
Irish Standard
I.S. EN 60204-31:2013

# Safety of machinery - Electrical equipment of machines -- Part 31: Particular safety and EMC requirements for sewing machines, units and systems (IEC 60204-31:2013 (EQV))

# I.S. EN 60204-31:2013

*Incorporating amendments/corrigenda issued since publication:*

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

| *This document replaces:* | *This document is based on:* | *Published:* |
|---|---|---|
| EN 60204-31:1998 | EN 60204-31:2013<br>EN 60204-31:1998 | 4 October, 2013<br>28 August, 1998 |

This document was published
under the authority of the NSAI and comes into effect on:

8 October, 2013

ICS number:
13.110
61.080

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie

W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

**I.S. EN 60204-31:2013**

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.

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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)<br>+ A1 | 2005<br>2008 | Safety of machinery - Electrical equipment of machines -<br>Part 1: General requirements | EN 60204-1<br>+ corr. February<br>+ A1 | 2006<br>2010<br>2009 |
| IEC 60364-4-41 | - | Low-voltage electrical installations -<br>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 -<br>Part 1: Principles, requirements and tests | EN 60664-1 | 2007 |
| IEC 60721-3-3 | - | Classification of environmental conditions -<br>Part 3: Classification of groups of environmental parameters and their severities -<br>Section 3: Stationary use at weatherprotected locations | EN 60721-3-3 | - |
| IEC 60947-1<br>+ A1 | 2007<br>2010 | Low-voltage switchgear and controlgear -<br>Part 1: General rules | EN 60947-1<br>+ A1 | 2007<br>2011 |
| IEC 61000-3-2 | - | Electromagnetic compatibility (EMC) -<br>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) -<br>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) -<br>Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test | EN 61000-4-2 | - |
| IEC 61000-4-3 | - | Electromagnetic compatibility (EMC) -<br>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) -<br>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<br>+ corr. October | 2005<br>2009 | Electromagnetic compatibility (EMC) -<br>Part 4-5: Testing and measurement techniques - Surge immunity test | EN 61000-4-5 | 2006 |
| IEC 61000-4-6 | - | Electromagnetic compatibility (EMC) -<br>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) -<br>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 -<br>Part 1: General requirements | EN 61058-1 | - |
| IEC 61558-1 | - | Safety of power transformers, power supplies, reactors and similar products -<br>Part 1: General requirements and tests | EN 61558-1 | - |
| CISPR 11 (mod)<br>+ A1 | 2009<br>2010 | Industrial, scientific and medical equipment -<br>Radio-frequency disturbance characteristics -<br>Limits and methods of measurement | EN 55011<br>+ A1 | 2009<br>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

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# SAFETY OF MACHINERY – ELECTRICAL EQUIPMENT OF MACHINES –

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

## 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.
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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.

International Standard IEC 60204-31 has been prepared by IEC technical committee 44: Safety of machinery – Electrotechnical aspects.

This fourth edition cancels and replaces the third edition, published in 2001. This edition constitutes a technical revision.

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

a) Alignment of the normative references;
b) Alignment of titles and subtitles to the IEC 60204-1;
c) Revision of Annex AA to align this annex with the relevant IEC standards.

The text of this standard is based on the following documents:

| FDIS | Report on voting |
|---|---|
| 44/685/FDIS | 44/687/RVD |

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

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

This International Standard is to be used in conjunction with IEC 60204-1:2005 and its Amendment 1:2008.

This part supplements or modifies the corresponding clauses in IEC 60204-1 so as to convert that publication into the IEC 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.

A list of all the parts in the IEC 60204 series, published under the general title *Safety of machinery – Electrical equipment of machines*, can be found on the IEC website.

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

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

# 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*