



PRODUCT MANUAL FOR COMBINATION SIDE CUTTING PLIERS ACCORDING TO IS 3650: 1981

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 3650: 1981
	Title	:	Combination Side Cutting Pliers
	No. of Amendments	:	1
2.	Sampling Guidelines:		
a)	Raw material	:	Tools and Die Steels – IS 3748
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	Three Pliers
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	(vi) General Requirements	
	(ii) Hardness	(vii) Insulation Test	
	(iii) Cutting Test	(viii) Tube Gripping Test	
	(iv) Torsion Test	(ix) Handle Load Test	
	(v) Bend Test		
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 3650: 1981 with the following scope:		
	Name of the product	Combination Side Cutting Pliers	
	Nominal Size	160 / 180 / 200 / 250	
	Type of handle	Insulated / Uninsulated	

ANNEX A

Grouping Guidelines

1. Combination Side Cutting Pliers as per IS 3650:1981 can be classified as per nominal size i.e. 160, 180, 200 and 250 mm. Further, pliers may or may not have insulated handles.
2. Considering the above, following grouping guidelines is developed for GoL/CSoL:
 - Sample of Pliers of maximum nominal size shall be tested to cover pliers of all nominal sizes upto and including the nominal size tested.
 - If Pliers with insulated handles is tested, then Pliers without insulated handles may also be covered.
3. The Firm shall declare the varieties 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 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) Bevel Protector/Combination set (ii) Micrometer (iii) Vernier Calliper
2	Hardness (Clause 4)	Vickers Hardness Tester/ Rockwell Hardness Tester
3	Cutting Test (Clause 8.1)	(i) Hard Wire – Of suitable size (ii) Soft Wire – Of suitable size
4	Tube Gripping Test (Clause 8.2)	MS Pipe of 15 mm N/B
5	Torsion Test (Clause 8.4)	Torsion Test Apparatus
6	Handle Load Test (Clause 8.5)	Handle Load Test Apparatus
7	Bend Test (Clause 8.6)	1.25 mm Hard Drawn Steel Wire
8	Insulation Test (Clause 8.7)	Insulation Test Equipment

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 3650: 1981.

4. CONTROL UNIT – Pliers of same nominal size manufactured during a shift 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	General Requirements						
	Material	5.1	IS 2615	S	One	Each consignment	Shall be ISI marked
	Manufacture	7	IS 2615	R	Each Plier		---
	Workmanship and finish	8	IS 2615	R	Each Plier		
	Preservation and packing	12	IS 2615	R	Each Plier		
3.	Dimensions	3.1 & Table 1	IS 3650	R	Five	Each control unit	
4.	Hardness	4	IS 3650	R	Ten	Each batch of components heat treated at a time.	
6	Insulation (except insulation test)	6	IS 3650	R	Each Plier		For pliers with insulated handle
	Insulation test	8.7 9.6	IS 3650 IS 2615	R	Ten	Each control unit	In case of failure, each plier to be tested
8.1	Cutting Test	9.1.1 and 9.1.2	IS 2615	R	One	Each control unit	In case or failure two more samples to be tested. In case of failure, then control unit shall not be marked.
8.2	Tube Gripping Test	9.2	IS 2615	R	One	Each control unit	
8.3	Shock Test	9.3	IS 2615	R	One	Each control unit	

8.4	Torsion Test	9.4	IS 2615	R	One	Each control unit	In case of failure two more samples to be tested. In case of failure, then control unit shall not be marked.
8.5	Handle Load Test	Table 2 9.5	IS 3650 IS 2615	R	One	Each control unit	
8.6	Bend Test	8.6	IS 3650	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.