



**PRODUCT MANUAL FOR  
ALL RUBBER GUM BOOTS AND ANKLE BOOTS PART 2 OCCUPATIONAL PURPOSES  
ACCORDING TO IS 5557 (PART 2):2018**

*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 5557(Part 2):2018
	<b>Title</b>	:	ALL RUBBER GUM BOOTS AND ANKLE BOOTS PART 2 OCCUPATIONAL PURPOSES
	<b>No. of Amendments</b>	:	--
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	-
b)	<b>Grouping guidelines</b>	:	Please refer ANNEX – <a href="#">A</a>
c)	<b>Sample Size</b>	:	Two Pairs
3.	<b>List of Test Equipment</b>	:	Please refer ANNEX – <a href="#">B</a>
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX – <a href="#">C</a>
5.	<b>Possible tests in a day :</b> Please refer ANNEX – <a href="#">D</a>		
6.	<b>Scope of the Licence :</b>		
	“Licence is granted to use Standard Mark as per IS ---- with the following scope:		
	Name of the product	All Rubber Gum boots and Ankle Boots Part 2 Occupational Purposes	
	Type	Type-1 or Type-2	
	Variety	Variety 1 or Variety 2 or Variety 3	
	Design	Design B or Design C or Design D or Design E	
	Sizes	As per Required	
	Additional Requirements for Special Applications	Antistatic Footwear or Conductive Footwear or Electrically Insulating Footwear or Resistance to Cold.	

**ANNEX-A**  
**GROUPING GUIDELINES**

The following grouping guidelines have been approved by the Competent Authority for considering grant of licence/change in scope of licence for the above product:

**Grouping guidelines for IS 5557 Part 2 :2018**

1. As Per IS 5557 Part 2 :2018, All Rubber Gum Boots and Ankle Boots Have Been Classified in Following three Varieties:

Variety	Classification II
1.	For use in Areas having Contact with oil and Grease.
2.	For use in fire and explosives prone Area.
3.	For Use in General Working Conditions.

2. In Addition above Standard covers following types, designs and sizes:

- i) Types: Type 1-Ankle Boots;Type-2-Wellington/Gum Boots
- ii) Design-B,C,D,E (refer fig. 1, 2 and cl. 8.3 of IS 5557 Part 2 :2018)
- iii) Sizes:

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

3. To Apply For Grant of Licence and Inclusion, the applicant /licensee should declare the variety Classification, type and design of the all rubber gum boots and Ankle Boots and accordingly following grouping guideline is to be followed for grant of licence and Inclusion.

Group	Variety	Type	Design	Size	Sample To Be
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				English/French	Tested
1.	Either 1 or 2 or 3  (if For Two or all)*	Either 1 or 2  (If for Both)**	Either B or C or D or E  (If for Two, more or all)***	Upto 5/Upto 38	One  Sample*****
2.	Either 1 or 2 or 3  (if For two or all) *	Either 1 or 2  (If for Both)**	Either B or C or D or E  (If for Two, more or all) ***	5 ½ to 8/39 to  42	One  Sample*****
3.	Either 1 or 2 or 3  (if For Two or all)*	Either 1 or 2  (If for Both)**	Either B or C or D or E  (If for Two, more or all)***	8 ½ and  above/43 and  above	One  Sample*****

Notes

- a) \*If the Applicant /Licensee applies for two or more Varieties, testing to be done for each variety separately.
  - b) \*\* If the Applicant /Licensee applies for both types i.e 1 as well as 2, testing to be done for each types separately.
  - c) \*\*\*If the Applicant /Licensee applies for two or more Design, testing to be done for each Design separately.
  - d) \*\*\*\*\*Samples of any size can be taken for considering other sizes in the same group, however manufacturing and testing facility for each size must be verified.
4. However, while considering grant of licence/inclusion of additional sizes/designs/varieties/types, it will be ensured that the applicant/licensee has got the complete manufacturing and testing facilities for all the sizes and designs intended to be covered.

5. During operation of the licence, BO will ensure that all the sizes/designs/varieties/types covered in the licensee are tested in Rotation. The above guidelines may be followed for grant of licensee as well as inclusion of new Variety.
  
