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उत्पाद मैनुअल
खनिकों के लिए रबर कैनवास के सुरक्षा जूते — विशिष्टि
IS 3976: 2018 के अनुसार

PRODUCT MANUAL
FOR
SAFETY RUBBER CANVAS BOOTS FOR MINERS — SPECIFICATION
ACCORDING TO IS 3976: 2018

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 3976 : 2018
	शीर्षक Title	:	खनिकों के लिए रबर कैनवास के सुरक्षा जूते SAFETY BOOTS FOR MINERS
	संशोधनों की संख्या No. of amendments	:	02
2.	समूहीकरण दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Material used in the manufacture of Safety Boots for Miners shall comply with the requirements specified in clause 5.2 of IS 3976: 2018. 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	:	कृपया Annex-A देखें Please see Annex – A

c)	नमूने का परिमाण Sample Quantity	:	4 Pairs (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 (in case of market surveillance, effort may be made to procure the required quantity of product sample, as far as possible since raw material sample may not be available in market)
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer to Annex-B देखें
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex-C देखें 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		
	1. Design, and Fittings 2. Material a. Upper b. Insole and lining of insoles and counter stiffener c. Binding material d. Reinforcing material e. Physical Requirements f. Ageing for whole footwear g. Thread for upper closing h. Safety toe cap (except corrosion resistance) i. Laces j. Eyelets k. Counter stiffener l. Insole m. Insock 3. Construction 4. Finish 5. Mass 6. Height of upper 7. Impact Test 8. Upper/outsole bond 9. Sole inter layer bond strength for bi-polymer and bi-density sole strength 10. Consolidation test 11. Compression resistance 12. Energy absorption test 13. Additional properties, Resistance to fuel 14. Chemical requirements 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 ready reference 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:		

	3976 :2018 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेंस निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है " Licence is granted to use Standard Mark as per IS 3976 :2018 with the following scope:	
7.	उत्पाद का नाम Name of the product	SAFETY BOOTS FOR MINERS
8.	प्रकार Type	Type-1 or Type-2
9.	आकार Sizes	As per requirement
10	Any other aspect required as per the Standard	With or Without additional requirement of resistance to fuel

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ANNEX – A
SAFETY BOOTS FOR MINERS –SPECIFICATION, AS PER IS 3976: 2018
Grouping guidelines

1. IS 3976: 2018, Safety Boots for Miners covers following types:
 - a) Type 1- Boots are preferred where there is water accumulation or in slurry conditions of mining. The level of water in slurry conditions shall not be more than ankle height;
 - b) Type-2- Boots are preferred for use in dry conditions of mining.
2. The IS recommends design of the boots under Cl 5.1 as per Figure 1 and 2.
3. The impact resistance as per the size has proved under Cl 5.7 as given in the table below:

Group	French	English
1	36 and Below	Upto 3½
	37 and 38	4 to 5
2	39 and 40	5½ to 6½
	41 and 42	7 to 8
3	43 and 44	8½ to 10
	45 and above	10½ and above

4. The IS also provides for additional properties of Resistance to Fuel as per Cl 7.1.
5. Considering the above, following grouping guideline is proposed, for GOL or CSOL:
 - a. Boot of each type shall be tested to be covered in the scope of licence
 - b. Boot of any design and any size from each group and for each type shall be tested to cover all sizes of the group for the given type
 - c. Boot from any Group (any size) and design from each type shall be tested for additional requirement to cover the additional requirement for all the groups (sizes) manufactured under the type.An example of scope of Licence is given below
 - 1) Type 1, size 5½ to 11, with additional requirement of resistance to fuel.
 - 2) Type 2, size 5½ to 11, without additional requirement of resistance to fuel.
6. However, 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

7. However, while considering grant of licence/inclusion of additional variety, it shall be ensured that the applicant/licensee has got the complete manufacturing and testing facilities for all the sizes and variety intended to be covered.
8. During operation of the licence, BOs shall ensure that all the samples are tested for all applicable requirements on the product, and sizes/varieties covered in the licence are tested in rotation.

