



**PRODUCT MANUAL FOR
OPEN JAW WRENCHES (SPANNERS)
ACCORDING TO IS 2028: 2004**

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 2028: 2004
	Title	:	Open Jaw Wrenches (Spanners)
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	As per clause 4 of IS 2028:2004
b)	Grouping guidelines	:	Please refer ANNEX - A
c)	Sample Size	:	Six pieces
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:		
	(i) Dimensions (Cl. 3) (ii) Workmanship and Finish (Cl. 6) (iii) Hardness (Cl. 5) (iv) Torque Test (Cl. 8)		
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 2028: 2004 with the following scope:		
	Name of the product	Open Jaw Wrenches (Spanners)	
	Type	Single-ended (SE)/ Double-ended (DE)/ Double-headed (DH)	
	Intended use	General purpose (GP)/ Automobile use(A)/Engineers’(E)	
	Torque Series	C/D	
	Nominal Width Across Flats		

ANNEX A

Grouping Guidelines

1. The following parameters are taken into consideration for the purpose of grouping of Wrenches (Spanners) covered under IS 2028:2004:
 - a) Single-ended (SE), double-ended (DE) or double-headed (DH)
 - b) General purpose (GP), Automobile use (A) or Engineers' (E)
 - c) Torque Series C or D
 - d) Nominal width across flats (mm)

2. The following varieties of Wrenches (Spanners) with different Size (Nominal Width across Flats) are covered in IS 2028:2004:
 - a) Single-ended Open Jaw Wrenches (Spanners) for General Purposes (Torque Series C)
 - b) Double-ended Open Jaw Wrenches (Spanners) for General Purposes (Torque Series D)
 - c) Double-ended Open Jaw Wrenches (Spanners) for Automobile use (Torque Series C)
 - d) Double-headed Open-ended Engineers' Wrenches (Spanners) (Torque Series C)

3. Considering the above, the grouping guidelines given below shall be followed for GoL/CSoL:
 - Sample of lowest and highest size (Nominal width across flats) from each variety shall be tested for all requirements to cover all sizes (Nominal width across flats) in that size range for the particular variety tested.

4. The Firm shall declare the varieties of Wrenches (Spanners) intended to be covered in the Licence. The Scope of Licence may be restricted based on the manufacturing and testing capabilities of the manufacturer.

5. During 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	Dimensions (Clause 3)	(i) Micro Meter (ii) Vernier Calliper (iii) Radius Gauge
2	Hardness (Clause 5)	(i) Hardness Testing Machine (ii) Suitable Polisher
3	Workmanship and Finish (Clause 6)	Elcometer
4	Torque Test (Clause 8)	Torque Tester

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 2028: 2004.

4. CONTROL UNIT – Open jaw wrenches of same size and type heat treated under identical conditions in a day 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	Material	4	IS 2028	S	One	Each Consignment	No further testing is required if accompanied with test certificate.
3	Dimensions	3.1 to 3.7 Tables 1 to 5	IS 2028	R	One sample from each size	Hourly production	---
5	Hardness	2	IS 6131	R	Ten of each size	Every Heat Treatment batch	Please see Note 1
6	a) Workmanship and Finish	3.1	IS 6131	--	Every piece		---
	b) Plating thickness	3.2	IS 6131	R	One sample	Each batch	All the Spanners plated together shall form one batch
8	Torque testing	6	IS 6131	R	Five	Each control unit	---
10	Preservation and Packing	5, 5.1, 5.2	IS 6131	--	Every piece		---

Note-1: In case of continuous heat treatment process five samples of each size shall be tested every hour. In case of failure, the whole lot may be taken up for re-heat treatment and ten samples of each size shall be tested. If any sample fails, the lot shall be rejected.

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.