cl 6.6 & 6.7 of IS 15298 (Part-1), Jars or Bottles, Holder, Fan, Silica Gel, Mesh, Conditioning Chamber, Oven, Balance, Stop Watch, Vernier Caliper, Flexometer as per Cl. 6.6.2.8 of IS 15298 (Part 1), Circular Metal Container with impermeable material as per Cl 6.7.2.1 of IS 15298 (Part 1), Hygrometer, Thermometer, arrangement for having a conditioning atmosphere of $(27 \pm 2) ^\circ\text{C}$, $(65 \pm 5) \% \text{RH}$
24	Thickness – SI No i), table 5, Cl 6; SI No i), table 6, Cl 6	graduated eyepiece with 0,1 mm scale graduations
25	Flexing index – SI No ii), table 5, Cl 6	A flexing machine with attachments as per F-2.1 of Annex F, tongue wrench, conditioning chamber, arrangement to maintain atmosphere surrounding the test machine at a temperature of $(27 \pm 2) ^\circ\text{C}$ and a relative humidity of 65 ± 2 percent,
26	Abrasion resistance – SI No iii), table 5, Cl 6	Finger Abrasion Tester as per cl. 7.3.2.1 IS 15298 part 1, Wool pads, Abradant fabric, Conditioning Chamber, Distilled Water, other details as per cl. 7.3 of IS 15298 (part 1).
27	Water Absorption and Water Desorption – SI No iv), table 5, Cl 6, SI No iii), table 6, Cl 6	Water Absorption & Desorption Tester as per 7.2.2 of IS 15298 part 1, Brass Roller, Platform, Clamp (D) and clamp € IS 15298 part 1, Cotton gauge, Water Supply through flow meter, Press, Knife, Balance, Clock, Silicone grease

28	Flexing resistance – SI No i), table 7, Cl 6	Flexing machine as per 2.1 of IS 8085 (Part 4), Polyurethane adhesive system, sharp knife or scalpel, Smooth-surfaced hand tool, a hot air gun or an oven set at 50 °C, Heat sensitive crayons, Primers, T square, A thin strip of metal with a length scale or stepped thickness. Flexing machine, (D 3, Figure 1) of Annex D, vernier calipers, chisel thermometer with LC of 1 °C, thickness gauge
29	Compression set – SI No i), table 8, Cl 6	Method A thickness gauge with means for application of pressure, platen press, rigid spacer plates and rotating circular cutter as per G-1.3 of Annex G, oven for maintaining temp at (23 ± 2) °C or (20 ± 2)°C, a band knife splitter or a surface grinder. Stop watch, thickness gauge Method B compression apparatus as per G-2.1.1 conditioning chamber, thickness gauge
30	Split tear strength – SI No ii), table 8, Cl 6	Tensile Testing Machine, with chart recorder as per Annex H, Clamping Jaws, preferably rubber-faced, sharp blade
31	Heat shrinkage – SI No iii), table 8, Cl 6	Air-circulating oven, capable of maintaining a temperature of 70.0 ± 1.0°C, Steel scale, with LC of 0.5 mm, vernier Caliper (LC of min 0.1 mm), arrangement to maintain temperature at 27.0 ± 2.0°C, stop watch
32	First dry collapsing load; Resilience; Moisture resistance; a)Initial dry area shape retention, b)Area shape retention after 10th collapse,dry, SI No i), ii), iii) and iv) table 9, Cl 6	Test apparatus for counter stiffener as per Annex A of IS 7554:2009: Dome forming tool, press, cutting device, electric fan, PE sheet, fan assisted oven, heat resistant gloves, acetone, silicone based release agent, two part metal mould, hydraulic press, steam source, tongs, height gauge, thickness gauge, tensile testing machine, compression cage, manual compression device, distilled water, conditioning chamber
33	Peel strength – SI No i), table 10, Cl 6	Tensile Testing Machine as per 5.1 of IS 8085 (Part 18)/ISO 22777, roller device, fork, touch and close cycling machine as per 5.2, 5.3 and 5.4
34	Shear strength – SI No ii), table 10, Cl 6	Tensile testing machine as per ISO 22667, roller device, fork as per 5.3 of ISO 22776
35	Limit of useful extension – SI No i), table 11, Cl 6	as per IS 8085 (Part 12)/ISO 10765
36	Breaking strength of lace – SI No i), table 12, Cl 6	A tensile testing machine as per Annex K, conditioning chamber,
37	Lace tag strength – SI No ii), table 12, Cl 6	Tensile strength testing machine as per L-1 and Slotted Plate as per L-1.2 of Annex L
38	Lace to lace abrasion – SI No iii), table 12, Cl 6	as per IS 8085 (Part 17)/ISO 22774
39	Colour fastness to water – SI No iv), table 12, Cl 6	IS 6191 (Part 2) Rub fastness test apparatus, Rubbing material, vacuum-desiccator, Vacuum pump, Demineralized water grade 3, Grey scale for assessing change in colour, Grey scale for assessing Staining IS/ISO 105-E01 : 2013

