



उत्पाद मैनुअल

भा. मा. 15533: 2018/ISO 8098: 2014 के अनुसार
साइकिल – छोटे बच्चों की साइकिल के लिए सुरक्षा अपेक्षाएं के लिए
दस्तावेज संख्या-पी एम/आई एस 15533/ISO 8098/1/ फरवरी 2023

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूल्यांकन) विनियम, 2018 के तहत यह उत्पाद मैनुअल प्रमाणीकरण के प्रचालन में रीति और पारिश्रिता की सुसंगतता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस प्रमाणीकरण लाइसेंस/प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज का उपयोग किया जा सकता है।

PRODUCT MANUAL FOR CYCLES- SAFETY REQUIREMENTS FOR BICYCLES FOR YOUNG CHILDREN

ACCORDING to IS 15533: 2018/ISO 8098: 2014

Document No.-PM/IS 15533/ISO 8098/1/ February 2023

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.

भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

मानक भवन, ९, बहादुर शाह ज़फ़र मार्ग
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**PRODUCT MANUAL FOR
CYCLES- SAFETY REQUIREMENTS FOR BICYCLES FOR YOUNG CHILDREN
ACCORDING TO IS 15533: 2018/ISO 8098: 2014**

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.	Product	:	IS 15533: 2018/ISO 8098: 2014
	Title	:	Cycles- Safety Requirements for Bicycles for Young Children
	No. of Amendments	:	One
2.	Sampling Guidelines:		
a)	Raw material	:	Rims- as per IS 624 Tyres- IS 2414 Retro-Reflective devices- as per IS/ISO 6742-2 Luggage Carriers, if provided- as per IS 14363 Front and Rear Light- as per applicable National Regulations Warning device- as per applicable National Regulations <i>Retro-reflective devices as per IS/ISO 6742-2 are under mandatory BSI Certification and manufacturers shall ensure that only Retro-reflective devices used are ISI Marked and received with test certificate</i>
b)	Grouping guidelines	:	Please refer ANNEX –A
c)	Sample Size	:	3 Nos.
3.	List of Test Equipment	:	Please refer ANNEX –B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX –C
5.	Possible tests in a day	:	All tests except dynamic durability test as per Cl. 4.13.4.2
6.	Scope of the Licence:	:	Please refer ANNEX –D

BUREAU OF INDIAN STANDARDS

Manak Bhawan, 9, Bahadur Shah Zafar Marg, New Delhi – 110002

ANNEX A**Grouping Guidelines**

1. For the purpose of certification, following technical parameters are considered for classifications of “Bicycles for Young Children” into different varieties as per IS 15533: 2018/ISO 8098: 2014:

Sl. No.	Technical parameters	Classification based on technical parameters
1.	Saddle height	
2.	Frame type and dimensions	
3.	Front Fork dimensions	
4.	Rim size designations	Size designations as per IS 624
5.	Tyre size designation	Tyre size designations as per IS 2414
6.	Tube size designation	
7.	Braking system	Hand operated brakes/Back-pedal brakes
8.	Whether with lighting system or without	
9.	Whether with Luggage carrier or without	

2. A variety may be defined as group of models having the same value of these technical parameters as above.
3. Each variety shall be tested for all the requirements for the purpose of GoL/CSoL. All model name/numbers, along with their technical parameters as above, intended to be covered in the scope of licence, shall be declared by the manufacturer. Further, In addition to the models drawn for independent testing as per above guidelines, factory test report of all other models intended to be covered in scope shall also be submitted. BIS shall endorse the details of models also as an Annexure in the licence document.
4. During operation of the licence if any new model is intended to be covered within the existing scope of licence (due to changes in technical parameters other than those mentioned above), the parameters as per para 3 above for all such new model numbers will be declared by licensee to BIS for records. The declaration shall be submitted by the manufacturer as per APPENDIX I through Manakonline (communication window) and the information shall be noted by BIS and these additional models will be endorsed in the licence document by revising the Annexure to the licence document containing the list of models. After submission of the declaration to BIS Branch Office through Manakonline, the licensee may use the standard mark on such new models without waiting for BIS to endorse the models in the licence. (Licensee shall be able to produce documentary proof of having submitted this information to BIS).

However, in case any discrepancy is observed post-facto due to which it is viewed that the models are not to be endorsed in the scope (e.g. if the added models do not fall within

granted scope), Head of BIS Branch Office concerned, may, after giving the licensee an opportunity to explain, direct the licensee to cease marking on such models, or in case the appliances are already marked and dispatched, issue directions for product recall.

5. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

APPENDIX –I
 FORMAT FOR DECLARATION FOR ADDING NEW MODELS WITHIN SCOPE
 OF LICENCE BY LICENSEE

Date:

To,
 Branch Office
 Bureau of Indian Standards

Sir/Madam

Subject: DECLARATION FOR ADDING NEW MODELS WITHIN SCOPE OF
 LICENCE

With reference to my existing licence for “Cycles- Safety requirements for Bicycles for
 Young Children” (Licence No CM/L-.....), I request BIS to add the following new
 models in the scope of my licence:

List of new models intended to be covered in existing scope of licence

Model	Model 1	Model 2	Model 3
Technical parameter			
Saddle height			
Frame type and dimensions			
Front Fork dimensions			
Rim size designations			
Tyre size designation			
Tube size designation			
Braking system			
Whether with lighting system or without			
Whether with Luggage carrier or without			

I declare that the above models, as indicated above, fall within the existing scope of my
 licence.

I declare that the above information is true and correct to the best of my knowledge
 and undertake that incase my declaration is found defective or incorrect BIS may take
 action as deemed appropriate as per the BIS Act, Rules and Regulations which we
 shall comply with including recall of such products from the market.

Signature with date of Firm's authorized signatory

Name and designation

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

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	General requirements of sub-assemblies, Dimensions as per various clauses	Scale, Vernier caliper, micrometer
2.	Security and Strength of Safety related Fasteners, Cl. 4.4	Torque wrench
3.	Crack detection	Testing arrangement for dye-penetrant test (test fixture, dye etc.) or any other suitable test method
4.	Security test for Brake-block and brake- pad assemblies, Cl. 4.7.4	Test loads and testing fixture as per Cl. 4.7.4.2 of IS 15533/ISO 8098
5.	Strength of braking system, Cl. 4.7.7	Test loads and testing fixture as per Cl. 4.7.7.2 of IS 15533/ISO 8098
6.	Braking performance, Cl. 4.7.8	Test loads and testing fixture as per Cl. 4.7.8.2 and Cl. 4.7.8.4 of IS 15533/ISO 8098
7.	Handle bar grip – Freezing test, Cl. 4.8.2.2	Deep freezer, Test loads and testing fixture as per Cl. 4.8.2.2 of IS 15533/ISO 8098
8.	Handle bar grip – Hot water test, Cl. 4.8.2.3	Hot water bath, Test loads and testing fixture as per Cl. 4.8.2.3 of IS 15533/ISO 8098
9.	Lateral Bending test of Handle bar and stem assembly, Cl. 4.8.5.1	Test loads and testing fixture as per Cl. 4.8.5.1.2 of IS 15533/ISO 8098
10.	Forward Bending test of Handle bar and stem assembly, Cl. 4.8.5.2	Test loads and testing fixture as per Cl. 4.8.5.2.2 of IS 15533/ISO 8098
11.	Torsional Security test of Handle bar and stem assembly, Cl. 4.8.5.3	Test loads and testing fixture as per Cl. 4.8.5.3.2 of IS 15533/ISO 8098
12.	torsional security test for Handle bar stem to fork steerer, Cl. 4.8.5.4	Test loads and testing fixture as per Cl. 4.8.5.4.2 of IS 15533/ISO 8098
13.	Fatigue test on Handle bar and stem assemblies, Cl. 4.8.6	Test fixture, test loads, Cycle counter as per Cl. 4.8.6 of IS 15533/ISO 8098
14.	Impact test (Falling mass), Cl. 4.9.1	Roller of required Hardness, Test fixture, Vernier caliper and Striker Load as per Cl. 4.9.1 of IS 15533/ISO 8098
15.	Impact test (falling frame-fork assembly), Cl. 4.9.2	Test fixture, as per Cl. 4.9.2 of IS 15533/ISO 8098

