

**BUREAU OF INDIAN STANDARDS**

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**भारतीय मानक मसौदा**  
**किरिच आकार इरेसिंग चिमटी — कुशिंग पैटर्न**  
**(पहला पुनरीक्षण)**

***Draft Indian Standard***  
**Bayonet Shaped Dressing Forceps — Cushing's Pattern**  
**(First Revision)**  
**[ICS 11.040.30]**

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Neurosurgery Instruments, Implants and  
Accessories Sectional Committee, MHD-07

Last date for comments: **16 January 2023**

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**FOREWORD**

*(Formal clause will be added later)*

This standard was originally published in 1978. This revision includes minor changes in references to incorporate the updated designation of steel and the currently used methods of test for hardness and corrosion resistance.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2: 2022 'Rules for Rounding Off Numerical Values (*Second Revision*)'. The number of significant places retained in the rounded off value should be same as that of the specified value in this standard.

## 1 SCOPE

This standard covers material, dimensions and other requirements for Cushing's pattern, bayonet shape, dressing forceps of 150 mm and 187 mm size, used in neurosurgery.

## 2 REFERENCES

The standard given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

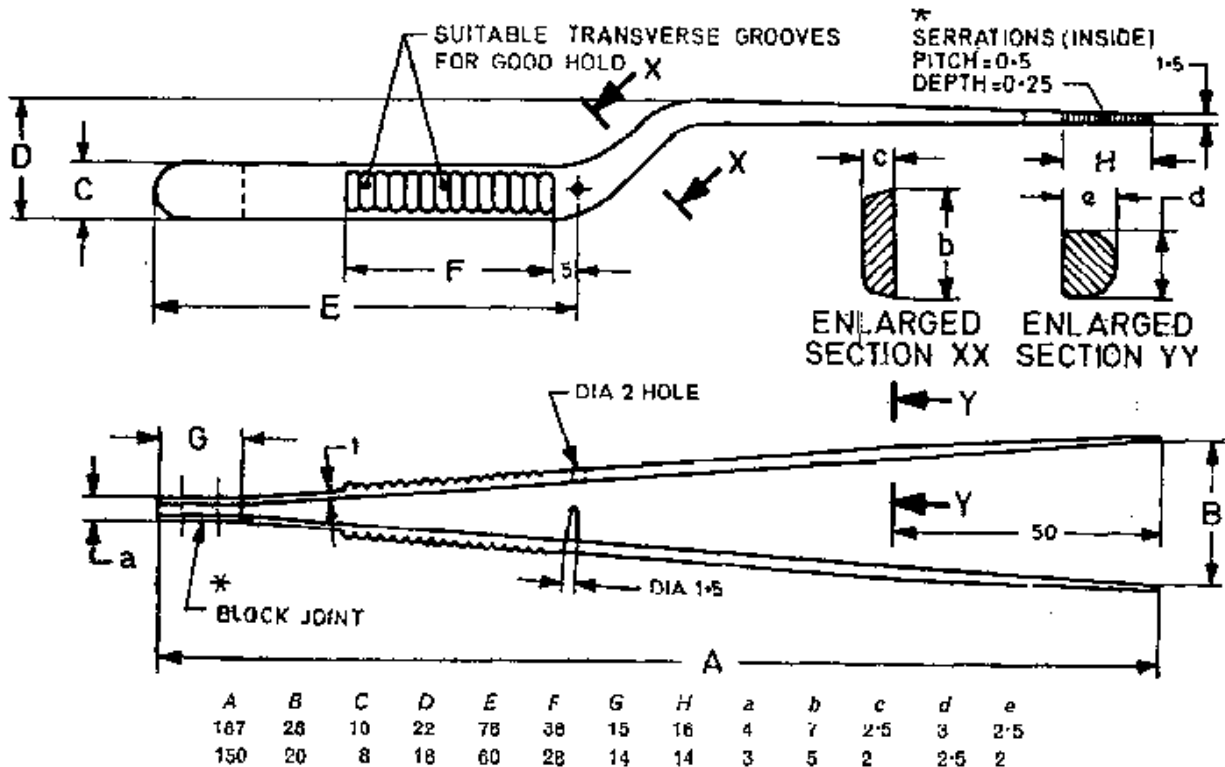
<i>IS No.</i>	<i>Title</i>
IS 6603: 2001	Stainless steel bars and flats – Specification ( <i>First Revision</i> )
IS 3642 (Part 1): 1990	Surgical Instruments – Specification Part 1 Non cutting Articulated Instruments ( <i>Second Revision</i> )
IS 7531: 1990	Methods for testing of corrosion resistance of stainless-steel surgical instruments ( <i>First Revision</i> )

