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IS 6118 (1991): Multiple Slip-joint Pliers [PGD 5: Assembly Hand Tools]



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भारतीय मानक  
बहु सरकवाँ-जोड़ वाले प्लास — विशिष्ट  
( पहला पुनरीक्षण )

*Indian Standard*

**MULTIPLE SLIP-JOINT PLIERS—SPECIFICATION**

**( *First Revision* )**

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**BUREAU OF INDIAN STANDARDS**  
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**Price Group 1**

## FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Assembly Hand Tools Sectional Committee had been approved by the Production Engineering Division Council.

This standard was first issued in 1971. This revision has been taken up to bring this standard in line with the International practices.

While revising, the following modifications have been made:

- a) The title of the standard has been modified from slip-joint pliers to the existing, to update it with the nomenclature given in IS 11526 : 1986 Nomenclature for pliers, pincers and nippers. For slip-joint pliers, another standard is being formulated.
- b) The dimensions of the pliers have been aligned with those being followed at international level.
- c) Hardness values have been modified to bring it in line with other pliers.
- d) Handle load test and permanent set requirements have been modified based on data being used at international level.

While formulating this standard considerable assistance has been taken from ISO 8976 : 1988 'Pliers and nippers — Multiple slip joint pliers — Dimensions', issued by the International Organization for Standardization ( ISO ).

# Indian Standard

## MULTIPLE SLIP-JOINT PLIERS—SPECIFICATION

( First Revision )

### 1 SCOPE

1.1 This standard covers the dimensions and other requirements of multiple slip-joint pliers.

### 2 REFERENCES

2.1 The Indian Standards listed below are necessary adjuncts to this standard:

IS No.	Title
2615 : 1989	Technical supply conditions for pliers, pincers, and nippers (second revision)
3749 : 1978	Tool and die steels for cold work (first revision)
11526 : 1986	Nomenclature for pliers, pincers and nippers

### 3 NOMENCLATURE

3.1 For the purpose of this standard, nomenclature as given in IS 11526 : 1986 shall apply.

### 4 TYPES

Single joint type ( see Fig. 1 )

Box joint type ( see Fig. 2 )

Tongue and groove type ( see Fig. 3 )

### 5 DIMENSIONS

Dimensions of multiple slip-joint pliers shall be as given in Table 1.

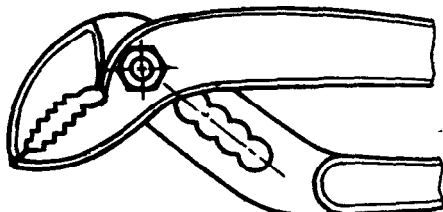


FIG. 1 SINGLE JOINT TYPE

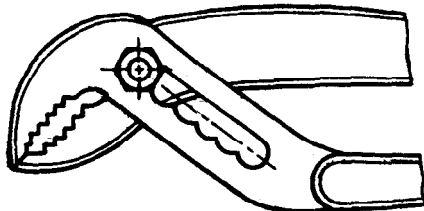


FIG. 2 BOX JOINT TYPE

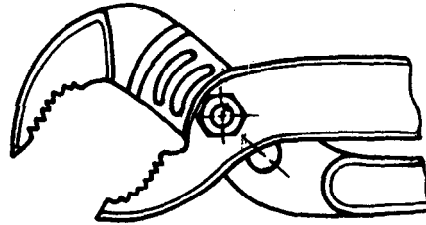


FIG. 3 TONGUE AND GROOVE TYPE

5.1 With the jaws parallel and in the outer most operating position, the maximum working capacity of the jaws shall be not less than that specified (G) in Table 1.

### 6 MATERIAL

6.1 Pliers shall be manufactured from suitable carbon or alloy steels, meeting the requirements as laid down in 7 and 9.

Suitable Example:

Steel designation 65T6, 70T3 and 75T6 conforming to IS 3749 : 1978.

### 7 HARDNESS

7.1 The hardness of the jaws shall be between 350 to 510 HV (  $\approx$  35 to 50 HRC ).

### 8 GENERAL REQUIREMENTS AND SAMPLING

8.1 The pliers shall conform to the general requirements and sampling as laid down in IS 2615 : 1989.

### 9 TESTS

9.1 The pliers shall pass the tests, as applicable to them, laid down in IS 2615 : 1989.

9.2 In case of handle load test, the amount of load (F) applied at the handle and the distance ( $L_1$ ) at which load is to be applied shall be as given in Table 1.

