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REDLINE VERSION

Elektrisk utrustning för mätning, styrning och för laboratorieändamål – Säkerhet – Del 2-051: Särskilda fordringar på blandare och omrörare för laboratorieändamål

*Safety requirements for electrical equipment for measurement, control and laboratory use –
Part 2-051: Particular requirements for laboratory equipment for mixing and stirring*

En så kallad ”Redline version” (RLV) innehåller både den fastställda IEC-standarden och en ändringsmarkerad standard. Alla tillägg och borttagningar sedan den tidigare utgåvan är markerade med färg. Med en RLV sparar du mycket tid när du ska identifiera och bedöma aktuella ändringar i standarden. SEK Svensk Elstandard kan bara ge ut en RLV i de fall den finns tillgänglig från IEC.

REDLINE VERSION



GROUP SAFETY PUBLICATION

**Safety requirements for electrical equipment for measurement, control, and laboratory use –
Part 2-051: Particular requirements for laboratory equipment for mixing and stirring**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 19.080; 71.040.20

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE –

Part 2-051: Particular requirements for laboratory equipment for mixing and stirring

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
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- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

DISCLAIMER

This Redline version is not an official Standard and is intended to provide the user with an indication of what changes have been made to the previous version. Only the IEC International Standard provided in this package is to be considered the official Standard.

This Redline version provides you with a quick and easy way to compare all the changes between this standard and its previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 61010-2-051 has been prepared by IEC technical committee 66: Safety of measuring, control and laboratory equipment.

It has the status of a group safety publication in accordance with IEC Guide 104.

This fourth edition cancels and replaces the third edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) adaptation of changes introduced by Amendment 1 of IEC 61010-1;
- b) added tolerance for stability of AC voltage test equipment to Clause 6;
- c) added required RISK assessment for equipment intended to be used with flammable, hazardous, or toxic fluids to Clause 17.

The text of this International Standard is based on the following documents:

CDV	Report on voting
66/642/CDV	66/667/RVC

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61010 series, under the general title: *Safety requirements for electrical equipment for measurement, control, and laboratory use*, may be found on the IEC website.

This Part 2-051 is intended to be used in conjunction with IEC 61010-1. It was established on the basis of the third edition (2010) and its Amendment 1 (2016).

This Part 2-051 supplements or modifies the corresponding clauses in IEC 61010-1 so as to convert that publication into the IEC standard: *Particular requirements for laboratory equipment for mixing and stirring*.

Where a particular subclause of Part 1 is not mentioned in this Part 2, that subclause applies as far as is reasonable. Where the part states “addition”, “modification”, “replacement” or “deletion”, the relevant requirement, test specification, or note in Part 1 should be adapted accordingly.

In this standard:

- 1) the following print types are used:
 - requirements: in roman type;
 - NOTES: in small roman type;
 - *conformity and test: in italic type;*
 - terms used throughout this standard which have been defined in Clause 3: SMALL ROMAN CAPITALS;
- 2) subclauses, figures, tables and notes which are additional to those in Part 1 are numbered starting from 101. Additional annexes are lettered starting from AA and additional list items are lettered from aa).

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

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SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE –

Part 2-051: Particular requirements for laboratory equipment for mixing and stirring

1 Scope and object

This clause of Part 1 is applicable except as follows:

1.1.1 Equipment included in scope

Replacement:

Replace the text ~~in 1,1 by the following paragraph~~, except the first paragraph, with the following new text:

This part of IEC 61010 is applicable to electrically operated laboratory equipment and its accessories for mechanical mixing and stirring, where mechanical energy influences the shape or size or homogeneity of materials and their accessories. Such devices ~~may~~ can contain heating elements.

NOTE If all or part of the equipment falls within the scope of one or more other Part 2 standards of the IEC 61010 series as well as within the scope of this document, consideration is ~~to be~~ given to those other Part 2 standards. The standard for equipment which contains heating devices is IEC 61010-2-010.

