SLOVENSKI STANDARD
SIST EN 60204-33:2011

01-maj-2011

Varnost strojev - Električna oprema strojev - 33. del: Zahteve za opremo za izdelovanje polprevodnikov (IEC 60204-33:2009, spremenjen)

Safety of machinery - Electrical equipment of machines - Part 33: Requirements for semiconductor fabrication equipment (IEC 60204-33:2009, modified)

Sicherheit von Maschinen - Elektrische Ausrüstungen von Maschinen - Teil 33: Anforderungen an Fertigungsausrüstungen für Halbleiter (IEC 60204-33:2009, modifiziert)

Sécurité des machines - Equipement électrique des machines - Partie 33: Exigences pour les equipments de fabrication des semi-conducteurs (CEI 60204-33:2009, modifiée)

Ta slovenski standard je istoveten z: **EN 60204-33:2011**

ICS:

13.110	Varnost strojev	Safety of machinery
31.080.01	Polprevodniški elementi (naprave) na splošno	Semiconductor devices in general

SIST EN 60204-33:2011 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60204-33

March 2011

ICS 13.110; 25.040.30; 29.020

English version

Safety of machinery - Electrical equipment of machines - Part 33: Requirements for semiconductor fabrication equipment

(IEC 60204-33:2009, modified)

Sécurité des machines - Equipement électrique des machines - Partie 33: Exigences pour les équipements de fabrication des semi-conducteurs (CEI 60204-33:2009, modifiée)

Sicherheit von Maschinen - Elektrische Ausrüstungen von Maschinen - Teil 33: Anforderungen an Fertigungsausrüstungen für Halbleiter (IEC 60204-33:2009, modifiziert)

This European Standard was approved by CENELEC on 2011-02-28. 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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60204-33:2011 E

Foreword

The text of the International Standard IEC 60204-33:2009, prepared by IEC TC 44, Safety of machinery - Electrotechnical aspects, together with common modifications prepared by the Technical Committee CENELEC TC 44X, Safety of machinery: electrotechnical aspects, was submitted to the formal vote and was approved by CENELEC as EN 60204-33 on 2011-02-28.

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)	2012-02-28
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-02-28

This European Standard has been prepared under Mandate M/396 given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 2006/42/EC. See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60204-33:2009 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

4 General requirements

4.2 Selection of electrical equipment

Replace with:

4.2 Selection of electrical equipment

Electrical components and devices that are used as part of a safety related system and those that handle hazardous voltage or hazardous electrical power shall be suitable for their intended use, be applied in accordance with their supplier's instructions and conform to relevant IEC standards where such exist.

11 Controlgear: location, mounting, and enclosures

11.2.1.1 General

Replace the 4th paragraph with:

All controlgear shall be mounted so as to facilitate its operation and maintenance from the front. Where a special tool is necessary to adjust, maintain, or remove a device, such a tool shall be supplied. Where access is required for regular maintenance or adjustment, the relevant devices shall be located between 0,4 m and 2,0 m above the servicing level. It is recommended that terminals be at least 0,2 m above the servicing level and be so placed that conductors and cables can be easily connected to them.

In the Bibliography, **add** the following notes for the standards indicated:

IEC 60034-1:2004	NOTE	Harmonized as EN 60034-1:2004 (not modified).
IEC 60204-1	NOTE	Harmonized as EN 60204-1 (not modified).
IEC 60204-32	NOTE	Harmonized as EN 60204-32 (not modified).
IEC 60309-1:1999	NOTE	Harmonized as EN 60309-1:1999 (not modified).
IEC 60364 series	NOTE	Harmonized in HD 60364 series (not modified).
IEC 60364-5-54:2002	NOTE	Harmonized as HD 60364-5-54:2007 (modified).
IEC 60439-1:1999	NOTE	Harmonized as EN 60439-1:1999 (not modified).
IEC 60909 series	NOTE	Harmonized in EN 60909 series (not modified).
IEC 60947-2:2006	NOTE	Harmonized as EN 60947-2:2006 (not modified).
IEC 60947-3:2008	NOTE	Harmonized as EN 60947-3:2009 (not modified).
IEC 60947-5-1	NOTE	Harmonized as EN 60947-5-1 (not modified).
IEC 60947-5-2	NOTE	Harmonized as EN 60947-5-2 (not modified).
IEC 61000-6-1	NOTE	Harmonized as EN 61000-6-1 (not modified).
IEC 61000-6-2	NOTE	Harmonized as EN 61000-6-2 (not modified).
IEC 61000-6-3	NOTE	Harmonized as EN 61000-6-3 (not modified).
IEC 61000-6-4	NOTE	Harmonized as EN 61000-6-4 (not modified).
IEC 61010-1:2001	NOTE	Harmonized as EN 61010-1:2001 (not modified).
IEC 61082-1:2006	NOTE	Harmonized as EN 61082-1:2006 (not modified).
IEC 61140:2001	NOTE	Harmonized as EN 61140:2002 (not modified).
IEC 61310-3:2007	NOTE	Harmonized as EN 61310-3:2008 (not modified).
IEC 61326 series	NOTE	Harmonized in EN 61326 series (not modified).
IEC 61346 series	NOTE	Harmonized in EN 61346 series (not modified).
IEC 61439-1:2009	NOTE	Harmonized as EN 61439-1:2009 (modified).
IEC 61496-1	NOTE	Harmonized as EN 61496-1 (not modified).
IEC 61558-2-16:2009	NOTE	Harmonized as EN 61558-2-16:2009 (not modified).
IEC 61800-3	NOTE	Harmonized as EN 61800-3 (not modified).
IEC 61984:2008	NOTE	Harmonized as EN 61984:2009 (not modified).
IEC/TS 62046:2008	NOTE	Harmonized as CLC/TS 62046:2008 (not modified).
ISO 13850:2006	NOTE	Harmonized as EN ISO 13850:2008 (not modified).
ISO 14122 series	NOTE	Harmonized in EN ISO 14122 series (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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