		Test Device as per 4.1 of IS/ISO 105-E01 : 2013, oven, adjacent fabrics as per Cl 4.3, Grey scale for assessing change in colour, Grey scale for assessing staining, Spectrophotometer or colorimeter for as per Cl 4.6, acrylic resin plates, Flat-bottomed dish made of inert materials, Grade 3 water
40	Strength of Buckle/Ski hook –SI No v), table 12, Cl 6	tensile testing machine as per M-3, sharp knife or scissors, Upper leather, thickness about 2 mm, nylon or polyester shoe laces or suitable chape rivets and a clenching device (for buckles with a chape), thickness guage, scale, vernier calliper
41	Corrosion resistance – SI No vi), table 12, Cl 6	<u>Method 1</u> Kipps generator, Means of suspending the test specimen in the glass vessel, Fume cupboard <u>Method 2</u> Sealable polyethylene (PE) bags, Sodium chloride test solution, Sealable vessel, bleached cotton fabric, dish, distilled water, cutter/scissor, timer

ANNEX C

SCHEME OF INSPECTION AND TESTING

1. QUALITY ASSURANCE PLAN

1.1 It is expected that during operation of BIS licence, manufacturers will implement a Quality Assurance Plan (QAP) 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 (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or subcontracting/sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: 50,000 pairs or Fortnight production (whichever is earlier), of same variety, manufactured from the same raw material.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in Table 1. Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.

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.

2. ENSURING COMPLIANCE THROUGH TESTING - Manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

- i) Shared testing resources like common facility,
- ii) Cluster based testing facility,
- iii) Sub-contracting to outside laboratories which may either be:
 - a) BIS recognised/empanelled laboratories, or
 - b) Any accredited laboratory as per ISO/IEC 17025

2.1 **TEST RECORDS** - The manufacturers shall maintain test records for the tests

carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made 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 shoe for each pair of shoe, provided always that the material so marked conforms to each requirement of the specification.

3.1 Packing and Marking shall be done as per the Indian Standard. Kids sports shoes shall be marked as '0' for Type.

3.2 Additional Marking requirements: The package shall also be marked with the following:

a) "For BIS certification details please visit www.bis.gov.in"

4. **REJECTION** - All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. Disposal of non-conforming product shall be done in such a way to ensure that there is no violation of provisions of BIS Act, 2016.

5. **Applicability of SIT for Small and Micro Enterprises (SMEs):**

5.1 Compliance to the Scheme of Inspection and Testing is OPTIONAL for Micro, and Small Scale Units with respect to the requirements for Clause 1(Quality Assurance Plan), Clause 2 (Ensuring Compliance through Testing). However, ALL units shall ensure compliance of their products to the requirements of the Indian Standard.

5.2 The requirements of SIT with respect to Clause 3 (Packing and Marking) and Clause 4 (Rejection) shall be followed by all.