2 Normative references

This clause of Part 1 is applicable ~~except as follows~~:

Addition:

Add the following references to the list:

~~IEC 62061, Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems~~

~~ISO 13849, Safety of machinery – Safety-related parts of control systems~~

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Elektrisk utrustning för mätning, styrning och för laboratorieändamål – Säkerhet – Del 2-051: Särskilda fordringar på blandare och omrörare för laboratorieändamål

*Safety requirements for electrical equipment for measurement, control and laboratory use –
Part 2-051: Particular requirements for laboratory equipment for mixing and stirring*

Som svensk standard gäller europastandarden EN IEC 61010-2-051:2021. Den svenska standarden innehåller de officiella engelska språkversionerna av EN IEC 61010-2-051:2021 och EN IEC 61010-2-051:2021/A11:2021.

Nationellt förord

Europastandarden EN IEC 61010-2-051:2021

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61010-2-051, Fourth edition, 2018 - Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-051: Particular requirements for laboratory equipment for mixing and stirring**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 61010-1, utgåva 3, 2010 och dess separat utgivna tillägg.

Tidigare fastställd svensk standard SS-EN 61010-2-051, utgåva 3, 2015, gäller ej fr o m 2024-08-02.

ICS 19.080.00; 71.040.20

Denna standard är fastställd av SEK Svensk Elstandard, som också kan lämna upplysningar om **sakinnehållet** i standarden.
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SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

English Version

Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-051: Particular requirements for laboratory equipment for mixing and stirring (IEC 61010-2-051:2018)

Exigences de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire - Partie 2-051 : Exigences particulières pour appareils de laboratoire utilisés pour mélanger et agiter (IEC 61010-2-051:2018)

Sicherheitsbestimmungen für elektrische Mess-, Steuer-, Regel- und Laborgeräte -Teil 2-051: Besondere Anforderungen an Laborgeräte zum Mischen und Rühren (IEC 61010-2-051:2018)

This European Standard was approved by CENELEC on 2018-11-09. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 66/642/CDV, future edition 4 of IEC 61010-2-051, prepared by IEC/TC 66 "Safety of measuring, control and laboratory equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61010-2-051:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-08-02
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-08-02

This document supersedes EN 61010-2-051:2015 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For the relationship with EU Directive(s) / Regulation(s), see informative Annex ZZ, which is an integral part of EN IEC 61010-2-051:2021/A11:2021.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 61010-2-051:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61010-2-010	NOTE	Harmonized as EN IEC 61010-2-010
IEC 62061	NOTE	Harmonized as EN 62061
ISO 13849 (series)	NOTE	Harmonized as EN ISO 13849 (series)



INTERNATIONAL STANDARD

NORME INTERNATIONALE

GROUP SAFETY PUBLICATION
PUBLICATION GROUPEE DE SÉCURITÉ

**Safety requirements for electrical equipment for measurement, control, and laboratory use –
Part 2-051: Particular requirements for laboratory equipment for mixing and stirring**

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This edition includes the following significant technical changes with respect to the previous edition:

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- c) added required RISK assessment for equipment intended to be used with flammable, hazardous, or toxic fluids to Clause 17.

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CDV	Report on voting
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In this standard:

- 1) the following print types are used:
 - requirements: in roman type;
 - NOTES: in small roman type;
 - *conformity and test: in italic type;*
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SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE –

Part 2-051: Particular requirements for laboratory equipment for mixing and stirring

1 Scope and object

This clause of Part 1 is applicable except as follows:

1.1.1 Equipment included in scope

Replacement:

Replace the text, except the first paragraph, with the following new text:

This part of IEC 61010 is applicable to electrically operated laboratory equipment and its accessories for mechanical mixing and stirring, where mechanical energy influences the shape or size or homogeneity of materials and their accessories. Such devices can contain heating elements.

NOTE If all or part of the equipment falls within the scope of one or more other Part 2 standards of the IEC 61010 series as well as within the scope of this document, consideration is given to those other Part 2 standards. The standard for equipment which contains heating devices is IEC 61010-2-010.

2 Normative references

This clause of Part 1 is applicable.