SLOVENSKI STANDARD
SIST EN IEC 61010-2-051:2021/A11:2021

01-december-2021

Varnostne zahteve za električno opremo za meritve, nadzor in laboratorijsko uporabo - 2-051. del: Posebne zahteve za laboratorijsko opremo za mešanje in premešavanje

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

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

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

Ta slovenski standard je istoveten z: **EN IEC 61010-2-051:2021/A11:2021**

ICS:

19.080	Električno in elektronsko preskušanje	Electrical and electronic testing
71.040.10	Kemijski laboratoriji. Laboratorijska oprema	Chemical laboratories. Laboratory equipment

SIST EN IEC 61010-2-051:2021/A11:2021 en,fr,de

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61010-2-051:2021/A11

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ICS 19.080; 71.040.20

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

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

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

This amendment A11 modifies the European Standard EN IEC 61010-2-051:2021; it was approved by CENELEC on 2021-08-02. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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

This document (EN IEC 61010-2-051:2021/A11:2021) has been prepared by CLC/TC 66X “Safety of measuring, control, and laboratory equipment”.

The following dates are fixed:

• latest date by which this 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 this document have to be withdrawn	(dow)	2024-08-02

This document amends EN IEC 61010-2-051:2021.

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 relationship with EU Directive(s) / Regulation(s), see informative Annex ZZ, which is an integral part of this document.

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.

1 Additions to Clause 2, “Normative references”

Add the following normative references to Clause 2:

“

EN IEC 60079-0:2018, *Explosive atmospheres - Part 0: Equipment - General requirements (IEC 60079-0:2017)*

EN 60079-1:2014, *Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d" (IEC 60079-1:2014)*

EN 60079-2:2014, *Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure "p" (IEC 60079-2:2014)*

EN 60079-5:2015, *Explosive atmospheres - Part 5: Equipment protection by powder filling "q" (IEC 60079-5:2015)*

EN 60079-7:2015[1], *Explosive atmospheres - Part 7: Equipment protection by increased safety “e” (IEC 60079-7:2015)*

EN 60079-11:2012, *Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" (IEC 60079-11:2011)*

EN IEC 60079-15:2019, *Explosive atmospheres - Part 15: Equipment protection by type of protection "n" (IEC 60079-15:2017)*

EN 60079-18:2015,[2] *Explosive atmospheres - Part 18: Equipment protection by encapsulation “m” (IEC 60079-18:2014)*

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

ISO 13849-1, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

ISO 13849-2, *Safety of machinery — Safety-related parts of control systems — Part 2: Validation*

“

2 Modification to 7.3.101, “Speed controls”

Replace the second paragraph with:

“*Conformity is checked by inspection and the following test:*

The speed control is overridden to achieve the maximum speed the moving parts can achieve. The equipment shall be observed for a duration as specified in 4.4.3 or until the power to the moving parts is interrupted permanently. The conformity criteria of 4.4.4.1 to 4.4.4.3 shall be observed and the requirements of 7.3.1 and 7.7 shall be met during the test.”

[1] As impacted by EN 60079-7:2015/A1:2018.

[2] As impacted by EN 60079-18:2015/A1:2017.

3 Modification to 7.3.104, "HAZARDS related to application"

Replace Example b) with the following:

"

b) Where a HAZARD could be caused by excessive torque applied to high-viscosity material, for example through glass breakage, the safety device shall initiate an alarm signal if the torque rises above a preset level."

4 Modification to 7.7, "Expelled parts"

Add the following new paragraph before the note:

"Expelled parts include sample materials and fluids being mixed or stirred."

5 Modification to 13.2.101, "Protection against explosion and explosives"

*In the third line, replace "*such as IEC 60079 series*" by "*including EN 60079 series*".*

6 Modification to 15.1, "General"

Add to the conformity statement the following new paragraphs:

"If IEC 62061 or ISO 13849-1 is used to determine the requirements for an interlock system, conformity is checked by inspection of the manufacturer's SIL and PL determination documentation and validation documentation as specified in IEC 62061 and ISO 13849-2 respectively.

Components and systems certified to the determined SIL or PL requirement need not be separately validated."

