*भारतीय मानक*

**रोंग्यूर, क्रेनियल, डाहलग्रेन पैटर्न — विशिष्टि**

*(पहला पुनरीक्षण)*

*Indian Standard*

**Rongeur, Cranial, Dahlgren’s Pattern — Specification**

*(First Revision)*

ICS 11.040.30

Neurosurgery Instruments, Implants and Accessories Sectional Committee, MHD 07

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards after the draft finalized by the Neurosurgery Instruments, Implants and Accessories Sectional Committee had been approved by the Medical Equipment and Hospital Planning Division Council.

This standard was first published in 1977. 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.

The composition of the Committee responsible for formulation of this standard is given in Annex A.

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.

*Indian Standard*

RONGEUR, CRANIAL, DAHLGREN’S PATTERN — SPECIFICATION

*( First Revision )*

1. **SCOPE**

This standard covers dimensional and other requirement for Dahlgren’s pattern cranial rongeur used in neurosurgery.

1. **REFERENCES**

The standards 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.

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| --- | --- |
| *IS No.* | *Title* |
| IS 6603 : 2024 | Stainless steel semi-finished products, bars, wire rods and bright bars — Specification (*second revision*) |
| IS 7531 : 1990 | Surgical instruments — Corrosion resistance of stainless steel surgical instruments — Methods of tests (*first revision*) |

1. **MATERIAL**

Various components of the rongeur shall be made from stainless steel details of which are given below:

|  |  |  |  |
| --- | --- | --- | --- |
| *Sl No.*(1) | *Components*(2) | *Material*(3) | *Conforming to*(4) |
| i) | Arms and springs | Stainless steel | Designation X30Cr13 of IS 6603 : 2001 |
| ii) | Blade | Stainless steel | Designation X40Cr13 of IS 6603 : 2001 |
| iii) | Screws | Stainless steel | Designation X20Cr13 of IS 6603 : 2001 |

1. **SHAPE AND DIMENSIONS**

It shall be as shown in Fig. 1.

A deviation of ± 2.5 percent shall be allowed on all dimensions except where specified.

1. **MANUFACTURE, WORKMANSHIP AND FINISH**
	1. The rongeur shall be free from pits, burrs, scales, sharp edges, cracks and other surface defects on its external as well as internal surfaces.
	2. The rongeur shall be provided with three blades (Fig. 2) having thickness of working edges as 3 mm, 2.7 mm and 2.4 mm respectively. The blade shall slide between the guides without any stiffness or undue play during use. The working edge of the blade shall be smooth and free from nicks and other defects.
	3. The front face of the blade guide (*see* Fig. 1) shall be knurled to prevent slipping during operation.
	4. The joints shall have no undue play, and shall work smoothly.
	5. The screws shall be well formed and shall have regular threads.
	6. The spring action shall be smooth. It shall be neither too hard nor too slack.
	7. The rongeur shall be polished bright and passivated. The gripping portion of arms shall be matt finished.
2. **HEAT TREATMENT**

Various components of rongeur shall be suitably hardened and tempered to give hardness as indicated below.

|  |  |
| --- | --- |
| a) | 510 to 595 HV for blades; |
| b) | 410 to 470 HV for arms and springs; and |
| c) | 290 to 320 HV for screws. |

1. **TESTS**
	1. **Performance Test**

Each rongeur shall be made to nibble the skull bone or teakwood of 3/4 cm thickness five times with each blade. On completion of the test, the blades as well as the rongeur shall show no sign of damage**.**

* 1. **Rigidify Test**

A compressive force of 110 N shall be applied to the rongeur arms at a distance of 75 mm from free ends in such a manner that it tends to press the arms together. The maximum force shall be attained gradually and shall act for two minutes. On completion of the test, the rongeur shall show no sign of damage.

* 1. **Corrosion Resistance Test**

The rongeur shall conform to the requirements of IS 7531 : 1990.

1. **MARKING**

Each Dahlgren’s pattern cranial rongeur shall be marked with the following:

1. Manufacturer's name, initials or registered trade-mark in the space provided on country of manufacture; and;
2. Serial number;
3. Batch number; and
4. Lot number.
5. **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.

1. **PACKING**

Each instrument shall be packed as agreed to between the purchaser and the manufacturer or in accordance with the current trade practices.



All Dimensions in milimetres.

Fig. 1 Rongeur, Cranial, Dahlgren’s Pattern



All Dimensions in milimetres.

Fig. 2 Details of Blade and + Spring

**ANNEX A**

(*Foreword*)

 **COMMITTEE COMPOSITION**

 Neurosurgery Instruments Implants and Accessories Sectional Committee, MHD 07

|  |  |  |
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| *Organization* |  | *Representative*(*s*) |
| G B Pant Hospital, New Delhi |  | Dr Daljit Singh **(*Chairperson)*** |
| Abbott Healthcare India Private Limited, Mumbai |  | Lipi ChakhaiyarShweta Sharma (*Alternate*) |
| Association of Indian Medical Device Industry, New Delhi |  | Naveen KhannaPuhazhendi Kaliyappan (*Alternate* I)Shri Ankur Bhargava (*Alternate* II) |
| Boston Scientific India Private Limited, Gurugram |  | Dev ChopraPrashanth Prabhakar (*Alternate*) |
| Central Drugs Standard Control Organization, New Delhi |  | Shri Aseem SahuMs Shyamni Sasidharan (*Alternate*) |
| Defence Bio-Engineering and Electromedical Laboratory, Ministry of Defence, Bengaluru |  | Jayant DanielG. Sripathy (*Alternate*) |
| Directorate General of Health Services, New Delhi |  | Ajay ChoudharyK. B. Shanker (*Alternate*) |
| Happy Reliable Surgeries Private Limited, Bangaluru |  | Hemant SavaleSanjeev Gautam (*Alternate*) |
| Indian Institute of Technology Hyderabad, Hyderabad |  | Avinash ErankiKousik Sarathy S. (*Alternate*) |
| Kalam Institute of Health Technology, Vishakhapatnam |  | Santosh Kumar BalivadaDivya Anil Patil (*Alternate* I)Purva Suhas Phalke (*Alternate* II) |
| Skull Base Surgery Society of India, Chennai |  | Harsh Deora |
| In Personal Capacity |  | Shri Asok Kumar Raghavan Nair |
| BIS Directorate General |  | Shri A. R. Unnikrishnan, Scientist ‘G’/ and Head (Medical Equipment and Hospital Planning) [Representing Director General (*Ex-officio*)] |

*Member Secretary*

Ms Harshada Ganesh Kadam

Scientist ‘B’/Assistant Director

(Medical Equipment and Hospital Planning), BIS

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