TABLE 1
(Recommended Levels Of Control By BIS- For Guidance Only)

(1)				(3)		
Clause	Requirements	Test Method		No of Samples	Frequency	Remarks
		Clause	Ref.			
5, Table 1	REQUIREMENTS OF WHOLE FOOTWEAR					
i)	insole,		15844 (Part 1)	Firm to have adequate in- process controls to checkcompliance of this parameter given in the IndianStandard. However, appropriate recordsshall be maintained by the manufacturer for evidence of conformity		Applicable ifused
ii)	toe spring	fig. 1 of Annex-B.	15844 (Part 1)	-do-		
iii)	a) Bond performance, b) Upper to sole/mid sole/ composite sole	Annex C	15844 (Part 1)	One	each controlunit	
	c) Interlayer bond strength	Annex C	15844 (Part 1)	One	each controlunit	Applicable only for multilayer pasted stuck-on bottom sole
iv)	Energy Absorptionat Seat Region	-	IS 15298 (Part 1),	One	once in threemonths	Applicable for Type 1 (Adults)
v)	Complete ShoeFlexing	-	IS 8085(Part16)/ISO 24266’	one	once in threemonths	Applicable for Type 1 and 2 (Adults)
vi)	Washability	-	IS 8085 (Part 15)/ISO 19954 : 2003	one	once in threemonths	Applicable for Type 1 (Adults) Optional requirement
vii)	Slip Resistance	Annex E	15844 (Part 1)	one	once in threemonths	Applicable for Type 1 (Adults) Not applicable for leather sole
viii)	Abrasion resistance	-	IS 3400 (Part3)	One	-do-	
x)	Chemical Requirement	Table 1	IS 17011	one	Each consignment of raw material	Test Certificate/report should be obtained either from supplier or from any independent Laboratory
xi)	Hydrolysis resistance	-	IS 15298(Part1)	one	once in threemonths	applicable for polyester PU sole only
xii)	Lead content		IS 12240 (Part 5)	one	Each consignment of raw material	1. Applicable for Type 1 (Adults) and Kids

						2. applicable only for PVC 3. Test certificate/report should be obtained either from supplier or from any independent Laboratory
6	OPTIONAL REQUIREMENTS					
Table 2	Upper (Leather)					
i)	Tear strength		IS 5914(Part 5/Sec 2) /ISO 3377-2	One	Each consignment of material or Test Certificate from supplier/Manufacturer	Applicable for Type 1 and 2 (Adults)
ii)	Colour Fastness rubbing		IS 6191 (Part 4)	One	-do-	Applicable for Type 1 (Adults)
iii)	Water vapour permeability		IS 15298 (Part 1)	One	-do-	Applicable for Type 1 (Adults)
	Water Vapour Coefficient			One	-do-	
iv)	Stitch Tear strength		LP 8 of IS5914	One	-do-	Applicable for Type 1 (Adults)
v)	Colour Fastness to light		IS/ISO 105 B02	One	-do-	Applicable for Type 1 (Adults)
Table 3	Upper (Material other than leather)					
i)	Breaking strength		IS 7016 (Part 2) Method 1	One	-do-	Applicable for Type 1 (Adults)
ii)	Elongation at break,		IS 7016 (Part 2) Method 1	One	-do-	Applicable for Type 1 (Adults)
iii)	Tear strength		IS 15298 (Part 1)	One	-do-	
iv)	Flexing resistance		IS 8085 (Part 20)/ ISO 17694	One	-do-	Applicable for Type 1 (Adults) Applicable for coated fabrics
v)	Water vapour permeability		IS 15298 (Part 1)	One	-do-	Applicable for Type 1 (Adults)
	Water vapour coefficient			One	-do-	Applicable for Textile upper
vi)	Hydrolysis resistance		IS 16645/ISO 5423 : 1992	one	-do-	Applicable only for material having PU
vii)	Bursting Strength		IS 1966 (Part 2)	One	-do-	Applicable for Type 1 (Adults) Additional test required for Knitted Fabrics
Table 4	Lining					
i)	Tear strength		IS 15298(Part 1)	One	-do-	Applicable for Type 1 (Adults)
ii)	Abrasion resistance		IS 15298(Part 1)	One	-do-	
iii)	Colour fastness to rubbing (crocking),		ISO 105 X12	One	-do-	Applicable for Type 1 (Adults)

