

Arc welding equipment —

Part 5: Wire feeders

ICS 25.160.30

National foreword

This British Standard is the UK implementation of EN 60974-5:2008. It is identical to IEC 60974-5:2007. It supersedes BS EN 60974-5:2002 which is withdrawn.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.

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

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English version

**Arc welding equipment -
Part 5: Wire feeders
(IEC 60974-5:2007)**

Matériel de soudage à l'arc -
Partie 5: Dévidoirs
(CEI 60974-5:2007)

Lichtbogenschweißeinrichtungen -
Teil 5: Drahtvorschubgeräte
(IEC 60974-5:2007)

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CENELEC

European Committee for Electrotechnical Standardization
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Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 26/364/FDIS, future edition 2 of IEC 60974-5, prepared by IEC TC 26, Electric welding, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60974-5 on 2008-02-01.

This European Standard supersedes EN 60974-5:2002.

EN 60974-5:2007 includes the following significant technical changes with respect to EN 60974-5:2002:

- changes induced by the publication of EN 60974-1:2005;
- EN 60974-5 is not applicable to spool-on torches that EN 60974-7 covers (see Clause 1);
- EN 60974-5 is not applicable to wire feeders which are designed for use by laymen that EN 60974-6 covers (see Clause 1);
- wire feeders with degree of protection IP23S may be stored, but are not intended to be used outside during precipitation unless sheltered (see 6.2.1 and Table 1);
- withdrawal of voltage limitation for input supply network (see 6.4);
- protective connection provision for welding circuit (see 6.5);
- addition of tilting stability (see 10.5);
- clarification of the definition of the thermal requirement test. The manufacturer gives the maximum load (see Clause 9);
- introduction of rating plate layout for stand-alone wire feeder (see 11.2);
- introduction of new combined symbols for liquid/gas input and output based on EN 60974-1 (see 13.2).

This standard is to be used in conjunction with EN 60974-1:2005 and EN 60974-7:2005.

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) 2008-11-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2011-02-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60974-5:2007 was approved by CENELEC as a European Standard without any modification.

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ARC WELDING EQUIPMENT –

Part 5: Wire feeders

1 Scope

This part of IEC 60974 specifies safety and performance requirements for industrial and professional equipment used in arc welding and allied processes to feed filler wire.

The wire feeder may be a stand-alone unit which may be connected to a separate welding power source or one where the welding power source and the wire feeder are housed in a single enclosure.

The wire feeder may be suitable for manually or mechanically guided torches.

This part of IEC 60974 is not applicable to spool-on torches that are covered by IEC 60974-7.

This part of IEC 60974 is not applicable to wire feeders which are designed for use by laymen and are covered by IEC 60974-6.

NOTE 1 Typical allied processes are, for example, plasma arc cutting and arc spraying.

NOTE 2 This standard does not include electromagnetic compatibility (EMC) requirements.

2 Normative references

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.

IEC 60050-195, *International Electrotechnical Vocabulary (IEV) – Part 195: Earthing and protection against electric shock*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60974-1:2005, *Arc welding equipment – Part 1: Welding power sources*

IEC 60974-7, *Arc welding equipment – Part 7: Torches*

IEC 60974-10, *Arc welding equipment – Part 10: Electromagnetic compatibility (EMC) requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions of IEC 60050(195), IEC 60974-1, and IEC 60974-7, as well as the following, apply.

3.1

crushing zone

place or area in which the human body or parts of the human body are exposed to a crushing hazard

NOTE This hazard will be generated, if two movable parts are moving towards each other or one movable part is moving towards a fixed part.

3.2**drive rolls**

rolls in contact with the filler wire and which transfer mechanical power to the filler wire

3.3**filler wire**

filler metal in the form of a coil of wire

3.4**filler wire supply**

source of filler wire and means for dispensing filler wire to the feeding mechanism

3.5**liner**

component of the cable hose assembly through which the filler wire is fed

3.6**maximum load**

value of the mechanical load that produces the rated supply current over the rated speed range

3.7**rated speed range**

speed range of the filler wire specified by the manufacturer for each rated size of filler wire

3.8**rated supply current**

I_1

r.m.s. value of an input current to the wire feeder at maximum load

3.9**wire electrode**

solid or tubular filler wire which conducts welding current

3.10**wire-feed control**

electrical or mechanical apparatus, or both, which control(s) the speed of the filler wire, the sequence of operations and other services as required

NOTE The wire feed control may be integral with the wire feeder or in a separate enclosure.

3.11**wire feeder**

equipment that delivers filler wire to the arc or weld zone which includes the wire-feed control and means to apply motion to the filler wire and may also include the filler wire supply

4 Environmental conditions

See Clause 4 of IEC 60974-1.

5 Tests**5.1 Test conditions**

As specified in 5.1 of IEC 60974-1.