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Implants for surgery - Metallic materials - Part 2: Unalloyed titanium (ISO 5832-2:1999)



EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 5832-2:2012 sisaldab Euroopa standardi EN ISO 5832-2:2012	
ingliskeelset teksti.	EN ISO 5832-2:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.
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EUROPEAN STANDARD NORME EUROPÉENNE **EUROPÄISCHE NORM**

EN ISO 5832-2

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English Version

Implants for surgery - Metallic materials - Part 2: Unalloyed titanium (ISO 5832-2:1999)

Implants chirurgicaux - Produits à base de métaux - Partie 2: Titane non allié (ISO 5832-2:1999)

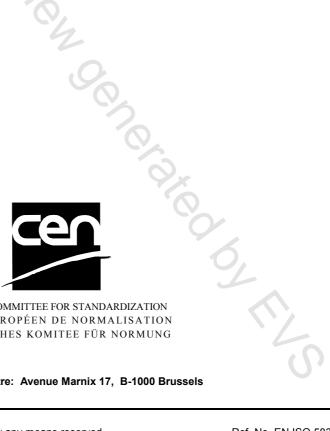
Chirurgische Implantate - Metallische Werkstoffe - Teil 2: Unlegiertes Titan (ISO 5832-2:1999)

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Ref. No. EN ISO 5832-2:2012: E

Foreword

The text of ISO 5832-2:1999 has been prepared by Technical Committee ISO/TC 150 "Implants for surgery" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 5832-2:2012 by Technical Committee CEN/TC 55 "Dentistry" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2012, and conflicting national standards shall be withdrawn at the latest by November 2012.

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Endorsement notice

A CEN as The text of ISO 5832-2:1999 has been approved by CEN as a EN ISO 5832-2:2012 without any modification.

Introduction

<text> No known surgical implant material has ever been shown to cause absolutely no adverse reaction in the human body. However, long-term clinical experience of the use of the material referred to in this part of ISO 5832 has shown that an acceptable level of biological response can be expected when the material is used in appropriate applications.

Implants for surgery — Metalic materials —

Part 2: Unalloyed titanium

1 Scope

This part of ISO 5832 specifies the characteristics of, and corresponding test methods for, unalloyed titanium for use in the manufacture of surgical implants.

Provision is made for six grades of titanium based on tensile strength (see Table 2).

NOTE The mechanical properties of a sample obtained from a finished product made of this metal may not necessarily comply with those specified in this part of ISO 5832.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6892:1998, Metallic materials — Tensile testing at ambient temperature.

ISO 7438:1995, Metallic materials — Bend test.

ASTM E 112:1988, Standard Test Methods for Determining Average Grain Size.

3 Chemical composition

The heat analysis when determined as specified in clause 6 shall conform to the requirements as to chemical composition specified in Table 1. Ingot analysis may be used for reporting all chemical requirements except hydrogen, which shall be determined after the last heat treatment and pickling procedure.

4 Microstructure

The microscopic structure of the titanium in the annealed condition shall be uniform. The grain size, determined as specified in clause 6, shall be no coarser than grain size No. 5.

At a magnification of $100\times$, no inclusions or foreign phases shall be visible.