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16.	Bending Fatigue strength of Fork, Cl. 4.10.2	Test fixture, test load, cycle counter as per Cl. 4.10.2 of IS 15533/ISO 8098
17.	Rotational accuracy, Lateral tolerance, Clearance of wheels, Cl. 4.11.1 and Cl. 4.11.2	Vernier caliper or micrometer or feeler gauge
18.	Static Strength test of Wheel/tyre assembly, Cl. 4.11.3.2	Test fixture and Test loads as per Cl. 4.11.3.2 of IS 15533/ISO 8098
19.	Wheel retention, Cl. 4.11.4	Test fixture and Test loads as per Cl. 4.11.4 of IS 15533/ISO 8098
20.	Compatibility of tyre, tube and rim, Cl. 4.12.1	Pressure gauge
21.	Clearances as per Cl. 4.13.2.1, 4.13.2.2, 4.13.3.3	Scale or Vernier caliper
22.	Pedal- Impact test, Cl. 4.13.3	Test fixture and Test loads as per Cl. 4.13.3.2 of IS 15533/ISO 8098
23.	Pedal dynamic durability test, Cl. 4.13.4	Test assembly, test fixture, test loads as per Cl. 4.13.4.2 of IS 15533/ISO 8098
24.	Drive system static strength test, Cl. 4.13.5	Test assembly, test fixture, test loads as per Cl. 4.13.5.2 of IS 15533/ISO 8098
25.	Fatigue test on crank assembly, Cl. 4.13.6	Test assembly, test fixture, test loads, Cycle counter as per Cl. 4.13.6 of IS 15533/ISO 8098
26.	Saddle and Seat Post- Security test, Cl. 4.14.3	Test fixture, test loads as per Cl. 4.14.3.2 of IS 15533/ISO 8098
27.	Static strength test (saddle and saddle pillar), Cl. 4.14.4	Test fixture, test loads as per Cl. 4.14.4.2 of IS 15533/ISO 8098
28.	Saddle and seat post assembly Fatigue test, Cl. 4.14.5	Test assembly, test fixture, test loads, Cycle counter as per Cl. 4.14.5.2 of IS 15533/ISO 8098
29.	Vertical load test, Cl. 4.16.3	Test fixture, test loads as per Cl. 4.16.3.2 of IS 15533/ISO 8098
30.	Longitudinal load test, Cl. 4.16.4	Test fixture, test loads as per Cl. 4.16.4.2 of IS 15533/ISO 8098
31.	Marking durability test, Cl. 6.2	Petroleum spirit

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

ANNEX C

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 – Each cycle shall be legibly and permanently marked with the Model name/number in addition to the requirements of IS 15533: 2018/ISO 8098: 2014.

The BIS Standard Mark, as given in the Schedule of the licence, shall be marked on each Bicycle provided always that the product thus marked conforms to all the requirement of the specification. In addition, the licence no. CM/L- _____ and details of BIS website shall be marked at an appropriate place as follows: “For details of BIS certification please visit www.bis.gov.in”.

4. CONTROL UNIT- Quantity of Bicycles with same model name/number produced in one shift of production shall constitute a control unit.

5. 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.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

6. 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

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub- contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4	Components/Sub- assemblies	4	IS 15533/ISO 8098 IS 624 IS 2414 IS/ISO 6742-2 IS 14363	S	One	Each Consignment	Components used shall be declared and conformity to declared parameters and Specifications shall be submitted by manufacturer. Retro-reflective devices as per IS/ISO 6742-2 are under mandatory BSI Certification and manufacturers shall ensure that only Retro-reflective devices used are ISI Marked and received with test certificate For other components, no further testing is required in case received with test certificates or is ISI Marked
4.2	Toxicity test for items coming into intimate contact with rider	4.2	IS 15533/ISO 8098	S	One	Each Consignment	No further testing is required in case received with test certificates or is ISI Marked

4.3	Sharp edges	4.3	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.4.1	Security of screws	4.4.1	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.4.2	Minimum failure Torque test	4.4.2	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.4.5	Folding bicycle mechanism	4.4.5	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.7	Brakes						
4.7.1	Braking system	4.7.1	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.7.2.3	Brake lever position	4.7.2.3	IS 15533/ISO 8098	R			
4.7.2.2	Brake lever dimensions	4.7.2.2.2	IS 15533/ISO 8098	R			
4.7.3	Attachment of brake assembly and Cable requirement	4.7.3	IS 15533/ISO 8098	R			
4.7.5	Brake adjustment	4.7.5	IS 15533/ISO 8098	R			
4.7.6	Back pedal brake	4.7.6	IS 15533/ISO 8098	R			
4.7.4	Brake-block and brake-pad assemblies- Security test	4.7.4.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.7.7	Braking system- Strength test	4.7.7.2, 4.7.7.4	IS 15533/ISO 8098	S			
4.7.8	Braking Performance	4.7.8.2, 4.7.8.4	IS 15533/ISO 8098	S			

4.8	<i>Steering</i>						
4.8.1	Handlebar-Dimensions and end fittings	4.8.1	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.8.3	Handlebar-stem-Insertion depth mark or positive stop	4.8.3	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.8.2	Handle bar grip-Freezing test	4.8.2.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.8.2	Handle bar grip- Hot Water test	4.8.2.3	IS 15533/ISO 8098	S			
4.8.4	Steering stability	4.8.4	IS 15533/ISO 8098	S			
4.8.5.1	Lateral bending test	4.8.5.1.2	IS 15533/ISO 8098	S			
4.8.5.2	Forward bending test	4.8.5.2.2	IS 15533/ISO 8098	S			
4.8.5.3	Torsional Security test for Handlebar and assembly	4.8.5.3.2	IS 15533/ISO 8098	S			
4.8.5.4	Torsional Security test for Handlebar Stem to Fork Steerer	4.8.5.4.2	IS 15533/ISO 8098	S			
4.8.6	Fatigue test on handle bar and stem assembly	4.8.6.2, 4.8.6.3	IS 15533/ISO 8098	S	One	Once in 6 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.9	<i>Frames</i>						

