

Arc welding equipment —

Part 5: Wire feeders

The European Standard EN 60974-5:2002 has the status of a British Standard

ICS 25.160.30

National foreword

This British Standard is the official English language version of EN 60974-5:2002. It partially supersedes BS 638-5:1988, of which the whole of clause 4.1 is withdrawn. The remainder of BS 638-5:1988 is current.

The UK participation in its preparation was entrusted to Technical Committee WEE/6, Arc welding equipment which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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This British Standard, having been prepared under the direction of the Engineering Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 26 April 2002

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CENELEC

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

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Foreword

The text of document 26/226/FDIS, future edition 1 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 2002-03-01.

This European Standard shall be used in conjunction with EN 60974-1 and EN 60974-7.

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) 2002-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-03-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A and ZA are normative and annex B is informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60974-5:2002 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60364-7-706	NOTE	Harmonized as HD 384.7.706 S1:1991 (modified).
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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.

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

IEC 60974-1:1998, *Arc welding equipment – Part 1: Welding power sources*

IEC 60974-7:2000, *Arc welding equipment – Part 7: Torches*

IEC 61558-1:1997, *Safety of power transformers, power supply units and similar – Part 1: General requirements and tests*

ISO 13854:1996, *Safety of machinery – Minimum gaps to avoid crushing of parts of the human body*

3 Definitions

For the purpose of this part of IEC 60974, the following definitions apply. For additional definitions, see IEC 60974-1 and IEC 60974-7.

3.1

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

3.2

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.

3.3

drive rolls

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

3.4

wire electrode

solid or tubular filler wire which conducts welding current

3.5

filler wire

filler metal, in solid or tubular wire form, which may or may not be part of the welding circuit

3.6

filler wire supply

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

3.7

rated speed range

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

3.8

input current

current required to operate the wire feeder

3.9

rated input current

current at which a wire feeder can operate at the rated duty cycle (duty factor) without exceeding its rated temperature

3.10

rated input voltage

voltage required from an external source to operate the wire feeder

3.11

rated input frequency

frequency of the input voltage

3.12

liner

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

3.13

welding power circuit

any part of the system which is electrically energized by the welding power of the welding power source

3.14

maximum load

maximum value of the mechanical load at the various rated wire-feed speeds over the operating ranges of the equipment at which the wire feeder can operate at the rated duty cycle (duty factor) without causing the rated temperature rise of any component to be exceeded

3.15

Safety extra low voltage (SELV)

voltage which does not exceed 50 V a.c. or 120 V ripple-free d.c. between conductors, or between any conductor and earth, in a circuit which is isolated from the supply mains by such means as a safety isolating transformer

NOTE 1 Maximum voltage lower than 50 V a.c. or 120 V ripple-free d.c. may be specified in particular requirements, especially when direct contact with live parts is allowed.