

Arc welding equipment —

Part 8: Gas consoles for welding and plasma cutting systems

The European Standard EN 60974-8:2004 has the status of a
British Standard

ICS 25.160

National foreword

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

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- present to the responsible international/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.

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Arc welding equipment
Part 8: Gas consoles for welding and plasma cutting systems
(IEC 60974-8:2004)

Matériel de soudage à l'arc
Partie 8: Consoles de gaz pour soudage
et systèmes de coupage plasma
(CEI 60974-8:2004)

Lichtbogenschweißeinrichtungen
Teil 8: Gaskonsolen für Schweiß-
und Plasmaschneidsysteme
(IEC 60974-8:2004)

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European Committee for Electrotechnical Standardization
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Foreword

The text of document 26/272/FDIS, future edition 1 of IEC 60974-8, prepared by IEC TC 26, Electric welding, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60974-8 on 2004-03-01.

This standard is to be used in conjunction with EN 60974-1.

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) 2004-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2007-03-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60974-8:2004 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 60204-1:1997 (not modified).
IEC 60664-1	NOTE	Harmonized as HD 625.1 S1:1996 (modified).
IEC 60974-2	NOTE	Harmonized as EN 60974-2:2003 (not modified).
IEC 60974-3	NOTE	Harmonized as EN 60974-3:2003 (not modified).
IEC 60974-7	NOTE	Harmonized as EN 60974-7:2000 (not modified).
IEC 61010-1	NOTE	Harmonized as EN 61010-1:2001 (not modified).

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ARC WELDING EQUIPMENT –

Part 8: Gas consoles for welding and plasma cutting systems

1 Scope

This part of IEC 60974 specifies safety and performance requirements for gas consoles intended to be used with combustible gases or oxygen. These gas consoles are designed to supply gases for use in arc welding, plasma cutting, gouging and allied processes in non-explosive atmospheres.

The gas console can be external or internal to the power source enclosure. In the latter case, this standard also applies to the power source.

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 60050-151:2001, *International Electrotechnical Vocabulary (IEV) – Part 151: Electrical and magnetic devices*

IEC 60079-10:2002, *Electrical apparatus for explosive gas atmospheres – Part 10: Classification of hazardous areas*

IEC 60079-11:1999, *Electrical apparatus for explosive gas atmospheres – Part 11: Intrinsic safety “i”*

IEC 60079-14:2002, *Electrical apparatus for explosive gas atmospheres – Part 14: Electrical installations in hazardous areas (other than mines)*

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

IEC 60974-1:1998, *Arc welding equipment – Part 1: Welding power sources*
Amendment 1 (2000)
Amendment 2 (2003)

3 Terms and definitions

For the purposes of this document, definitions contained in IEC 60050-151, IEC 60974-1, and the following terms and definitions apply.

3.1

gas console

device for routing gases to a torch where all electrical apparatus for direct gas-flow control (for example, solenoid valves, metering valves, etc.) and gases are contained in the same enclosure, separate enclosure, or no enclosure

3.2

lower explosion limit (LEL)

concentration of flammable gas or vapour in air, below which the gas atmosphere is not explosive

[IEV 426-02-09, modified] [1]¹

3.3

upper explosion limit (UEL)

concentration of flammable gas or vapour in air, above which the gas atmosphere is not explosive

[IEV 426-02-10, modified]

3.4

intrinsically safe

not capable of causing ignition of a given explosive gas atmosphere

[IEC 60079-11, definition 3.1, modified]

3.5

external gas console

gas console not incorporated in a power source

3.6

internal gas console

gas console incorporated in a power source

3.7

single-fault condition

condition in which one means for protection against hazard is defective

NOTE If a single-fault condition results unavoidably in another single-fault condition, the two failures are considered as one single-fault condition.

[IEC 61010-1, definition 3.5.11, modified] [7]

4 Environmental conditions

As specified in IEC 60974-1, Clause 4.

5 Test conditions

As specified in IEC 60974-1, Clause 5.

5.1 Type tests

As specified in IEC 60974-1, 5.1.

The other tests included in this standard may be carried out in any convenient sequence.

¹ Figures in square brackets refer to the bibliography.