## 3 MATERIAL

**3.1** The components of the forceps shall be made of stainless steel conforming to Designation X20Cr13 IS 6603:2001

**3.2** Rivets and guide pin shall be made of the same material as used for the forceps.

**4 SHAPE AND DIMENSIONS** – Shall be as shown in Fig. 1.



All dimensions in millimetres

FIG. 1 FORCEPS, DRESSING, BAYONET SHAPE, CUSHING'S PATTERN

A deviation of  $\pm 2.5$  percent shall be allowed on all dimensions.

## 5 WORKMANSHIP AND FINISH

5.1 The forceps shall be symmetrical and well-balanced. The opening and closing shall be in one plane and smooth. The registration of the forceps shall correspond with the registration of the guide-pin with the guide hole provided on the arms. The first closure shall be only at the tips and other serrations shall close progressively with the application of force.

5.2 The serrations at the tips shall be transverse and shall match crest to trough. They shall be clear and clean, of uniform depth throughout and shall be square with the tips. The profile and other requirements for serrations shall be in accordance with Section 2 of IS 3642 (Part 1):1990. Finer tips with or without serrations may also be provided, if required by the purchaser.

5.3 Suitable transverse grooves shall be provided on the outside surface of the arms to facilitate holding (see Fig. 1). the grooves shall be neat, clean and free from burrs, sharp edges and other defects.

5.4 The forceps shall be provided with block joint satisfying the requirements given under Section 4 of IS 3642 (Part 1):1990.

**5.5** All surfaces, internal as well as external, shall be finished smooth and free from scales, burrs, pits, seams, cracks and other defects. The forceps shall be polished bright and passivated.

## **6 HEAT TREATMENT**

The forceps shall be evenly hardened and tempered to give a hardness of 380 to 430 HV.

## **7 TESTS**

**7.1 Tests for Engagement** - In accordance with Clause 11.5 of IS 3642 (Part 1):1990.

**7.2 Flexibility Test** - The flexibility of the arms of the forceps shall be tested in the following manner:

- a) The arms of the forceps after maximum closure by manual compression shall not take a permanent set and the jaws shall continue to engage and disengage accurately without sticking.
- b) The riveted joint of the forceps shall be gripped firmly in a vice, By the application of force at the tip of the arm, one arm of the forceps shall be reflected in a plane at right angles to the plane of the arm by a distance of 50 mm measured at the tip of the forceps. On release of the force, no permanent set shall be observed. The test shall be repeated on the other arm.

**7.3 Load Closure Test** – The tips of the forceps shall just close when a load between 1.57 N – 1.77 N is applied at the first finger groove from the tip.

**7.4 Performance** – A latex sheet 0.05 mm thick shall be stretched over the tip of one of the fingers and then gripped lightly by the tips of the forceps. The forceps shall hold latex sheet firmly without any tendency to slip when pulled through a distance of 5 mm.

**7.5 Corrosion Resistance Test** – The forceps shall conform to the requirements of IS 7531:1990.

## **8 MARKING**

**9.1** The forceps to be marked by etching or otherwise with the manufacturer's name, initials or registered trade-mark.

### **9.2 BIS Certification Marking**

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the Bureau of Indian Standards Act, 2016 and the Rules and Regulations framed thereunder, and the product(s) may be marked with the Standard Mark.

## **10 PACKING**

The forceps shall be wrapped with suitable cushioning material like folded tissue paper and packed in moisture-proof paper. Each forceps shall be put in a card board carton. Alternatively, the packing may be done as agreed to between the purchaser and the supplier.