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

Sl. No.	Tests used in with Clause Reference	Test Equipment/Chemicals
1.	flexing, Upper, IS 15298 (Pt 1) Cl- 5.2.1;	conditioning chamber, arrangement to maintain standard temperature, Micrometre dial gauge, Flexing machine (for flexing of a rubber upper), micrometer, apparatus for determination of resistance to flexing (ISO 4643:1992, Annex B for polymers (test carried out at $(-5 \pm 2) ^\circ\text{C}$), test chamber
2.	tear strength, Upper, IS 15298 (Pt 1)	arrangement to maintain standard temperature, acetone, Analytical balance, Glass vial with screw cap, Ultrasonic water bath, Disposable syringe and membrane filter, Glass vial with septum cap, Gas chromatograph with mass selective detector (GC-MS)/Liquid chromatograph with fluorescence detector (LC-FLD), Capillary column for gas chromatograph, (5 %-phenyl)-methylpolysiloxane phase, nonpolar, bonded and cross-linked, low bleed, C18 reverse phase column for liquid chromatograph, methanol,
3.	water vapour permeability and coefficient as, Upper, IS 15298 (Pt 1)	arrangement to maintain standard temperature, Micrometre dial gauge, 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
4.	abrasion, Upper, IS 15298 (Pt 1)	test apparatus defined in the ISO 12947-1:1998 (Martindale Method), Reference abrasant, Fabric punch or press cutter, Weight, thickness guage, conditioning chamber
5.	Binding material (Cl, 5.2.3	Tensile Machine as per C-1 of Annex C of IS 3976, conditioning Chamber
6.	Reinforcing material, IS 3976 Cl- 5.2.4;	tear strength as of upper
7.	Thickness of compact sole, Compact sole, IS 15298 (Pt 1) Cl- 5.2.5.1;	thickness measuring apparatus,
8.	Abrasion resistance, Compact sole, IS 15298 (Pt 1) Cl- to 5.2.5.8	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
9.	Flexing resistance, Compact sole, IS 15298 (Pt 1)	The apparatus described in ISO 17707:2005, Cutting tool, Measuring magnifier, conditioning chamber
10.	Tear strength, Compact sole, IS 15298 (Pt 1)	apparatus as per ISO 34-1:2015, Method A, Dies, Nick cutter, Testing machine
11.	Resistance to hot contact, Compact sole, IS 15298 (Pt 1)	apparatus as per 8.9 1 of ISO 20344:2021, Cylindrical copper body, Metal heating block, Heating element, temperature Measuring device, Means of raising and lowering the bit, Self-aligning platform, Hinged support with thermally insulated face, conditioning chamber, aluminum foil

12.	Hydrolysis, Compact sole, IS 15298 (Pt 1)	as per IS 16255/ ISO 5423 : 1992, deionized water
13.	Ageing for whole footwear, IS 3976 Cl- 5.2.6	oven
14.	Thread for Upper Closing	Testing machine as per Cl 6 of IS 4910 (Part 2), oven
15.	sulphur, Laces, IS 3976 Cl- 5.2.9.3;	Alkaline hydrosulphite solution, Stop watch, stannous chloride Hot plate, Test-tube Stannous chloride solution, Lead acetate solution, Filter paper
16.	Internal length of toecap, Safety toe cap, IS 15298 (Part 1), Cl- 5.2.8.2;	Steel scale, Dial gauge,
17.	Corrosion resistance, Safety toe cap, IS 5852 (Part 1) Cl- 5.2.8.3;	Test arrangement as per ISO 22568-1:2019, sodium chloride
18.	Breaking load and tag retention, Laces, IS 3976 Cl- 5.2.9.5; breaking load, Laces, IS 3976 Cl- 5.2.9.2	A tensile testing machine as per Annex C, distilled or deionized water, conditioning chamber,
19.	Lace to eyelet, Laces, IS 8085 (Part 17). Cl- 5.2.9.6.2; Lace to lace, Laces, IS 8085 (Part 17). Cl- 5.2.9.6.1;	as per IS 8085 (Part 17)/ISO 22774
20.	Eyelets, IS 17861 Cl- 5.2.10;	Vernier caliper, Tensile testing M/c, compression jid as per B 3.2 of Cl 5.17 of IS 17861
21.	Counter stiffener, IS 3976 Cl- 5.2.11; Height of upper, IS 15298 (Pt 1) Cl- 5.6;	vernier caliper
22.	Material and thickness, Insole, IS 15298 (Part 1), Cl- 5.2.12.1;	conditioning chamber, thickness measuring apparatus with graduated eyepiece
23.	pene resistant insert, Insole, IS 17275 (Part1) or IS 17275 (Part 2)	apparatus as per ISO 7500-1:2018, class 2, test nail, scale, vernier caliper
24.	Abrasion resistance, Insock, IS 15298 (Part 1), Cl- 5.2.13.1; Abrasion resistance, Insole, IS 15298 (Part 1), Cl- 5.2.12.2	Finger Abrasion Tester as per cl. 7.3.2.1 IS 15298 part 1, Wool pads, Abradant fabric, Conditioning Chamber, Distilled Water, thickness guage
25.	Water absorption and desorption, Insock, IS 15298 (Part 1), Cl- 5.2.13.2; Water absorption and desorption, Insole, IS 15298 (Part 1), Cl- 5.2.12.3;	conditioning chamber, Water Absorption & Desorption Tester as per 7.2.2 of IS 15298 part 1, Brass Roller, Platform, IS 15298 part 1, Cotton gauge, Water Supply through flow meter, Press, Knife, Balance, Clock, Silicone grease
26.	Mass, IS 3976 Cl- 5.5;	weighing balance