4.9.1	Impact test (falling mass)	4.9.1.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.9.2	Impact test (falling frame-fork assembly)	4.9.2.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.10	Front Fork						
4.10.1	General	4.10.1	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.10.2	Bending Fatigue test	4.10.2.2	IS 15533/ISO 8098	S	One	Once in 6 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.11	Wheels						
4.11.1	Rotational accuracy	4.11.1.2, 4.11.1.3	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.11.2	Wheel/tyre assembly	4.11.2	IS 15533/ISO 8098	R			
4.6.2	Clearance	4.6.2	IS 15533/ISO 8098	R			
4.11.3	Static strength test on Wheel/tyre assembly	4.11.3.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3

							months is tested at least once in 3 months
4.11.4.1	Wheel retention-General	4.11.4.1	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.11.4.2, 4.11.4.3, 4.11.4.4	Wheel retention (AS APPLICABLE)	4.11.4.2.2, 4.11.4.3.2, 4.11.4.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.12	<i>Rims, Tyres and Tubes</i>						
4.12.1	Inflation pressure	4.12.1	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.12.2	Compatibility	4.7.2	IS 15533/ISO 8098	R			
4.13	<i>Pedals and Pedal/Crank drive system</i>						
4.13.1	Pedal tread	4.13.1	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained		
4.13.2	Pedal clearance	4.13.2.1, 4.13.2.2	IS 15533/ISO 8098	R			
4.13.3	Pedal- Impact test	4.13.3.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.13.4	Dynamic durability test	4.13.4.2	IS 15533/ISO 8098	S	One	Once in 6 months	Testing shall be done in such a way that sample of all model numbers produced in 6

							months is tested at least once in 6 months
4.13.5	Drive system static strength test	4.13.5.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.13.6	Fatigue test on crank assembly	4.13.6	IS 15533/ISO 8098	S	One	Once in 6 months	Testing shall be done in such a way that sample of all model numbers produced in 6 months is tested at least once in 6 months
4.14	<i>Saddles and Seat posts</i>						
4.14.1	Limiting dimensions	4.14.1	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained		
4.14.2	Insertion-depth mark or positive stop	4.14.2	IS 15533/ISO 8098	R			
4.14.3	Saddles and seat post security test	4.14.3.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.14.4	Saddles- Static strength test	4.14.4.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.14.5	Fatigue test on saddle and seat post	4.14.5.3	IS 15533/ISO 8098	S	One	Once in 6 months	Testing shall be done in such a way that sample of all model numbers produced in 6

							months is tested at least once in 6 months
4.15	Chainguard	4.15	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.17	Luggage carriers	4.17	IS 15533/ISO 8098	R			
4.18	Lighting system and reflectors	4.18	IS 15533/ISO 8098	R			
4.19	Warning device	4.16	IS 15533/ISO 8098 ISO 7636	R			
4.16	<i>Stabilizers</i>						
4.16.1	Mounting and Dismounting	4.16.1	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.16.2	Dimensions	4.16.2	IS 15533/ISO 8098	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
4.16.3	Vertical load test	4.16.3.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months
4.16.4	Longitudinal load test	4.16.4.2	IS 15533/ISO 8098	S	One	Once in 3 months	Testing shall be done in such a way that sample of all model numbers produced in 3 months is tested at least once in 3 months

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled 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 by BO Head.

ANNEX D

Scope of Licence

“Licence is granted to use Standard Mark as per IS 15533: 2018/ISO 8098: 2014 with the following scope:	
Name of the product	Cycles- safety requirements for bicycles for Young Children
Saddle height	
Frame type and dimensions	
Front Fork dimensions	
Rim size designations	
Tyre size designation	
Tube size designation	
Braking system	
Whether with lighting system or without	
Whether with Luggage carrier or without	

Annexure to Scope of licence-List of models covered in scope of licence

Model	Model 1	Model 2	Model 3
Technical parameter			
Saddle height			
Frame type and dimensions			
Front Fork dimensions			
Rim size designations			
Tyre size designation			
Tube size designation			
Braking system			
Whether with lighting system or without			
Whether with Luggage carrier or without			