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Arc welding equipment - Part 7: Torches

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/20

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EN IEC 60974-7

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2019

ICS 25.160.30

Supersedes EN 60974-7:2013 and all of its amendments
and corrigenda (if any).

English Version

**Arc welding equipment - Part 7: Torches
(IEC 60974-7:2019)**Matériel de soudage à l'arc - Partie 7: Torches
(IEC 60974-7:2019)Lichtbogenschweißeinrichtungen - Teil 7: Brenner
(IEC 60974-7:2019)

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EN IEC 60974-7:2019 (E)**European foreword**

The text of document 26/673/FDIS, future edition 4 of IEC 60974-7, prepared by IEC/TC 26 "Electric welding" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60974-7:2019.

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) 2020-05-08
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-11-08

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

IEC 60974-2 NOTE Harmonized as EN 60974-2

Annex ZA (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 60529	-	Degrees of protection provided by enclosures (IP Code)	-	-
IEC 60695-11-10-		Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10-	
IEC 60974-1	2017	Arc welding equipment - Part 1: Welding power sources	EN IEC 60974-1	2018
ISO 21904-3	2018	Health and safety in welding and allied processes - Requirements, testing and marking of equipment for air filtration - Part 3: Determination of the capture efficiency of on-torch welding fume extraction devices	EN ISO 21904-3	2018

EN IEC 60974-7:2019 (E)**Annex ZZ**
(informative)**Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered**

This European Standard has been prepared under a Commission's standardization request relating to harmonized standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

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Table ZZ.1 – Correspondence between this European standard and Annex I of Directive 2014/35/EU [2014 OJ L96]

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1(a)	Clauses 12, 13	
1(b)	Clause 13	
1(c)		Testing during periodic maintenance or after repair is covered in separate standards
2(a)	Clauses 7, 13 k) and p)	
2(b)	Clauses 7, 8	Hazards arising from electric, magnetic, and electromagnetic fields, other ionizing and non-ionizing radiation are covered in separate standards
2(c)	Clauses 6.3 b), 9, 10, 11.3, 13 i) 2) and n)	Acoustic noise is covered in separate standards
2(d)	Clause 7.2, 7.3, 10	
3(a)	Clause 9, 10, 11	
3(b)	Clauses 4, 11.3, 13 l) and n),	Functional safety is covered in separate standards Safety-related security is covered in separate standards
3(c)	not applicable	For this product type, there are no overload conditions.

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IEC 60974-7

Edition 4.0 2019-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Arc welding equipment –
Part 7: Torches**

**Matériel de soudage à l'arc –
Partie 7: Torches**





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IEC 60974-7

Edition 4.0 2019-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Arc welding equipment –
Part 7: Torches**

**Matériel de soudage à l'arc –
Partie 7: Torches**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ARC WELDING EQUIPMENT –

Part 7: Torches

FOREWORD

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International Standard IEC 60974-7 has been prepared by IEC technical committee 26: Electric welding.

This fourth edition cancels and replaces the third edition published in 2013 and constitutes a technical revision.

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

- a) definitions 3.11 and 3.20 were revised;
- b) requirements for ARC STRIKING AND STABILIZING VOLTAGE rating have been added to the sequence of type tests (see 6.2);
- c) the AC test voltage requirement for TORCHES that utilize ARC STRIKING AND STABILIZING VOLTAGES has been revised (see 7.5.2);

- d) the test configuration of isolated circuits for TORCHES that utilize ARC STRIKING AND STABILIZING VOLTAGES has been revised (see 7.5.2);
- e) the metal tube used for the heating tests has additional allowable means of cooling methods (see 8.3.2 and 8.3.5);
- f) for FUME EXTRACTION TORCHES, the instructions for use include additional information (see Clause 13, item i)).

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

FDIS	Report on voting
26/673/FDIS	26/678/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:

- conformity statements: *in italic type*;
- terms used throughout this standard which have been defined in clause 3: SMALL ROMAN CAPITALS.

This document is to be used in conjunction with IEC 60974-1:2017.

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

ARC WELDING EQUIPMENT –

Part 7: Torches

1 Scope

This part of IEC 60974 specifies safety and construction requirements for TORCHES used for arc welding and allied processes. This document is applicable to MANUAL, MECHANICALLY GUIDED, AIR-COOLED, LIQUID-COOLED, MOTORIZED, SPOOL-ON and FUME EXTRACTION TORCHES.

In this document, a TORCH consists of the TORCH BODY, the CABLE-HOSE ASSEMBLY and other components.

This document is also applicable to a CABLE-HOSE ASSEMBLY connected between a power source and ancillary equipment.

This document is not applicable to electrode holders for manual metal arc welding or air-arc cutting/gouging.

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

NOTE 2 Other components are listed in Table A.1.

NOTE 3 In this document, all procedures and requirements are the same for "TORCHES" and "GUNS". For convenience, the term "TORCH" is used in the following text.

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.

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IEC 60974-1:2017, *Arc welding equipment – Part 1: Welding power sources*

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