27.	Design, CI- 5.1; General, Safety toe cap, IS 3976 CI- 5.2.8.1	vernier caliper, Scale
28.	Impact Test, IS 15298 (Pt 1) CI- 5.7;	Impact apparatus, as per ISO 22568-1:2019, Clamping device, Dial gauge, Wax test form
29.	Sole inter layer bond strength for bi-polymer and bi-density sole strength, IS 15298 (Pt 1) CI- 5.9; Upper/outsole bond, IS 15298 (Pt 1) CI- 5.8;	Tensile testing machine with a chart recorder, clamping jaws for tensile tester, razor or sharp knife, steel scale, sample press, humidity chamber,
30.	Consolidation test, IS 3400 (Pt.5) CI- 5.10;	IS 3400 (Part 5) Vernier caliper, arrangement for standard atmospheric condition
31.	Compression resistance, IS 15298 (Part1) CI- 5.11;	compression test apparatus as per ISO 22568-1:2019, Modelling Clay Cylinders, Dial Gauge
32.	Slip Resistance Test, IS 15298 (Pt 1) CI- 5.12;	A slip resistance test machine as per ISO 13287:2019, arrangement to maintain room temperature at 27±2 °C and requirements, Device for measuring the normal force, conditioning chamber, Sodium lauryl sulphate, ceramic tile floor
33.	Energy absorption test, IS 15298 (Pt 1) CI- 5.13;	Test equipment, capable of measuring compressive force up to 6000 N, Test punch as per IS 15298 Part 1, conditioning chamber
34.	Additional properties, Resistance to fuel, IS 15298 (Part1) CI- 7	2,2,4-trimethylpentane, general purpose reagent, Shore A hardness tester, conditioning chamber, arrangement to maintain standard temperature, vernier caliper scale, balance, distilled water, sinker
35.	Chemical requirements, IS 17011 CI- 8;	As per IS 17011

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 ~~For the purpose of this Scheme, all finished boots of one type vulcanized at a time shall constitute a control unit. On the basis of test results, decision shall be taken regarding conformity of the control unit as a whole to the requirement of the specification~~

50,000 pairs or Fortnight production (whichever is earlier), of the 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**.

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. (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 Schedule of the license shall be incorporated, legibly and indelibly on each boot for each pair of boot 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.

3.2 **Additional Marking requirements:** The following additional information may also be marked on the boot or on its packaging,

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 so as 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
(ONLY FOR GUIDANCE PURPOSE)

-1				-2	-3		
Test Details				Test equipment requirement R: required (or) S: Subcontracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
5.1,	Design	-	IS 3976	R	Firm to have adequate in- process controls to check compliance of this parameter given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
5.1.1	Fittings	-	IS 1638				
5.2	Material						
5.2.1	Upper						
	General	-	IS 3976		Firm to have adequate in- process controls to check compliance of this parameter given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
5.2.1.1	consolidation	5.10,	IS 3976	R	one	Each Control Unit	
5.2.1.2	Flexing resistance	6.5.2	IS 15298 (Pt 1)	S	one	Once in a month	No testing required if consignment of material is received with supplier's/Manufacturer's Test certificate
5.2.1.3	Tear strength	6.3	IS 15298 (Pt 1)	S	one	Once in a month	
5.2.1.4	water vapour permeability and coefficient	6.6 & 6.8	IS 15298 (Pt 1)	S	one	Once in a month	
5.2.1.5	Abrasion Resistance	6.12	IS 15298 (Pt 1)	S	one	Once in a month	
5.2.2	Insole and lining of insocks and counter stiffener						

	abrasion	6.12	IS 15298 (Pt 1)	S	one	Once in a month	-do-
5.2.3	Binding material						
Table 1	width	-	1954	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		
	Breaking load	Annex C	IS 3976	R	one	Each consignment	No testing required if consignment of material is received with supplier's/Manufacturer's Test certificate
5.2.3.1	Sulphur	Annex -B	IS 3976	S	one	Once in a month	1. Applicable In case of black binding material 2. No testing required if consignment of material is received with supplier's/Manufacturer's Test certificate
5.2.4	Reinforcing material	5.2.4	IS 3976	S	one	Once in a month	No testing required if consignment of material is received with supplier's/Manufacturer's Test certificate
5.2.5,	Compact sole						
5.2.5.1	design	-	IS 3976	R	Firm to have adequate in- process controls to check compliance of this parameter given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
5.2.5.2	Physical Requirements						
Table 2	Hardness	-	IS 3976	R	one	Each consignment	No testing required if consignment of material is
	Change in hardness	-	IS 3976	R	one	Each consignment	

