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उत्पाद मैनुअल
हवाई चप्पल – विशिष्ट
IS 10702: 2023 के अनुसार

**PRODUCT MANUAL
FOR HAWAI CHAPPAL – SPECIFICATION
ACCORDING TO IS 10702: 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 10702 : 2023
	शीर्षक Title	:	HAWAI CHAPPAL
	संशोधनों की संख्या No. of amendments	:	2
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Material shall be declared by manufacturer and shall be in accordance with CI 4.1. 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 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		Category, Type Material (bottom) Strap (Material and structure) 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 to Annex-B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex-C Note: Please see Cl. 5 of the SIT for Applicability of SIT to Small and Micro Scale Enterprises
5.	एक दिन में संभावित परीक्षण Possible tests in a day		All tests 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 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:		
	"Licence is granted to use Standard Mark as per IS 10702 : 2023 with the following scope:		
	Name of the product		HAWAI CHAPPAL
	Category, Type and sizes		a) Kids (sizes to be declared), 1) Children 2) Infants and/or; b) Adult (sizes to be declared) 1) Type 1 2) Type 2

ANNEX-A

GROUPING GUIDELINES

As per the Indian Standard, following varieties for *HAWAI CHAPPAL* may be applicable:

- a) Based on use, *HAWAI CHAPPAL* are divided into the following Category –
 - a. Kids (Children and infants)
 - b. Adult
- b) Adult Category of Footwear are further classified into two types as given below:
 - a. Type 1
 - b. Type 2

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

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

Each category (kids and adults) and each Type (Type 1/Type 2 for adults) of any size may be tested to cover the category and Type for all sizes in the scope of Licence.

All combinations of components and material of footwear within the scope of Licence may be informed by Licencee to BIS. It shall be responsibility of the manufacturer to ensure compliance of the footwear with different component and material combination to all the requirements of the Indian Standard.

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 (if applicable) available.

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

ANNEX – B

LIST OF TEST EQUIPMENTS

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sr. No.	Tests used in with Clause Reference	Test Equipment
1	Length (Cl 4.2)	Steel scale/ Vernier Calipers
2	Thickness of sole (Cl 4.3)	Dial Gauge / Thickness Gauge, vernier Caliper
3	Compression set (Cl. 4.4, Table 1, SI no i)	Thickness gauge , Conditioning chamber capable of maintaining oven, compression testing apparatus, rotating circular cutter
4	Split tear strength (Cl. 4.4, Table 1, SI no ii)	Steel scale/Vernier calipers , Tensile testing machine (Capable of rate of traverse of 75 mm/min)
5	shrinkage test at (Cl. 4.4, Table 1, SI no iii)	Steel scale/Vernier calipers (LC-0.1mm) , Conditioning chamber capable of maintaining 65 ±5 % RH and 27 ±2 °C temperature, Hot air oven,
6	Abrasion Resistance (Cl. 4.4, Table 1, SI no iv)	abrasion machine as per 5.1 of IS 3400 (Part 3), abrasive sheet, Hollow drill, balance, standard reference compounds. Conditioning chamber, arrangement for keeping ambient temperature, standard reference compounds
7	Flexing Resistance (Cl. 4.4, Table 1, SI no v)	Ross flexing machine as per IS 3400 (Part 16), piercing tool and holder, rule, thickness guage, soap, conditioning chamber, cold chamber, arrangement to maintaining temp of 27 +/-2
8	Hydrolysis Resistance (Cl. 4.4, Table 1, SI no vi)	As per IS 15298 (Part 1)
9	Breaking strength, <i>Elongation At Break</i> (Cl 4.4, Table 2 SI no i)	Steel scale/Vernier caliper, Conditioning chamber capable of maintaining 65 ±5 % RH and 27 ±2 °C temperature , Tensile testing machine (Capable of rate of traverse of 500 mm/min)
10	Toe Post Attachment Strength, (Cl 4.4, Table 3 SI no i) and Attachment Strength Of Rear Strap, (Cl 4.4, Table 3 SI no ii)	Tensile testing machine with jaw separation speed of 100 mm/min ± 10 mm/min, twist drill bit, conditioning chamber, template, wire loops
11	Inter Layer Bond Strength, (Cl 4.4, Table 3 SI no iii)	Tensile testing machine as per 5.2.2 of IS 15298 (Part1)
12	CHEMICAL REQUIREMENT FOR <i>HAWAI CHAPPAL</i> (Cl. 4.4, Table 1, SI no vii, Table 2, SI no ii)	As per IS 17011 for critical substance category I and category II as specified under 3.6 of the IS
13	Lead Content (Cl. 4.4, Table 1, SI no vii, Table 2, SI no ii)	Nessler cylinders, P-Nitrophenol indicator Sol, Dil Hydrochloric acid, hydrogen sulphide solution, Standard lead solution, whatman filter paper
14	Slip resistance, coefficient of friction (COF) ³ , Min (not applicable for leather sole) (to be carried out on quarry tiles)	slip resistance test machine incorporates as per E-4 of Annex E of IS 15844 (Part 1), with a secure attachment point, Dry, absorbent paper towel, conditioning chamber and arrangement to maintain room temperature at 27±2 °C

