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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

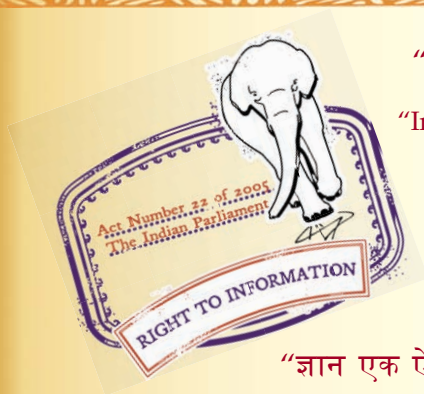
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 6078 (1986): Lineman's Pliers [PGD 5: Assembly Hand Tools]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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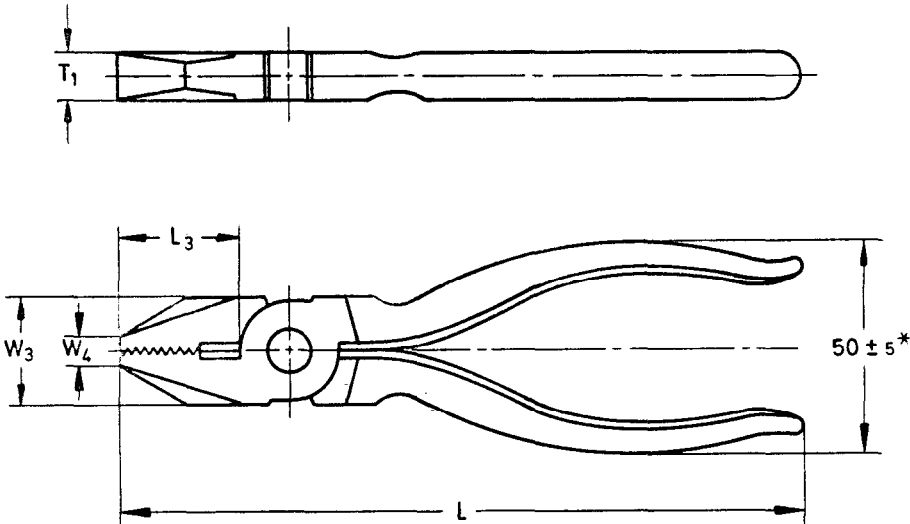


Indian Standard

SPECIFICATION FOR LINEMAN'S PLIERS

(Second Revision)

1. **Scope** — Covers the dimensions and other requirements for lineman's pliers.
2. **Nomenclature** — For the purpose of this specification, the nomenclature as given in IS : 11526-1986 'Nomenclature for pliers, pincers and nippers', shall apply.
3. **Dimensions** — Shall be as given below:



All dimensions in millimetres.

Nominal Size	L	Tolerance on L	L ₃ ± 4	W ₃ Max	W ₄ Max	T ₁ Max	Jaw Opening Min
160	160	± 8	28	25	6.3	11	16
180	180	± 9	32	28	7.1	12	19
200	200	± 10	36	32	8	14	22

*3 mm additional tolerance shall be allowed for insulation in case of insulated pliers.

4. **Hardness**

Side cutters550 to 750 HV (≈ 52 to 62 HRC)

Jaws (gripping surface) 350 to 550 HV (≈ 36 to 52 HRC)

5. **General Requirements** — The material, manufacture, workmanship and finish, tests, preservation and packing, and sampling shall conform to IS : 2615-1981 'General requirements for pliers, pincers and nippers (*under revision*)'.

6. Construction

6.1 The lineman's pliers may be made with or without a joint cutter.

6.1.1 The jaws shall have cutting edge on one side near the joint end. The cutting edges shall extend approximately one-half the length of the jaws. The remaining portion of the jaws shall have straight surfaces, scored with a straight or uniform diamond-shaped pattern.

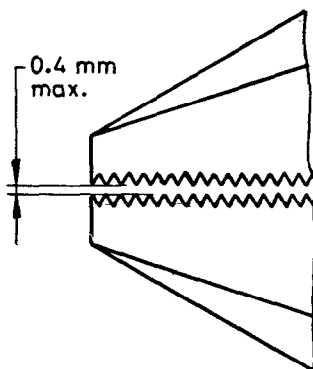
6.1.2 With the pliers in a closed position, the cutting edges shall contact each other throughout the entire length. There shall be a recess in the jaws behind the side cutters to provide satisfactory cutting clearance.