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

Publication	Year	Title	EN/HD	Year
IEC 60034-11	2004	Rotating electrical machines - Part 11: Thermal protection	EN 60034-11	2004
IEC 60038	-	IEC standard voltages	-	-
IEC 60073	2002	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators	EN 60073	2002
IEC 60364-4-41 (mod)	2005	Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock	HD 60364-4-41 + corr. July	2007 2007
IEC 60364-4-43 (mod)	2008	Low voltage electrical installations - Part 4-43: Protection for safety - Protection against overcurrent	HD 60364-4-43	2010
IEC 60364-6 (mod)	2006	Low voltage electrical installations - Part 6: Verification	HD 60364-6	2007
IEC 60417	Data-base	Graphical symbols for use on equipment	-	-
IEC 60445 (mod)	2006	Basic and safety principles for man-machine interface, marking and identification - Identification of equipment terminals and conductor terminations	EN 60445	2007
IEC 60446	2007	Basic and safety principles for man-machine interface, marking and identification - Identification of conductors by colours or alphanumerics	EN 60446	2007
IEC 60447	2004	Basic and safety principles for man-machine interface, marking and identification - Actuating principles	EN 60447	2004
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60617	Data-base	Graphical symbols for diagrams	-	-
IEC 60695-11-10	1999	Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	1999
IEC 60950-1 (mod)	2005	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1 + A11	2006 2009

Publication	Year	Title	EN/HD	Year
IEC 61010-1	2001	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements	EN 61010-1 + corr. June	2001 2002
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
IEC 61310	series	Safety of machinery - Indication, marking and actuation	EN 61310	series
IEC 61310-1	2007	Safety of machinery - Indication, marking and actuation - Part 1: Requirements for visual, acoustic and tactile signals	EN 61310-1	2008
IEC 61508	series	Functional safety of electrical/electronic/programmable electronic safety-related systems	EN 61508	series
IEC 61557-3	2007	Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 3: Loop impedance	EN 61557-3	2007
IEC 61558-1	2005	Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests	EN 61558-1 + corr. August	2005 2006
IEC 61558-2-6	2009	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers	EN 61558-2-6	2009
IEC 61800-5-1	2007	Adjustable speed electrical power drive systems - Part 5-1: Safety requirements - Electrical, thermal and energy	EN 61800-5-1	2007
IEC 62061	2005	Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems	EN 62061 + corr. February	2005 2010
ISO 12100-2	2003	Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles	EN ISO 12100-2	2003
ISO 13849	series	Safety of machinery - Safety-related parts of control systems	EN ISO 13849	series
ISO 13849-1 [1)]	1999	Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design	-	-

[1)] Superseded by ISO 13849-1:2006 "*Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design*".

Publication	Year	Title	EN/HD	Year
ISO 13851	2002	Safety of machinery - Two-hand control devices - Functional aspects and design principles	-	-

Annex ZZ
(informative)

Coverage of Essential Requirements of EC Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers only the following essential requirements out of those given in Annex I of EC Directive 2006/42/EC:

- 1.2.1
- 1.2.2
- 1.2.3
- 1.2.4.1
- 1.2.4.3
- 1.2.4.4
- 1.2.6
- 1.5.1
- 1.5.4
- 1.6.3 (for isolation of electrical supplies)
- 1.6.4 (for access to electrical equipment)
- 1.7.1.1
- 1.7.1.2
- 1.7.2 (for residual risks of an electrical nature)
- 1.7.4.2(e)

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EC Directives may be applicable to the products falling within the scope of this standard.

IEC

IEC 60204-33

Edition 1.0 2009-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Safety of machinery – Electrical equipment of machines –
Part 33: Requirements for semiconductor fabrication equipment

Sécurité des machines – Equipement électrique des machines –
Partie 33: Exigences pour les équipements de fabrication des semi-conducteurs

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX XF

ICS 13.110; 25.040.30; 29.020

ISBN 2-8318-1068-6

CONTENTS