

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

गार्डिनर ब्राउन्स पैटर्न के ट्यूनिंग फोर्क्स — विशिष्टि

(IS 6464: 2000 का पहला पुनरीक्षण)

Draft Indian Standard

Gardiner Brown's Pattern Tuning Forks — Specification

(Second Revision)

ICS 11.040.30

Ear, Nose and Throat Surgery Instruments
Sectional Committee, MHD 04

Last date for comments: 15 December, 2023

FOREWORD

(Formal clause will be added later)

This standard was originally published in 1972. The first revision was published in 2000 in which decrement time had been defined and test methods to determine the frequency and decrement time had been introduced.

The second revision has been brought out to align it with the recent developments and to bring the standard in line with the latest style and format of Indian Standards.

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 specifies requirements for a set of Tuning forks (Gardiner Brown's pattern) used by ENT surgeons as diagnostic equipment.

2 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.

IS No.	Title
IS 1068: 1993	Electroplated coatings of nickel plus chromium and copper plus nickel plus chromium – Specification (<i>third revision</i>)
IS 1875: 1992	Carbon steel billets, blooms, slabs and bars for forgings – Specification (<i>fifth revision</i>)
IS 3642 (Part 1): 1990	Surgical instruments – Specification Part 1 Non-cutting, articulated instruments (<i>second revision</i>)

3 TERMINOLOGY

Decrement Time

The period of time during which the tuning fork keeps vibrating after it is struck on a pad.

4 MATERIAL

The tuning forks shall be made of carbon steel conforming to Class 4 designation 45C8 of IS 1875.

5 SHAPE AND DIMENSIONS

5.1 The shape and dimensions shall be as shown in Fig. 1.

5.2 The tolerances shall be as per 4.2 of IS 3642 (Part1).

6 MANUFACTURE, WORKMANSHIP AND FINISH

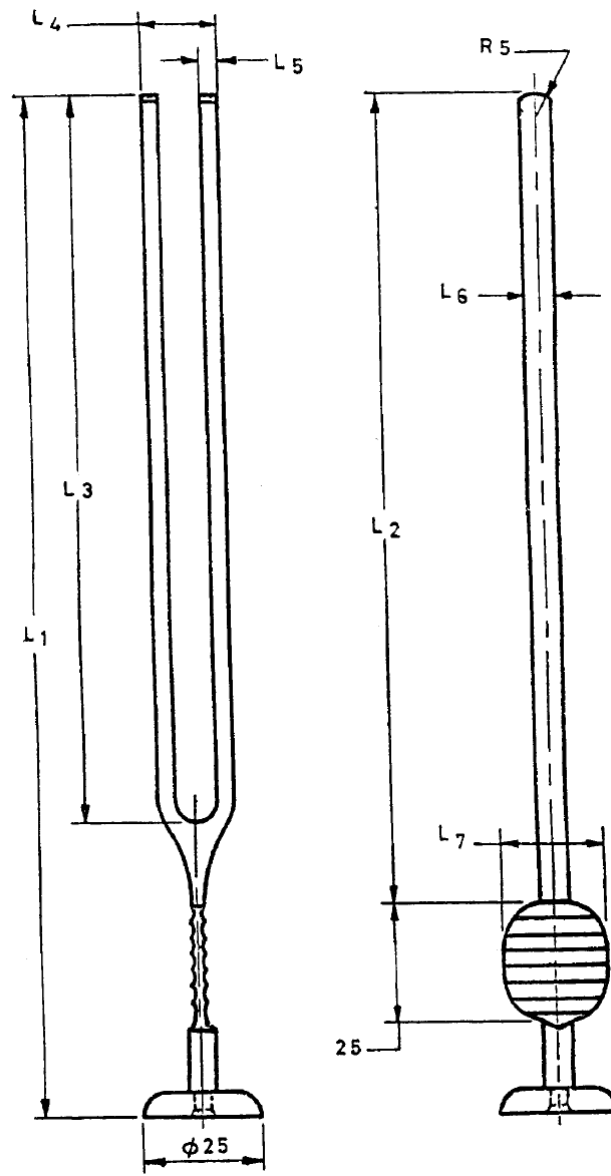
6.1 The tuning forks shall be forged to shape and sizes shown in Fig. 1. They shall be free from pits, cracks, seams and other surface defects.

6.2 The grooves shall be regular and well-formed.

6.3 The riveting and silver soldering shall be neat and sound.

6.4 The surfaces of tuning forks shall be rounded and finished smooth.

6.5 The tuning forks shall be plated chromium over nickel and the plating shall conform to Service Condition No. 2 of IS 1068.



Frequency

Hz	L_1	L_2	L_3	L_4	L_5	L_6
(1)	(2)	(3)	(4)	(5)	(6)	(7)
128	215	170	153	16	3.5	7
256	170	125	109	16	3.5	7
512	138	93	75	16	3.5	7
1024	117	72	55	16	4.0	6.5
2048	130	85	55	22	8.0	8.5
4096	115	70	38	22	8.0	8.5

All dimensions in millimetres

Fig. 1 TUNING FORKS (GARDINER BROWN'S PATTERN)

7 TESTS

7.1 Decrement Time

The note produced by the tuning fork shall be a long and continuous one. The decrement time shall be not less than 30 seconds.

7.2 Frequency Test

The frequency marked on the tuning forks shall not vary by more than ± 0.2 percent when tested with the help of an oscilloscope or a frequency analyser at $25 \pm 2^\circ\text{C}$.

8 FREQUENCY

A complete set of tuning forks shall consist of one fork each of the following frequencies:

128 Hz, 256 Hz, 512 Hz, 1024 Hz, 2048 Hz and 4096 Hz.

9 MARKING

9.1 Each tuning fork shall be marked with the following information:

- a. Indication of the source of manufacture, and
- b. Frequency of tuning fork.

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 there under, and the product(s) may be marked with the Standard Mark.

10 PACKING

Each set shall be packed in a wooden box having specific cut out positions for keeping each size of fork.