iv)	Colour fastness to perspiration	(contact method)	IS6191/ISO 11641	One	-do-	Applicable for Type 1 (Adults)
v)	Water vapourpermeability	-	IS 15298 (Part 1)	One	-do-	Applicable for Type 1 (Adults)
	Water vapourcoefficient	-		One	-do-	excluding coated fabric
Table 5	Insole					
i)	Thickness	-	IS 15298 (Part 1)	One	-do-	Applicable for Type 1 (Adults)
ii)	Flexing index	Annex ‘F’	15844 (Part 1)	One	-do-	Applicable for Type 1 (Adults) Only Applicablefor Cellulose board
iii)	Abrasion resistance	-	IS 15298 (Part 1)	One	-do-	Applicable for Type 1 (Adults)
iv)	Water Absorption	-	IS 15298 (Part 1)	One	-do-	Applicable for Type 1 (Adults)
	Water Desorption	-		One	-do-	
Table 6	In-sock					
i)	Thickness	-	IS 15298(Part1)	One	-do-	Applicable for Type 1 (Adults) including foam
ii)	Abrasion Resistance	-	IS 15298(Part1)	One	-do-	
iii)	Water Absorption	-	IS 15298(Part1)	One	-do-	Applicable for Type 1 (Adults)
	Water Desorption	-		One	-do-	
Table 7	Out-sole					
i)	Flexing resistance	-	Belt Method IS 8085 (Part 4) OR Bennewart Method, Annex D	One	-do-	Applicable for Type 1 (Adults)
ii)	Hydrolysisresistance	-	IS 15298(Part1)	one	-do-	Only for PUOut sole
Table 8	Mid-Sole					
i)	Compression set	Annex G	15844 (Part 1)	one	-do-	
ii)	Split tear strength	Annex H	15844 (Part 1)	one	-do-	Applicable for Type 1 (Adults)
iii)	Heat shrinkage	Annex J	15844 (Part 1)	one	-do-	Applicable for Type 1 (Adults)
Table 9	Counter Stiffener					
i)	First dry collapsingload, hardness	A-3.2.6	IS 7554	One	-do-	Applicable for Type 1 (Adults)
ii)	Resilience	A-3.4	IS 7554	One	-do-	Applicable for Type 1 (Adults)
iii)	Moisture resistance	A-3.5	IS 7554	One	-do-	Applicable for Type 1 (Adults)
iv)	a) Initial dry areashape retention	A-3.1	IS 7554	One	-do-	Applicable for Type 1 (Adults)
	b) Area shape retention after 10th collapse, dry	A-3.3	IS 7554	One	-do-	

Table 10 Velcro Fastener						
i)	Peel strength	-	IS 8085 (Part 18)/ISO 22777	One	-do-	Applicable for Type 1 (Adults)
ii)	Shear strength	-	ISO 22776	One	-do-	Applicable for Type 1 (Adults)
Table 11 Elastic Tape						
i)	Limit of usefulextension	-	IS 8085 (Part 12)/ISO 10765	one	-do-	Applicable for Type 1 (Adults)
4.13,table 11	Fasteners (Lace/ Buckle/Eyelet/D-Ring/Ski-Hook/Metal trims)					Applicable if used and notfor decorativepurpose
i)	Breaking strengthof lace	Annex 'K'	15844 (Part 1)	one	-do-	Applicable for Type 1 (Adults)
ii)	Lace tag strength	Annex 'L'	15844 (Part 1)	one	-do-	Applicable for Type 1 (Adults)
iii)	Lace to laceabrasion	-	IS 8085 (Part 17)/ISO 22774	one	-do-	Applicable for Type 1 (Adults)
iv)	Colour fastness towater	Contact method	IS 6191 (Part 2)/ or IS/ISO 105-E01	One	-do-	Applicable for Type 1 (Adults) for lace
v)	Strength of Buckle/Ski hook	Annex 'M'	15844 (Part 1)	one	-do-	Applicable for Type 1 (Adults)
vi)	Corrosionresistance	Method 1 and Method 2	IS 17098	One	-do-	Applicable for Type 1 (Adults) for Metal parts