6. The above grouping guidelines come into force with immediate effect.

**ANNEX-B**

**List of Testing Equipment**

S.No	Test Equipment / Chemicals And Identification Numbers(where Applicable)	Test Used In With Clause Reference
1.	Tensile Testing Machine and Die for tear strength	7.1.1,7.2,7.3,7.5.1,7.6.2,7.6.5,8.4
2.	Abrasion Test Apparatus	7.1.2,7.7.2
3.	Hardness Meter/ Durometer	7.4.1
4.	Ageing Oven	7.4.1
5.	Thickness Gauge	7.4.1,7.5.2,7.6.1,7.7.1
6.	Flexing Resistance Machine	7.5.3
7.	Vernier Caliper	7.6.1,7.5.1,7.5.2,7.7.1
8.	Humidity Chamber	7.1.2,7.6.2,7.6.3,
9.	Abrasion Testing Machine	7.6.3
10.	Flex tester For Outsole with Piercing Needle 2mm	7.6.4.
11.	Hot Resistance Tester/ Hot Contact	8.1
11.	Leak Proof Tester	8.2
12.	Measuring Tape	8.3
13.	Steel Scale	8.3
14.	Hydrochloric Acid	8.5
15.	Beaker	8.5
16.	Sodium Hydroxide	8.5
17.	Arrangement For Oil Resistant Test, Brown Bottle, Distill water 2 2 4 Trimethyl Pentane	8.6
18.	Weighing Balance	8.5,8.6,7.6.3
19.	Antistatic Test Machine	8.7.1,8.7.2
20.	High Voltage tester	8.7.3
21.	Apparatus For Resistance to Cold	8.7.4
22.	Air Conditioner	For Room conditioning.
23.	Room Heater	For Room Conditioning.
24.	GCMS Method	9,9.1,9.2,9.3

*The above list is indicative only and may not be treated as exhaustive.*

**ANNEX-C**

**SCHEME OF INSPECTION AND TESTING  
FOR CERTIFICATION OF  
ALL RUBBER GUM BOOTS AND ANKLE BOOTS PART 2 OCCUPATIONAL PURPOSES  
ACCORDING TO IS 5557 PART 2:2018**

1. **LABORATORY** – A laboratory shall be maintained which shall be suitably equipped (as per requirement given in Standard) 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. **PACKING AND MARKING** – The Standard Mark as given in Schedule of the license shall be stamped on the underside of each boots; provided always that the boot to which this mark is thus applied conforms to all requirements of specification .

3.1 Packing shall be done as agreed between purchaser and supplier. In addition, the following details shall be permanently marked on each piece of footwear:

- a) Size
- b) Manufacturer's name and brand
- c) Year and month of manufacture
- d) Number and year of the standard, based upon which the boots are produced
- e) Classification — Safety or protective or occupational
- f) Any other statutory marking
- g) BIS Licence No. (CM/L---

3.2 Each pair of boot shall be supplied with the following information in English and any other language:

- a) Name and full address of manufacturer,
- b) Details of customer care service provider,
- c) Instruction for storage and maintenance,
- d) Drying procedure for wet boots and proper cleaning of boots,
- e) Wherever applicable, declaration to be made stating footwear is not for use in fire hazard/ explosion prone areas and in hot contact areas,
- f) The footwear is not a GREEN footwear and not bio-degradable.
- g) BIS Licence No. (CM/L---
- h) BIS website details: "For details of BIS Certification please visit [www.bis.gov.in](http://www.bis.gov.in)"  
(These details also to be marked on the box)

4. **CONTROL UNIT** - For the purpose of this scheme all Finished Boots **of one type** produced in one day shall constitute a control unit.

4.1 On the basis of test result, the decision regarding conformity or otherwise of a control unit to a given requirement shall be made as follows:

4.1.1 No. of sample shall be drawn from each control unit and to be tested for all the requirements as specified in Table 1 of the scheme.

4.1.2 If the sample fails to confirm in any of the requirements laid down in the specification, such, entire control unit represented by the sample shall be considered unfit for the purpose of marking.

5. **LEVELS OF CONTROL** - The tests, as indicated in Table 1 and at the levels of control specified therein, shall be carried out on the whole production of the factory covered by this scheme and appropriate records and charts maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standard and covered by the licence shall be marked with the BIS certification Mark.

6.0 **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. A separate record providing the detailed information regarding the rejected control units and mode of their disposal shall be maintained, such material shall in no case be stored together with that conforming to the specification.

