

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा
सर्जरी के लिए प्रत्यारोपण — धातु सामग्री — अल्फा+बीटा
टाइटेनियम मिश्र धातु सलाखों के लिए सूक्ष्म संरचनाओं का
वर्गीकरण

Draft Indian Standard

Implants for Surgery — Metallic Materials —
Classification of Microstructures for Alpha+Beta
Titanium Alloy Bars

ICS 11.040.40

Orthopaedic Instruments, Implants and
Accessories Sectional Committee, MHD 02

Last date for comments: **24 September 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 terminologies and 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’.
- Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

The technical committee responsible for the preparation of this standard has reviewed the provisions of following mentioned International Standards and has decided that they are acceptable for use in conjunction with this standard:

<i>International Standard/</i>	<i>Title</i>
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<i>Other Publication</i>	
ASTM E407-99	Standard Practice for Microetching Metals and Alloys

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)'.

Note: The technical content of the document has not been included as it is identical with the corresponding ISO standard. For details, please refer to ISO 20160: 2006 or kindly contact:

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SCOPE

This International Standard provides a catalogue of metallographic photomicrographs for the designation of microstructures of alpha+beta titanium alloys in the form of bars that are intended for the manufacture of surgical implants. This International Standard is applicable to bars of diameter no greater than 100 mm or the equivalent.

This catalogue of microstructures is intended to serve as an aid in the communication on general types of microstructures of alpha+beta titanium alloy bars. The designation of the microstructures is based on morphological appearance. Actual microstructures can also appear as a combination of the type of micrographs shown.

This International Standard does not contain specific microstructural requirements. The catalogue includes photomicrographs of desirable and undesirable microstructures that can develop during the processing of alpha+beta titanium alloys. The selection of acceptable microstructures is subject to agreement under the consideration of implant application and relevant material standards.