

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

दंत चिकित्सा — रिफ्रेक्टरी इन्वेस्टमेंट और डाई सामग्री

Draft Indian Standard

Dentistry — Refractory Investment and Die Material

[ICS 11.060.10]

Dentistry Sectional Committee, MHD 08

Last date for comments: **1 June 2025**

NATIONAL FOREWORD

(Adoption clause will be added later)

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’; and
- Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their respective places are listed below along with their degree of equivalence for the editions indicated:

| <i>International Standard</i> | <i>Corresponding Indian Standard</i> | <i>Degree of Equivalence</i> |
|--|---|------------------------------|
| ISO 286-2 Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 2: Tables of standard tolerance classes and limit deviations for holes and shafts | IS 919 (Part 2) : 2014/ISO 286-2 : 2010 Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes Part 2 Tables of standard tolerance classes and limit deviation for holes and shafts (<i>second revision</i>) | Identical |
| ISO 1942 Dentistry — Vocabulary | IS 17895 : 2023/ISO 1942 : 2020 Dentistry — Vocabulary | Identical |

| | | |
|--|--|------------------------|
| ISO 3696 Water for analytical laboratory use — Specification and test methods | IS 1070 : 2023 Reagent grade water — Specification (<i>fourth revision</i>) | Technically Equivalent |
| ISO 6344-1 Coated abrasives — Grain size analysis — Part 1: Grain size distribution test | PGD/09/23647 Coated abrasives — Determination and designation of grain size distribution Part 2 Macrogrit sizes P12 to P220 | Identical |
| | IS 15287 (Part 3) : 2024/ISO 6344-3 : 2021 Coated abrasives — Determination and designation of grain size distribution Part 3 Microgrit sizes P240 to P5000 (<i>second revision</i>) | Identical |
| ISO 8601 Data elements and interchange formats — Information interchange — Representation of dates and times | IS/ISO 8601-1 : 2019 date and time — Representations for information interchange Part 1 Basic rules | Identical |
| | IS/ISO 8601-2 : 2019 Date and time — Representations for information interchange Part 2 Extensions | Identical |
| ISO 15854 Dentistry — Casting and baseplate waxes | IS 18684 : 2024/ISO 15854 : 2023 Dentistry — Casting and baseplate waxes | Identical |
| ISO 22674 Dentistry — Metallic materials for fixed and removable restorations and appliances | IS/ISO 22674:2016, Dentistry — Metallic materials for fixed and removable restorations and appliances (<i>first revision</i>) | Identical |
| ISO 6872, Dentistry — Ceramic materials | IS 18813:2024/ ISO 6872, Dentistry — Ceramic materials | Identical |

This standard also makes a reference to the BIS Certification Marking of the product. Details of which is given in National 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 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 the same as that of the specified value in this standard.

NATIONAL ANNEX A
(National Foreword)

A-1 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.

Scope

This International Standard gives requirements and test methods for determining the compliance of dental casting investment, dental brazing investment, dental pressable-ceramic investment and dental refractory die materials used in the dental laboratory, regardless of the composition of the refractory powder, the composition of the binder, or the particular application.

This International Standard classifies such products into types and classes, according to their intended use and the burn-out procedure recommended by the manufacturer.

It also gives requirements for marking, labelling and manufacturer's instructions.

It specifies requirements for the essential physical and mechanical properties of the products and the test methods to be used for determining them.

NOTE 1 Compliance with all of the requirements presented in Clause 5 may not be necessary for some products, and a requirement might not be applicable to a product with a particular binder chemistry or be intended for an application in which that requirement is irrelevant. When this is the case, a clear statement to this effect is given according to Clause 5.

NOTE 2 A specific quantitative requirement for setting expansion is not included in this International Standard. If the setting expansion of gypsum-bonded investment is measured, then the procedure given in ISO 6873[1] can be considered — a procedure not recommended, however, for investment materials with other binders.

The technical content of the document has not been enclosed as it is identical with the corresponding ISO standard. For details, please refer to ISO 15912 : 2016 or kindly contact:

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