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FINAL VERSION

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colour inside

Arc welding equipment –
Part 1: Welding power sources

Matériel de soudage à l'arc –
Partie 1: Sources de courant de soudage

IEC 60974-1:2017-02+AMD1:2019-01 CSV(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Part 1: Welding power sources

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This Consolidated version is not an official IEC Standard and has been prepared for user convenience. Only the current versions of the standard and its amendment(s) are to be considered the official documents.

This Consolidated version of IEC 60974-1 bears the edition number 5.1. It consists of the fifth edition (2017-02) [documents 26/610/FDIS and 26/613/RVD] and its amendment 1 (2019-01) [documents 26/653/CDV and 26/669/RVC]. The technical content is identical to the base edition and its amendment.

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

International Standard IEC 60974-1 has been prepared by IEC technical committee 26: Electric welding.

This fifth edition constitutes a technical revision.

The significant changes with respect to the previous edition are the following:

– improvement of Figure 1 (6.1.1);
– modification of Table 3 (6.1.4);
– description of energy efficiency measurements in Annex M;
– inclusion of battery supplied welding power sources in the scope. Requirements therefore are described in Annex O.

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

In this standard, the following print types are used:

– conformity statements: in *italic* type.
– terms defined in Clause 3: in **bold** type.

A list of all 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 the base publication and its amendment 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- withdrawn,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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

ARC WELDING EQUIPMENT –

Part 1: Welding power sources

1 Scope

This part of IEC 60974 is applicable to power sources for arc welding and allied processes designed for **industrial and professional use**, and supplied by a voltage not exceeding 1 000 V, battery supplied or driven by mechanical means.

This document specifies safety and performance requirements of welding power sources and **plasma cutting systems**.

This document is not applicable to limited duty arc welding and cutting power sources which are designed mainly for use by laymen and designed in accordance with IEC 60974-6.

This document includes requirements for battery-powered welding power sources and battery packs, which are given in Annex O.

This document is not applicable to testing of power sources during periodic maintenance or after repair.

NOTE 1 Typical allied processes are electric arc cutting and arc spraying.

NOTE 2 AC systems having a nominal voltage between 100 V and 1 000 V are given in Table 1 of IEC 60038:2009.

NOTE 3 This document does not include electromagnetic compatibility (EMC) requirements.

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 60050-151, *International Electrotechnical Vocabulary – Part 151: Electrical and magnetic devices* (available at: http://www.electropedia.org)

IEC 60050-851, *International Electrotechnical Vocabulary – Part 851: Electric welding* (available at: http://www.electropedia.org)

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

IEC 60417, *Graphical symbols for use on equipment* (available at: http://www.graphical-symbols.info/equipment)

IEC 60445, *Basic and safety principles for man-machine interface, marking and identification – Identification of equipment terminals, conductor terminations and conductors*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

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