



## PRODUCT MANUAL FOR KADAHIES ACCORDING TO IS 4109:1967

*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 license/certificate.*

1.	<b>Product</b>	:	IS 4109:1967
	<b>Title</b>	:	Kadahies
	<b>No. of Amendments</b>	:	Nil
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	Mild Steel Sheet- IS 1079 Cast Iron- IS 210
b)	<b>Grouping guidelines</b>	:	Please refer ANNEX – <a href="#">A</a>
c)	<b>Sample Size</b>	:	One Kadahi
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>	:	All tests
6.	<b>Scope of the Licence:</b>	:	Please refer ANNEX – <a href="#">D</a>

**ANNEX-A**

**Grouping Guidelines**

1. IS 4109: 1967 covers Kadahies which are classified into different varieties based on the following:
  - a) **Material**
    - Mild Steel Sheet
    - Cast Iron
  - b) **Shape**
    - Round type
    - Bowl shape
  - c) **Nominal dia at top (in mm)**
    - Round shape Cast Iron – 224, 262, 280, 295, 316, 333, 356, 387, 410, 435, 464, 575, 625, 686, 724
    - Bowl shape Cast Iron- 228, 264, 284, 298, 320, 336, 358, 384, 410, 435, 460
    - Round shape Mild Steel- 225, 300, 350, 400, 450, 500, 550, 600
    - Bowl shape Mild Steel- 225, 300, 350, 400, 450, 500, 550, 600
2. Considering the above, the grouping guidelines given below shall be followed for GoL/CSoL:
  - Sample of Kadahies of highest nominal diameter (at top) for each shape and material shall be tested to cover Kadahies of all nominal diameters (at top) upto and including the diameter tested, for that particular shape and material.
3. The Firm shall declare the varieties of Kadahies intended to be covered in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
4. During the operation of license, it shall be ensured that all varieties covered in the license are tested in rotation, to the extent possible.

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

<b>Sr No</b>	<b>Tests used in with clause reference</b>	<b>Test equipment</b>
1.	Dimensions, Cl. 3, Table 1 to Table 3	Steel scale/Vernier caliper/Height gauge, Micrometer
2.	Pull test, Cl. 6.1, Table 1 to Table 3	Set up for pull test (suitable table)  Dead loads

*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 equipment.

**2. TEST RECORDS** – The manufacturer shall maintain test records for the tests carried out to establish conformity.

**3. LABELLING AND MARKING** – As per requirements of IS 4109: 1967.

**4. CONTROL UNIT** – Kadhies of same shape and nominal diameter (at top) manufactured from same consignment of raw material under similar conditions 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				
2	Material	2	IS 4109	S	One	Each consignment	Raw materials which are covered under mandatory certification of BIS shall be ISI marked and received along with manufacturers test certificate. For other materials, no further testing is required if received with test certificate or is ISI Marked.
3	Shapes and Dimensions	3.1 Table 1 to Table 3	IS 4109	R	One	Each control unit	---
4	Manufacture and workmanship	4.1, 4.2	IS 4109	R	Each Kadahie	---	---
6.1	Pull test	6.1	IS 4109	R	One	Each control unit	---

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 4109:1967 with the following scope:

Name of the product	Kadahies
Material	Mild Steel/Cast Iron
Shape	
Nominal diameter (at top)	