

Safety requirements for electrical equipment for measurement, control, and laboratory use —

**Part 2-041: Particular requirements for
autoclaves using steam for the
treatment of medical materials, and for
laboratory processes**

The European Standard EN 61010-2-041:1996 has the status of a
British Standard

ICS 11.080; 19.080; 71.040.20

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

BSI
Documents

AVA

Document Sharing Hub

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee LBI/35, upon which the following bodies were represented:

- Association of British Health-care Industries
- Association of Clinical Pathologists
- British Dental Trade Association
- Central Sterilising Club
- Department of Health
- Health and Safety Executive
- Infection Control Nurses Association
- Institute of Healthcare Engineering and Estate Management
- Institute of Sterile Services Management
- Medical Sterile Products Association
- Public Health Laboratory Service
- Royal College of Pathologists
- Royal Pharmaceutical Society of Great Britain
- Society for General Microbiology
- ABHI Special Interest Section (Sterilizers and Disinfectors)

The following bodies were also represented in the drafting of the standard, through a subcommittee:

BLWA Ltd. (the Association of the Laboratory Supply Industry)

This British Standard, having been prepared under the direction of the Sector Board for Materials and Chemicals, was published under the authority of the Standards Board and comes into effect on 15 March 1997

© BSI 11-1998

The following BSI references relate to the work on this standard:
Committee reference LBI/35
Draft for comment 95/123663 DC

ISBN 0 580 26936 1

Amendments issued since publication

Amd. No.	Date	Comments

Contents

	Page
Committees responsible	Inside front cover
National foreword	ii
Foreword	2
Text of EN 61010-2-041	3
List of references	Inside back cover

National foreword

This British Standard has been prepared by Technical Committee LBI/35 and is the English language version of EN 61010-2-041:1996 *Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 2-041: Particular requirements for autoclaves using steam for the treatment of medical materials, and for laboratory processes*, published by the European Committee for Electrotechnical Standardization (CENELEC). It is identical with IEC 1010-2-041:1995 published by the International Electrotechnical Commission (IEC).

This British Standard supersedes the current provisions of some Parts of BS 2646 *Autoclaves for sterilization in laboratories* and BS 3970 *Sterilizing and disinfecting equipment for medical products*, which are subject to amendment, such that they will not conflict with this British Standard. In the interim period, the requirements of this British Standard override any conflicting requirements of BS 2646 or BS 3970.

This British Standard is to be read in conjunction with BS EN 61010-1:1993 *Safety requirements for electrical equipment for measurement, control, and laboratory use*, Part 1: *General requirements*, which it supplements or modifies as detailed in the Foreword to EN 61010-2-041.

Cross-references

Publication referred to	Corresponding British Standard
EN 61010-1:1993 (IEC 1010-1:1990)	BS EN 61010 <i>Safety requirements for electrical equipment for measurement, control, and laboratory use</i> Part 1:1993 <i>General requirements</i>
ISO 3585:1991	BS 2598 <i>Glass plant, pipeline and fittings</i> Part 1:1991 <i>Specification for properties of borosilicate glass 3.3</i>

Additional information. The following print types are used in this standard:

requirements and definitions:	in roman type;
test procedures:	<i>in italic type;</i>
explanatory text:	in small roman type.
terms defined in clause 3:	IN SMALL CAPITALS

Subclauses or figures which are additional to those in BS EN 61010-1:1993 are numbered starting from 101.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 14, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

ICS 19.080; 71.040.20

Descriptors: Safety, electrical equipment, autoclaves, medical material, laboratory processes

English version

**Safety requirements for electrical equipment for
measurement, control, and laboratory use
Part 2-041: Particular requirements for autoclaves using
steam for the treatment of medical materials, and for
laboratory processes**

IEC 1010-2-041:1995

Règles de sécurité pour appareils
électriques de mesure, de régulation
et de laboratoire
Partie 2-041: Prescriptions particulières
pour autoclaves utilisant de la vapeur
pour le traitement des matériels à usage
médical et durant les procédés de
traitement de laboratoire
(CEI 1010-2-041:1995)

Sicherheitsbestimmungen für elektrische
Meß-, Steuer-, Regel- und Laborgeräte
Teil 2-041: Besondere Anforderungen
an Dampf-Autoklaven für die Behandlung
medizinischen Materials und für
Laboranwendungen
(IEC 1010-2-041:1995)

This European Standard was approved by CENELEC on 1996-03-05. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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

© 1996 Copyright reserved to CENELEC members

Foreword

The text of document 66/120/FDIS, future edition 1 of IEC 1010-2-041, prepared by IEC TC 66, Safety of measuring, control, and laboratory equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61010-2-041 on 1996-03-05.

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) 1996-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-12-01

For products which have complied with the relevant national standard before 1996-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2001-12-01.

This part 2 is to be used in conjunction with EN 61010-1:1993. Consideration may be given to future editions of, or amendments to, EN 61010-1.

This part 2 supplements or modifies the corresponding clauses of EN 61010-1. Where a particular clause or subclause of part 1 is not mentioned in this part 2, that clause or subclause applies as far as is reasonable. Where this part 2 states “addition”, “modification” or “replacement”, the relevant text of part 1 is to be adapted accordingly.

Annexes designated “normative” are part of the body of the standard. In this standard, annex ZA is normative. Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 1010-2-041:1996 was approved by CENELEC as a European Standard without any modification.

Contents

	Page
Foreword	2
Introduction	3
1 Scope and object	3
2 Normative references	3
3 Definitions	3
4 Tests	4
5 Marking and documentation	4
6 Protection against electric shock	6
7 Protection against mechanical hazards	6
8 Mechanical resistance to shock and impact	9
9 Equipment temperature limits and protection against the spread of fire	9
10 Resistance to heat	9
11 Protection against hazards from fluids	9
12 Protection against radiation, including laser sources, and against sonic and ultrasonic pressure	10
13 Protection against liberated gases, explosion and implosion	10
14 Components	11
15 Protection by interlocks	11
16 Measuring circuits	11
Annexes	12
Annex L	12
Annex M	12
Annex ZA (normative) Normative references to international publications with their corresponding European publications	13