**TABLE 1 LEVELS OF CONTROL**  
**(Para 5 of the Scheme of Inspection and Testing)**

(1)				(2)	(3)		
TEST DETAILS					LEVELS OF CONTROL		
Cl.	Requirement	Test Methods		Test Equipment requirement. R:required(or) S:Sub-Contracting Permitted	No of Samples	Frequency	Remarks
		Clause	Referance				
5.0	Design	5.0 & Fig- 1&2	IS 5557(Part2):18	R	Each Pair		
6.0	Sizes and Fittings	Table 8 & 9	IS 1638	R	Three	Each Control unit	
7.0	Materials and properties						
7.1	Lining Material						
7.1.1	Tear Strength	6.3	IS 15298(Part 1)	R	One	Each consignment	
7.1.2	Abrasion Resistance	6.12	IS 15298(Part 1)	R	One	Each consignment	
7.2	Coated Binding Material	Table 1	IS 5557(Part2):18	R	One	Each consignment	
7.3	Thread For Upper Closing	Table 2 & Annex C	IS 5557(Part2):18	R	One	Each consignment	
7.4.1	<b>Rubber Components</b>						
i)	Hardness (IRHD)	Table-3	IS 5557(Part2):18 IS 3400(part2)	R	Three	Each Mixing	
ii)	Change in initial hardness after accelerated ageing at 100±2 <sup>0</sup> C	Table-3	IS 5557(Part2):18 IS 3400(part4)	R	Three	Each Mixing	
7.5	<b>Upper</b>						
7.5.1	Tensile strength	6.4.2	IS 15298(part 1)	R	Three pieces from one sample of each size	Each Control unit	
7.5.2	Thickness	6.1	IS 15298(part 1)	R	Three pieces	Each Control unit	



					from one sample of each size		
7.5.3	Flexing Resistance	6.5.2	IS 15298(part 1)	R	Three pieces from one sample of each size	Each Control unit	
7.6	<b>Ousole/Heel</b>						
7.6.1	Thickness	7.6.1	IS 5557(Part2):18	R	One piece from one sample of each size	Alternate control unit	
7.6.2	Tear Strength	8.2	IS 15298(part 1)	R	One piece from one sample of each size	Alternate control unit	
7.6.3	Abrasion Resistance	8.3	IS 15298(part 1)	R	One piece from one sample of each size	Alternate control unit	
7.6.4	Flexing Resistance	8.4	IS 15298(part 1)	R	One piece from one sample of each size	Alternate control unit	
7.6.5	Interlayer Bond strength	5.2	IS 15298(part 1)	R	One piece from one sample of each size	Alternate control unit	
7.7	<b>Insocks</b>	7.7	IS 5557(Part2):18	R			
7.7.1	Thickness	7.7.1	IS 5557(Part2):18	R	Three	Each Control unit	
7.7.2	Abrasion Resistance	6.12	IS 15298(part 1)	R	Three	Each Control unit	
8.0	Construction	8.0	IS 5557(Part2):18	R	Each Pair		After Every operation each pair shall be inspected and if found satisfactory, shall be taken for further processing
8.1	Resistance to Hot Contact-Outsole/Heel	8.7	IS 15298(part 1)	R	Three	Each Control unit	

	and upper						
8.2	Leak Proof Test	5.7	IS 15298(part 1)	R	One from each size	Each Control unit	
8.3	Height of Upper	6.2 Fig-3	IS 15298(part 1) IS 5557(Part2):18	R	One from each size	Each Control unit	
8.4	Adhesion Test for Rubberized textile upper	IS 3400(Part 5)		R	One from each size	Each Control unit	
8.5	Resistance to acid and alkali	4.3.10	IS 5915	R	One from each size	Alternate control unit	If resistance to acid and alkali is required
8.6	Resistance to Fuel oil	8.6	IS 15298(part 1)	R	One from each size	Alternate control unit	If resistance to fuel oil is required
8.7	<b>Additional Requirements for Special Applications</b>						
8.7.1	Antistatic Footwear	5.10	IS 15298(Part 1)	R	One pair from each size	Alternate control unit	
8.7.2	Conductive Footwear	5.10	IS 15298(Part 1)	R	One pair from each size	Alternate control unit	
8.7.3	Electrically Insulating Footwear	6.2.2.3	IS 15298(Part 4)	R	One pair from each size	Alternate control unit	
8.7.4	Resistance to Cold	5.13	IS 15298(Part 1)	R	One pair from each size	Alternate control unit	
9.0	<b>List of Banned Chemicals</b>	9.0					
9.1	List of Allergenic Disperse Dyes	IS 16914(part 2) (see table 4)		S	One consignment from each source (i.e. Supplier) shall be tested once every six months		
9.2	List of Carcinogenic Disperse Dyes	IS 16914(part 2) IS 16914(part 3) (see table 5)		S			
9.3	List of Phthalates	IS 16915 (see table 5)		S			
10.	Finish of Boots	10.0	IS 5557(Part2):18	R	Each Pair		

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled 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 to BO head.

**Annex-D**

**Possible test in a day**

- 1) **Upper thickness**
- 2) **Sole Thickness**
- 3) **In socks Thickness**
- 4) **Height of upper**
- 5) **Resistance to Hot Contact-Outsole/Heel and upper**
- 6) **Following test may also be carried out without conditioning**
  - a. **Tear strength of lining material**
  - b. **Hardness of Body and Sole**