7 Addition of Annex ZA, "Normative references to international publications with their corresponding European publications"

Add the following Annex ZA:

"

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD applies.

NOTE 2 Up-to-date Information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Annex ZA of EN 61010-1:2010[3] *is applicable, with the following addition:*

Publication	Year	Title	EN/HD	Year
IEC 62061	-	Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems	EN 62061 +A1 +A2	2005 2013 2015
ISO 13849-1	-	Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design	EN ISO 13849-1	2015
ISO 13849-2	-	Safety of machinery - Safety-related parts of control systems - Part 2: Validation	EN ISO 13849-2	2012”
		Explosive atmospheres - Part 0: Equipment - General requirements	EN IEC 60079-0	2018
		Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"	EN 60079-1	2014
		Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure "p"	EN 60079-2	2014
		Explosive atmospheres - Part 5: Equipment protection by powder filling "q"	EN 60079-5	2015
		Explosive atmospheres - Part 7: Equipment protection by increased safety "e"	EN 60079-7 +A1	2015 2018
		Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"	EN 60079-11	2012
		Explosive atmospheres - Part 15: Equipment protection by type of protection "n"	EN IEC 60079-15	2019
		Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"	EN 60079-18 +A1	2015 2017

“

[3] As impacted by EN 61010-1:2010/A1:2019 and EN 61010-1:2010/A1:2019/AC:2019-04.

8 Addition of Annex ZZ, “Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered”

Add the following Annex ZZ:

“

Annex ZZ
(informative)

Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European Standard has been prepared under a Commission's standardization request relating to harmonized standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

Table ZZ.1 — Correspondence between this European standard and Annex I of Directive 2014/35/EU [2014 OJ L96]

Safety objectives of Directive 2014/35/EU (Annex I)	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1. General conditions		
1 (a) the essential characteristics, the recognition and observance of which will ensure that electrical equipment will be used safely and in applications for which it was made, shall be marked on the electrical equipment, or, if this is not possible, on an accompanying document	5.1 5.2 5.3 5.4	
1 (b) the electrical equipment, together with its component parts, shall be made in such a way as to ensure that it can be safely and properly assembled and connected	5.4 6.6 6.10 6.11 Annex F	
1 (c) the electrical equipment shall be so designed and manufactured as to ensure that protection against the hazards set out in points 2 and 3 is ensured, providing that the equipment is used in applications for which it was made and is adequately maintained	5.4 Annex F 17 (for hazards not covered by Clauses 6–16) See also the details in points 2 and 3	

Safety objectives of Directive 2014/35/EU (Annex I)	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
2. Protection against hazards arising from the electrical equipment Measures of a technical nature shall be laid down in accordance with point 1, in order to ensure that:		
2 (a) persons and domestic animals are adequately protected against the danger of physical injury or other harm which might be caused by direct or indirect contact	4, 6.1 – 6.11, 9.6, 11.6, 14.4, Annex D, Annex F, Annex K	
2 (b) temperatures, arcs or radiation which would cause a danger, are not produced	4, 4.4.4.2, 6.3.1.b) 2), 6.3.2 b) 2), 9.5, 9.6, 10.1 −10.5, 12	
2 (c) persons, domestic animals and property are adequately protected against non-electrical dangers caused by the electrical equipment which are revealed by experience	4, 4.4, 7.2- 7.7, 9, 11.101, 12.3, 12.5, 12.6, 13.1, 13.2, 13.2.101 16.2	
2 (d) the insulation is suitable for foreseeable conditions	4, 6.7, Annex K	
3. Protection against hazards which may be caused by external influences on the electrical equipment Technical measures shall be laid down in accordance with point 1, in order to ensure that the electrical equipment:		
3 (a) meets the expected mechanical requirements in such a way that persons, domestic animals and property are not endangered	4, 7, 8	
3 (b) is resistant to non-mechanical influences in expected environmental conditions, in such a way that persons, domestic animals and property are not endangered	1.4, 4, 6.7.2.2.1, 10.5, 11.6, 14.3, 14.8, 15	
3 (c) does not endanger persons, domestic animals and property in foreseeable conditions of overload	4, 9, 14, 16.1	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.”