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 Hawaii Chappal of same combination of materials, 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 *Hawai Chappal* for each pair, 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 *hawai chappal* shall be marked as '0' whereas infants hawai chappal shall be marked as '00' 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.			
4.1	Material	4.1.1, 4.1.2, 4.1.3, & 4.1.4	IS 10702 : 2023	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		Each consignment if components are bought
4.2	Length	4.2	IS 10702 : 2023			Recommendary as per CI 4.2 of IS 10702:2023
4.3	Thickness	4.3.1	IS 10702 : 2023			
4.4, Table 1 Physical Requirement Of Bottom Material For <i>Hawai Chappal</i>						
i)	Compression Set	Annex D	IS 10702 : 2023	one	Once in a month	
ii)	Split Tear Strength,	Annex-E	IS 10702 : 2023	one	-do-	Applicable for Adult category Type 1 only
iii)	Shrinkage, Polymeric Material	Annex-F	IS 10702 : 2023	one	-do-	Applicable for Adult category
	Shrinkage, Rubber					
iv)	Abrasion Resistance	-	IS 3400 (Part 3)	one	Once in three months or each consignment (If components are bought) whichever is earlier	Applicable for Adult category
v)	Flexing Resistance:	-	IS 3400 : Part 16	one	-do-	
vi)	Hydrolysis Resistance,	-	IS 15298 (Part 1)	one	-do-	1.Applicable for Adult category Type 1 only 2. Applicable only for polyester based PU bottom

vii)	Chemical requirement for hawai Chappal	-	Table 1 of IS 17011	one	Each consignment of raw material	1. The bottom (only in contact with skin) of hawai chappal shall comply with Table 1 of IS 17011 for critical substance Category 1 and Category 2 2. Test certificate/report should be obtained either from supplier or from any independent Laboratory
viii)	Lead Content.	-	IS 12240 (Part 5).	one	Each consignment of raw material	1. Applicable for Kids category and Type 1 of adult category 2. Only In case of PVC material 3. Test Certificate/report should be obtained either from supplier or from any independent Laboratory
ix)	Slip resistance, coefficient of friction (COF)3, Min (not applicable for leather sole) (to be carried out on quarry tiles)	Annex-E	IS 1544 (Part 1)	one	once in three months	Applicable for Type 1 (Adults) Not applicable for leather sole

4.4 Table 2, Physical Requirement of Strap Material For *Hawai Chappal*

i)	Breaking Strength					
	Strap To Strap Toe portion to strap	Annex 'G'	IS 10702 : 2023	one	Each control unit	1. Applicable for Adult category Type 1 only 2. applicable to strap to strap (V shape)
	<i>Elongation At Break,</i>					
ii)	Chemical requirement for hawai Chappal	-	Table 1 of IS 17011	one	Each consignment of raw material	1. The strap of hawai chappal shall comply with Table 1 of IS 17011 for critical substance Category 1 and Category 2 2. Test Certificate/report should be obtained either from supplier or from any independent Laboratory
iii)	Lead Content.	-	IS 12240 (Part 5).	one	Each consignment of raw material	1. Applicable for Kids category and Type 1 of adult category 2. Only in case of PVC material 3. Test Certificate/report should be obtained either from supplier or from any independent Laboratory

4.4, table 3 Attachment Strength And Inter Layer Bond Strength Requirement For *Hawai Chappal*

i)	Toe Post Attachment Strength,	Annex H	IS 10702 : 2023	one	Each control unit	
ii)	Attachment Strength Of Rear Strap,			one	-do-	
iii)	Inter Layer Bond Strength,	-	IS 15298 : Part 1	one	-do-	Applicable only for multilayer pasted stuck-on bottom sole