



**PRODUCT MANUAL FOR
SINGLE-ENDED OPEN-JAW ADJUSTABLE WRENCHES
ACCORDING TO IS 6149: 1984**

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 6149: 1984
	Title	:	Single-Ended Open-Jaw Adjustable Wrenches
	No. of Amendments	:	2
2.	Sampling Guidelines:		
a)	Raw material	:	As per clause 5 of IS 6149:1984
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	Three 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
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 6149: 1984 with the following scope:		
	Name of the product	Single-Ended Open-Jaw Adjustable Wrenches	
	Type	Type A / Type B	
	Grades	Grade 1 / Grade 2 / Grade 3	
	Sizes		

ANNEX A

Grouping Guidelines

1. Single-Ended Open-Jaw Adjustable Wrenches as per IS 6149: 1984 are classified as given below:
 - a) **Type:**
 - i) Type A
 - ii) Type B
 - b) **Grade:**
 - i) Grade 1 (Heavy Duty)
 - ii) Grade 2 (Normal Duty)
 - iii) Grade 3 (Light Duty)
 - c) **Nominal size (mm):**
100, 150, 200, 250, 300, 375, 450
2. Considering the above, the guidelines given below shall be followed for GoL/CSoL:
 - Sample of lowest and highest nominal size from each Type and Grade shall be tested for all requirements to cover all sizes in that size range for the particular Type and Grade tested.
3. The Firm shall declare the varieties of wrenches they intend to cover 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 the Licence, BO shall ensure that all the varieties covered in the Licence 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*

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Dimension (Clause 4)	(i) Measuring Tape (ii) Micrometer (iii) Steel Scale
2	Raw Material (Clause 5)	Spectrometer
3	Hardness (Clause 6)	Rockwell Tester
4	Torque (Clause 8.3)	Torque Wrench

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 – As per the requirement of IS 6149: 1984.

4. CONTROL UNIT – Adjustable Wrenches of each nominal size, type and grade manufactured during a shift from the same consignment of raw materials 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				
5	Material	5	IS 6149:1984	S	One	Each consignment	
4	Dimension	4, 4.1, Table 1	IS 6149:1984	R	Five	Each Control Unit	In case of failure, five more samples shall be tested and the control unit shall be accepted only if all the samples pass
6	Hardness	6	IS 6149:1984	R	One	One batch of components of each size heat treated at a time	
7	Manufacture, Workmanship and Finish (except play of moving components)	7.1, 7.2	IS 6149:1984	R	Each Piece	--	
	Protection against corrosion and rust	7.3	IS 6149:1984	R	One	From parts coated together in a batch	
8	Longitudinal Play of Adjustable Jaw	8.1	IS 6149:1984	R	Five	Each Control Unit	In case of failure, five more samples shall be tested and the control unit shall be accepted only if all the samples pass
	Transverse Play of Adjustable Jaw	8.2	IS 6149:1984	R	Five	Each Control Unit	
	Torque	8.3	IS 6149:1984	R	Five	Each Control Unit	

Note-1: Materials which are covered under mandatory certification of BIS shall be ISI marked. For other materials, no further testing is required if accompanied with test certificate or ISI marked.

Note-2: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-3: 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.