After the load test the permanent set (S) shall not exceed the values given in Table 1.

9.2.1 If the distance  $L_1$  is not suitable for the load test, the following formula may be applied:

$$F' = \frac{F \times L_1}{L'_1}$$

where

- $F'$  is the load, which is not given in Table 1,
- $F$  is the load given in Table 1,
- $L_1$  is the distance from the centre of the joint rivet to the point of application of the load  $F$ ;
- $L'_1$  is the distance measured from the centre of the joint rivet to the point of application of the load.

10 DESIGNATION

10.1 Multiple slip-joint plier shall be designated by its commonly used name, nominal size in mm, Type ( SJ ) for single joint ( BJ ) for Box

joint, and ( TG ) for tongue and grooved, and number of this standard.

Example:

Multiple slip-joint plier of nominal size 200 mm, box joint type conforming to this standard shall be designated as:

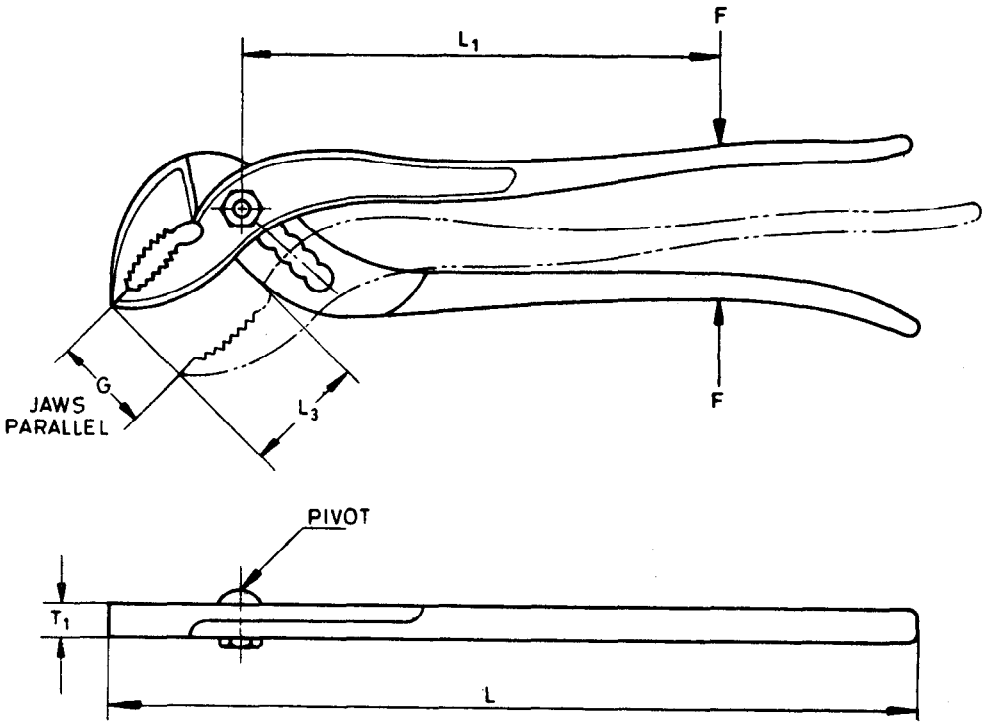
Multiple Slip-Joint Plier — IS 6118-200-BJ

11 MARKING

11.1 The pliers shall be clearly and indelibly marked with the nominal size, and the indication of the source of manufacture, initials or recognized trade-mark.

Table 1 Dimensions and Load Test Requirements for Multiple Slip-Joint Pliers  
( Clauses 5, 5.1, 9.2 and 9.2.1 )

All dimensions in millimetres.



Nominal Size L	Tolerance on L	T <sub>1</sub> Max	Working Capacity G Min	Minimum Number of Adjustments	L <sub>3</sub> Min	L <sub>1</sub>	Load Test	
							Load (F) N	Maximum Permanent Set (S)
100	±10	5	12	3	7.5	71	400	1.0
125	±15	6	12	3	10	80	500	1.1
160	±15	8	16	3	18	100	630	1.4
200	±15	9	22	4	20	125	800	1.8
250	±15	11	28	4	25	160	1 000	2.2
315	±20	12	35	4	35	200	1 250	2.8
400	±20	14	80	8	50	250	1 250	3.6
500	±20	16	125	10	70	315	1 250	4.0

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### Amendments Issued Since Publication

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