Masinate ohutus. Masinate elektriseadmestik. Osa 31: Ohutuse ja elektromagnetilise ühilduvuse erinõuded õmblusmasinatele, -seadetele ja -süsteemidele

Safety of machinery - Electrical equipment of machines - - Part 31: Particular safety and EMC requirements for sewing machines, units and systems

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 60204-31:2013 sisaldab Euroopa standardi EN 60204-31:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 60204-31:2013 consists of the English text of the European standard EN 60204-31:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 04.10.2013.	Date of Availability of the European standard is 04.10.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 13.110, 61.080

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60204-31

October 2013

ICS 13.110; 61.080

Supersedes EN 60204-31:1998

English version

Safety of machinery - Electrical equipment of machines - Part 31: Particular safety and EMC requirements for sewing machines, units and systems

(IEC 60204-31:2013)

Sécurité des machines - Equipement électrique des machines - Partie 31: Exigences particulières de sécurité et de CEM pour machines à coudre, unités et systèmes de couture (CEI 60204-31:2013)

Sicherheit von Maschinen - Elektrische Ausrüstung von Maschinen - Teil 31: Besondere Sicherheits- und EMV-Anforderungen an Nähmaschinen, Näheinheiten und Nähanlagen (IEC 60204-31:2013)

This European Standard was approved by CENELEC on 2013-05-28. 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 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60204-31:2013 E

Foreword

The text of document 44/685/FDIS, future edition 4 of IEC 60204-31, prepared by IEC/TC 44 "Safety of machinery - Electrotechnical aspects" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60204-31:2013.

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)	2014-04-04
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-05-28

This document supersedes EN 60204-31:1998.

EN 60204-31:2013 includes the following significant technical changes with respect to EN 60204-31:1998:

a) Alignment of the normative references;

b) Alignment of titles and subtitles to the EN 60204-1;

c) Revision of Annex AA to align this annex with the relevant European standards.

This European Standard is to be used in conjunction with EN 60204-1:2006 + A1:2009.

This part supplements or modifies the corresponding clauses in EN 60204-1 so as to convert that publication into the European standard dealing with requirements for the electrical equipment of sewing machines, units and systems.

Where a particular subclause of Part 1 is not mentioned in this part, that subclause applies as far as is reasonable. Where this part states "addition", "modification" or "replacement" the relevant text in Part 1 is adapted accordingly.

The annex which is additional to those in Part 1 is lettered AA.

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

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

For the relationship with EU Directives see informative Annexes ZZA and ZZB, which are integral parts of this document.

Endorsement notice

The text of the International Standard IEC 60204-31:2013 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 60335-2-28	NOTE	Harmonised as EN 60335-2-28.
IEC 61000-6-2:2005	NOTE	Harmonised as EN 61000-6-2:2005 (not modified).

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

***Addition** to Annex ZA of EN 60204-1:2006:*

Publication	Year	Title	EN/HD	Year
IEC 60204-1 (mod) + A1	2005 2008	Safety of machinery - Electrical equipment of machines - Part 1: General requirements	EN 60204-1 + corr. February + A1	2006 2010 2009
IEC 60364-4-41	-	Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock	HD 60364-4-41	-
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60721-3-3	-	Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 3: Stationary use at weatherprotected locations	EN 60721-3-3	-
IEC 60947-1 + A1	2007 2010	Low-voltage switchgear and controlgear - Part 1: General rules	EN 60947-1 + A1	2007 2011
IEC 61000-3-2	-	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	EN 61000-3-2	-
IEC 61000-3-3	-	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection	EN 61000-3-3	-
IEC 61000-4-2	-	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	-
IEC 61000-4-3	-	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	-
IEC 61000-4-4	-	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	-

Publication	Year	Title	EN/HD	Year
IEC 61000-4-5 + corr. October	2005 2009	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	2006
IEC 61000-4-6	-	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	-
IEC 61000-4-11	-	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	-
IEC 61058-1	-	Switches for appliances - Part 1: General requirements	EN 61058-1	-
IEC 61558-1	-	Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests	EN 61558-1	-
CISPR 11 (mod) + A1	2009 2010	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011 + A1	2009 2010
ENV 50204	-	Radiated electromagnetic field from digital radio telephones - Immunity test	-	-

Annex ZZA
(informative)

Coverage of Essential Requirements of EU Directive (2006/42/EC)

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 requirement out of those given in annex I of the EC Directive 2006/42/EC:

– 1.5.1

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

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

Annex ZZB
(informative)

Coverage of Essential Requirements of EU Directive (2004/108/EC)

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 all relevant essential requirements as given in Annex I of the EC Directive 2004/108/EC.

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.

CONTENTS

SAFETY OF MACHINERY – ELECTRICAL EQUIPMENT OF MACHINES –

Part 31: Particular safety and EMC requirements for sewing machines, units and systems

1 Scope

This clause of Part 1 is replaced by:

This part of IEC 60204 applies to the application of electrical and electronic equipment to sewing machines, units and systems, designed specifically for professional use in the sewing industry.

NOTE The requirements for sewing machines for household and similar use can be found in IEC 60335-2-28.

The equipment covered by this part commences at the point of connection of the supply to the electrical equipment of the machine (see 5.1). This part is applicable to the electrical equipment or parts of the electrical equipment which operate with nominal supply voltages not exceeding 1 000 V for alternating current and not exceeding 1 500 V for direct current, and with nominal frequencies not exceeding 200 Hz.

It does not cover all the requirements (e.g. guarding, interlocking, control) that are necessary to safeguard persons from hazards other than electrical hazards and which are specified in other standards.

This part applies to sewing units and systems which are installed in dry and well-kept clean locations and which process dry sewing material, as in the clothing industry. Where sewing units and systems are used in other than dry and well-kept clean locations, more stringent measures can be necessary, which need to be agreed between manufacturer and customer.

The noise emission of electrical and electronic equipment for sewing machines is not considered to be a relevant hazard. Therefore this standard does not contain any specific requirements on noise.

2 Normative references

This clause of Part 1 is applicable except as follows:

Additional references:

IEC 60204-1:2005*, Safety of machinery – Electrical equipment of machines – Part 1: General requirements*
Amendment 1:2008

IEC 60364-4-41, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60664-1:2007, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60721-3-3, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 3: Stationary use at weatherprotected locations*

IEC 60947-1:2007, *Low-voltage switchgear and controlgear – Part 1: General rules*
Amendment 1:2010

IEC 61000-3-2, *Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)*

IEC 61000-3-3, *Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61000-4-3, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-4, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5:2005, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61000-4-6, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-4-11, *Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests*

IEC 61058-1, *Switches for appliances – Part 1: General requirements*

IEC 61558-1, *Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests*

CISPR 11:2009, *Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement*
Amendment 1:2010

ENV 50204, *Radiated electromagnetic field from digital radio telephones – Immunity test*

3 Terms and definitions

This clause of Part 1 is applicable except as follows:

Additional definitions:

3.101
sewing machine
machine designed to produce one or more stitch types with one or more sewing threads

Note 1 to entry: Previously, the term “sewing machine head” was used instead of “sewing machine”.

Note 2 to entry: Stitch types are defined in ISO 4915.