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BSI Standards Publication

Arc welding equipment

Part 9: Installation and use

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National foreword

This British Standard is the UK implementation of EN IEC 60974-9:2018. It is identical to IEC 60974-9:2018. It supersedes BS EN 60974-9:2010, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/6, Electric arc welding equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Amendments/corrigenda issued since publication

Date	Text affected
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EUROPÄISCHE NORM

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Supersedes EN 60974-9:2010

English Version

Arc welding equipment - Part 9: Installation and use (IEC 60974-9:2018)

Matériel de soudage à l'arc - Partie 9: Installation et
utilisation
(IEC 60974-9:2018)

Lichtbogenschweißeinrichtungen - Teil 9: Errichten und
Betreiben
(IEC 60974-9:2018)

This European Standard was approved by CENELEC on 2018-06-01. 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

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The text of document 26/648/FDIS, future edition 2 of IEC 60974-9, prepared by IEC/TC 26 "Electric welding" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60974-9:2018.

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) 2019-03-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-06-01

This document supersedes EN 60974-9:2010.

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.

Endorsement notice

The text of the International Standard IEC 60974-9:2018 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 60204-1	NOTE	Harmonized as EN 60204-1.
IEC 60364-4-41	NOTE	Harmonized as HD 60364-4-41.
IEC 60974-2	NOTE	Harmonized as EN 60974-2.
IEC 60974-3	NOTE	Harmonized as EN 60974-3.
IEC 60974-5:2013	NOTE	Harmonized as EN 60974-5:2013 (not modified).
IEC 60974-6:2015	NOTE	Harmonized as EN 60974-6:2016 (not modified).
IEC 60974-7	NOTE	Harmonized as EN 60974-7.
IEC 60974-8	NOTE	Harmonized as EN 60974-8.
IEC 60974-10	NOTE	Harmonized as EN 60974-10.
IEC 61008 Series	NOTE	Harmonized as EN 61008 Series.
IEC 61009 Series	NOTE	Harmonized as EN 61009 Series.
IEC 61140	NOTE	Harmonized as EN 61140.
IEC 62822-1:2016	NOTE	Harmonized as EN 62822-1:201X ¹ (modified).
ISO 11611	NOTE	Harmonized as EN ISO 11611.

¹ To be published.

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(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60245-6	-	Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 6: Arc welding electrode cables	-	-
IEC 60755	-	General safety requirements for residual current operated protective devices	-	-
IEC 60974-1	-	Arc welding equipment - Part 1: Welding power sources	EN 60974-1	-
IEC 60974-4	-	Arc welding equipment - Part 4: Periodic inspection and testing	EN 60974-4	-
IEC 60974-11	-	Arc welding equipment - Part 11: Electrode holders	EN 60974-11	-
IEC 60974-12	-	Arc welding equipment - Part 12: Coupling devices for welding cables	EN 60974-12	-
IEC 60974-13	-	Arc welding equipment - Part 13: Welding clamp	EN 60974-13	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ARC WELDING EQUIPMENT –

Part 9: Installation and use

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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International Standard IEC 60974-9 has been prepared by IEC technical committee 26: Electric welding.

This standard cancels and replaces the first edition published in 2010. This edition constitutes a technical revision.

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

- a) addition of a new Clause 8;
- b) addition of interpolation details in Table 1.

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

FDIS	Report on voting
26/648/FDIS	26/649/RVD

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.

In this standard, the following print types are used:

- terms defined in Clause 3: in **bold** type.

A list of all the parts of the IEC 60974 series can be found, under the general title *Arc welding equipment*, on the IEC website.

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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ARC WELDING EQUIPMENT –

Part 9: Installation and use

1 Scope

This document is applicable to requirements for installation and instructions for use of equipment for arc welding and allied processes designed in accordance with safety requirements of IEC 60974-1, IEC 60974-6 or equivalent.

This document is applicable for the guidance of instructors, operators, welders, managers, and supervisors in the safe installation and use of equipment for arc welding and allied processes and the safe performance of welding and cutting operations.

National and local regulations take precedence over this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60245-6, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 6: Arc welding electrode cables*

IEC 60755, *General requirements for residual current operated protective devices*

IEC 60974-1, *Arc welding equipment – Part 1: Welding power sources*

IEC 60974-4, *Arc welding equipment – Part 4: Periodic inspection and testing*

IEC 60974-11, *Arc welding equipment – Part 11: Electrode holders*

IEC 60974-12, *Arc welding equipment – Part 12: Coupling devices for welding cables*

IEC 60974-13, *Arc welding equipment – Part 13: Welding clamp*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

welding circuit

conductive material through which the welding current is intended to flow