6.2 The handles at the joint end shall be suitable for crushing wire insulation.

6.3 Handles shall be so shaped as to afford a comfortable grip and shall be free from rough edges and sharp corners. Inner handle surfaces adjacent to the joint shall be well rounded or bevelled so as to prevent accidental pinching of the fingers. Ends of the handles, shall not touch when the jaws are in the closed position. Outer hand gripping surfaces of handle shall be smooth, knurled or impressed.

6.4 The pliers shall be provided with rubber or plastic insulation. The insulation shall successfully withstand the test laid down in 9.6 of IS : 2615-1981. The pliers may be supplied without insulation subject to agreement between the purchaser and the manufacturer.

6.5 With the pliers closed, the ends of the jaws may not touch, but shall leave a maximum clearance of 0.4 mm (see figure below):



7. Designation — A lineman's plier of nominal size 160 mm shall be designated as:

Lineman's Plier 160 IS : 6078

8. Tests — In addition to the tests specified in IS : 2615-1981 the following tests shall also be carried out.

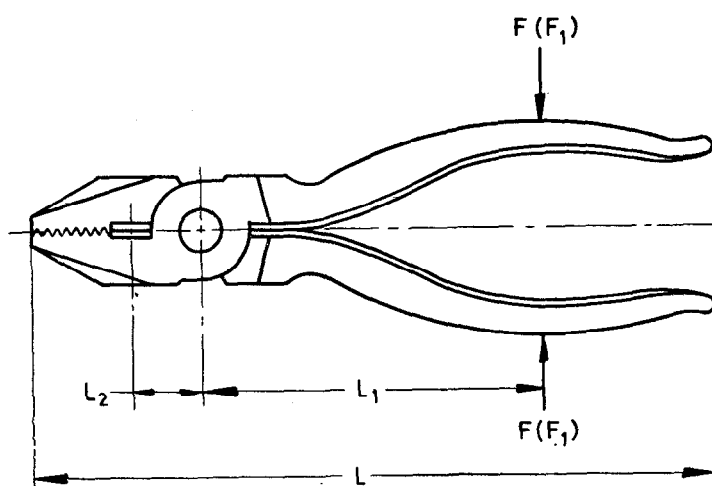
8.1 Cutting Test

8.1.1 Cable cutting test — The flexible chord for cable cutting test shall be of size 16/0.20 mm conforming to IS : 434 (Part 1)-1964 'Rubber insulated cables: Part 1 With copper conductors (revised)'. Cutting force applied shall be manual. The pliers shall cut the cable cleanly at any point along the cutting edges.

8.1.2 Wire cutting test — This test shall be conducted in accordance with 9.1 of IS : 2615-1981. The maximum cutting force and test wire diameter shall be as given in Table 1. Lineman's pliers shall be able to cut the test wire clearly.

8.2 Handle Load Test — The lineman's pliers shall be tested in accordance with 9.5 of IS : 2615-1981. The load (F) to be employed shall be as given in Table 1. The permanent set shall not exceed the values specified in Table 1.

TABLE 1 TEST REQUIREMENTS FOR LINEMAN'S PLIERS
(Clauses 8.1.2 and 8.2)



Nominal Size L mm	L ₁ mm	L ₂ mm	Test Wire Diameter mm	Maximum Cutting Force (F ₁) N	Load Test	
					Load (F) N	Permanent Set Max mm
160	80	16	1.6	580	1 120	1
180	90	18	1.6	580	1 263	1
200	100	20	1.6	580	1 400	1

Note — For characteristics of hard test wire, reference may be made to IS : 2615-1981.

9. Marking — Pliers shall be marked with the nominal size, manufacturer's name, initials and/or recognised trade mark. Year of manufacture if desired by purchaser may also be marked.

9.1 Certification Marking — Details available with the Bureau of Indian Standards.

EXPLANATORY NOTE

This standard, issued in 1971, was first revised in 1977 when Type B pliers were deleted and nominal size 180 mm was included.

In the present revision the nominal sizes of pliers have been rationalised and non-preferred sizes like 100, 125, 150 and 225 mm have been deleted. Nominal size 160 mm has been included. The hardness requirements of pliers have also been aligned with that of the other types of pliers. Dimensions and test requirements have also been aligned with the international practice.

While revising details have been taken from ISO 5746-1982 'Pliers and nippers — Engineer's and lineman's pliers — Dimensions', issued by International Organization for Standardization (ISO).