5.2.5.3	Thickness of compact sole	8.1.2	IS 15298 (Pt 1)	R	one	Each consignment	received with supplier's/Manufacturer's Test certificate
5.2.5.4	Abrasion resistance	8.3	IS 15298 (Pt 1)	S	one	Once in a month	
5.2.5.5	Flexing resistance	8.4	IS 15298 (Pt 1)	S	one	Once in a month	
5.2.5.6	Tear strength	8.2	IS 15298 (Pt 1)	S	one	Once in a month	
5.2.5.7	Resistance to hot contact	8.7	IS 15298 (Pt 1)	S	one	Once in a month	
5.2.5.8	Hydrolysis	8.5	IS 15298 (Pt 1)	S	one	Once in a month	
5.2.6	Ageing for whole footwear	5.2.6	IS 3976	R	One	Once in a month	
5.2.7	Thread for upper closing	Table 4,	IS 3976	R	one	Each consignment	No testing required if consignment of material is received with supplier's/Manufacturer's Test certificate
	Sulphur	Annex B	IS 3976	S	one	Once in a month	1. Applicable In case of black dyed material 2. No testing required if consignment of material is received with supplier's/Manufacturer's Test certificate
5.2.8	Safety toe cap						
5.2.8.1	General	-	IS 3976	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		
5.2.8.2	Internal length of toecap	-	IS 15298 (Part 1),	R	one	Each consignment	

5.2.8.3	Corrosion resistance	Annex E	IS 5852 (Part 1)	S	one	Once in a month	No testing required if consignment of material is received with supplier's/Manufacturer's Test certificate and/or is ISI marked
5.2.9	Laces						
5.2.9.1	general	-	IS 3976	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		
5.2.9.2	breaking load	Annex C	IS 3976	S	one	Once in a month	No testing required if consignment of material is received with supplier's/Manufacturer's Test certificate
5.2.9.3	sulphur	Annex B	IS 3976	S	one	Once in a month	-do- Applicable in case cotton lace is of black coloured
5.2.9.5	Breaking load and tag retention	Annex C	IS 3976	S	one	Once in a month	No testing required if consignment of material is received with supplier's/Manufacturer's Test certificate
5.2.9.6	Abrasion resistance						
5.2.9.6.1	Lace to lace	Method 1	IS 8085 (Part 17).	S	one	Once in a month	No testing required if consignment of material is received with supplier's/Manufacturer's Test certificate
5.2.9.6.2	Lace to eyelet	Method 3	IS 8085 (Part 17).	S	one	Once in a month	
5.2.10	Eyelets	Annex B	IS 17861 : 2022.'	S	one	Once in a month	
5.2.11	Counter stiffener	-	IS 3976	S	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		

5.2.12	Insole						
5.2.12.1	Material and thickness	-	IS 15298 (Part 1),	S	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		
	perforation resistant insert	-	IS 17275 (Part1) or IS 17275 (Part 2).	S	one	Once in a month	Applicable if boots have penetration resistant inserts
5.2.12.2	Abrasion resistance	-	IS 15298 (Part 1)	S	one	Once in a month	
5.2.12.3	Water absorption and desorption	-	IS 15298 (Part 1)	S	one	Once in a month	
5.2.13	Insock						
5.2.13.1	Abrasion resistance	-	IS 15298 (Part 1)	S	one	Once in a month	
5.2.13.2	Water absorption and desorption	-	IS 15298 (Part 1)	S	one	Once in a month	
5.3	Construction	-	IS 3976	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		
5.4	Finish	-	IS 3976	R	Firm to have adequate in- process controls to check compliance of this parameter given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
5.5	Mass	-	IS 3976	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		
5.6	Height of upper	6.2	IS 15298 (Pt 1)	R			
5.7	Impact Test	5.4	-do-	R	one	Each Control Unit	
5.8	Upper/outsole bond	5.2	-do-	R	one	Each Control Unit	
5.9	Sole inter layer bond strength for bi-polymer	5.2	-do-	R	one	Each Control Unit	

	and bi-density sole strength						
5.10,	Consolidation test	-	IS 3400 (Pt.5)	R	one	Each Control Unit	
5.11	Compression resistance	5.5	IS 15298 (Part1)	R	one	Each Control Unit	
5.12	Slip Resistance Test	5.11	-do-	S	one	Once in a month	
5.13	Energy absorption test	5.14	-do-	S	one	Once in a month	
7	Additional properties, Resistance to fuel	8.6.1	IS 15298 (Part1)	S	one	Once in a month	
8	Chemical requirements	Table 1	IS 17011	S	one	Once in three months	