# SLOVENSKI STANDARD

# SIST EN 61788-10:2003

april 2003

Superconductivity - Part 10: Critical temperature measurement - Critical temperature of Nb-Ti, Nb3Sn, and Bi-system oxide composite superconductors by a resistance method

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 61788-10:2003</u> https://standards.iteh.ai/catalog/standards/sist/8cd5782b-1d00-4a12-a1c1-b1e85635baae/sist-en-61788-10-2003

ICS 17.220.20; 29.050

Referenčna številka SIST EN 61788-10:2003(en)

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 61788-10:2003

https://standards.iteh.ai/catalog/standards/sist/8cd5782b-1d00-4a12-a1c1-b1e85635baae/sist-en-61788-10-2003

## **EUROPEAN STANDARD**

## EN 61788-10

# NORME EUROPÉENNE

# **EUROPÄISCHE NORM**

October 2002

ICS 29.050

English version

# Superconductivity Part 10: Critical temperature measurement Critical temperature of Nb-Ti, Nb<sub>3</sub>Sn, and Bi-system oxide composite superconductors by a resistance method (IEC 61788-10:2002)

Supraconductivité

Partie 10: Mesure de la température

critique -

Température critique des composites

supraconducteurs Nb-Ti, Nb<sub>3</sub>Sn

ainsi que des oxydes supraconducteurs A à base Bi par une méthode par résistance

(CEI 61788-10:2002)

Supraleitfähigkeit

Teil 10: Messung der kritischen

Temperatur -

Kritische Temperatur von NbTi-,

Nb₃Sn- und Bi-basierten Kupferoxid-

Verbundsupraleitern mit einem

Widerstandsverfahren (IEC 61788-10:2002)

SIST EN 61788-10:2003

https://standards.iteh.ai/catalog/standards/sist/8cd5782b-1d00-4a12-a1c1-b1e85635baae/sist-en-61788-10-2003

This European Standard was approved by CENELEC on 2002-10-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

# **CENELEC**

European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

#### **Foreword**

The text of document 90/122/FDIS, future edition 1 of IEC 61788-10, prepared by IEC TC 90, Superconductivity, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61788-10 on 2002-10-01.

The following dates were fixed:

 latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement

(dop) 2003-07-01

 latest date by which the national standards conflicting with the EN have to be withdrawn

(dow) 2005-10-01

Annexes designated "normative" are part of the body of the standard. Annexes designated "informative" are given for information only. In this standard, annex ZA is normative and annex A is informative. Annex ZA has been added by CENELEC.

#### **Endorsement notice**

The text of the International Standard IEC 61788-10:2002 was approved by CENELEC as a European Standard without any modification.

(standards.iteh.ai)

SIST EN 61788-10:2003

https://standards.iteh.ai/catalog/standards/sist/8cd5782b-1d00-4a12-a1c1-b1e85635baae/sist-en-61788-10-2003

# Annex ZA (normative)

# Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
IEC 60050-815	_ 1)	International Electrotechnical Vocabulary (IEV) Chapter 815: Superconductivity	-	-
IEC 61788-4	- <sup>1)</sup>	Superconductivity EN 61788-4 2001 Part 4: Residual resistance ratio resistance VIFW ratio of Nb-Ti composite superconductors rds.iteh.ai		2001 <sup>2)</sup>

<u>SIST EN 61788-10:2003</u> https://standards.iteh.ai/catalog/standards/sist/8cd5782b-1d00-4a12-a1c1-b1e85635baae/sist-en-61788-10-2003

2) Valid edition at date of issue.

-

<sup>1)</sup> Undated reference.

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 61788-10:2003

https://standards.iteh.ai/catalog/standards/sist/8cd5782b-1d00-4a12-a1c1-b1e85635baae/sist-en-61788-10-2003

# NORME INTERNATIONALE INTERNATIONAL STANDARD

CEI IEC 61788-10

> Première édition First edition 2002-06

# Supraconductivité –

## Partie 10:

Mesure de la température critique – Température critique des composites supraconducteurs Nb-Ti, Nb<sub>3</sub>Sn ainsi que des oxydes supraconducteurs à base Bi par une méthode par résistance

SIST EN 61788-10:2003

https://standards.iteh.ai/catalog/standards/sist/8cd5782b-1d00-4a12-a1c1-**Superconductivity**61e85635baae/sist-en-61788-10-2003

#### **Part 10:**

Critical temperature measurement – Critical temperature of Nb-Ti, Nb<sub>3</sub>Sn, and Bi-system oxide composite superconductors by a resistance method

© IEC 2002 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale International Electrotechnical Commission Международная Электротехническая Комиссия CODE PRIX PRICE CODE

vigueur

Pour prix, voir catalogue en vigueur For price, see current catalogue

## CONTENTS

FΟ	REWORD	5
INT	RODUCTION	7
1	Scope	9
2	Normative references	9
3	Terms and definitions	9
4	Determination of critical temperature	9
5	Requirements	11
6	Apparatus	11
7	Measurement procedure	13
8	T <sub>C</sub> determination	15
9	Accuracy and stability	17
10	Test report	17
Λnr	nex A (informative) Additional information relating to measurement of critical	
	perature	21
Fia	ure 1 – Determination of critical temperature ( $T_{\rm C}$ )	19
_	ure 2 – Typical voltage versus temperature curves for first and second runs	
119	ule 2 - Typical voltage velsus temperatule culves for illust and second fulls	

<u>SIST EN 61788-10:2003</u> https://standards.iteh.ai/catalog/standards/sist/8cd5782b-1d00-4a12-a1c1-b1e85635baae/sist-en-61788-10-2003

### INTERNATIONAL ELECTROTECHNICAL COMMISSION

#### SUPERCONDUCTIVITY -

# Part 10: Critical temperature measurement – Critical temperature of Nb-Ti, Nb<sub>3</sub>Sn, and Bi-system oxide composite superconductors by a resistance method

#### **FOREWORD**

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61788-10 has been prepared by IEC technical committee 90: Superconductivity.

The text of this standard is based on the following documents:

FDIS	Report on voting	
90/122/FDIS	90/127/RVD	

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

Annex A is for information only.

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

- · reconfirmed;
- · withdrawn;
- · replaced by a revised edition, or
- amended.