



NSAI
Standards

Irish Standard
I.S. EN IEC 60974-13:2021

Arc welding equipment - Part 13: Welding current return clamp

I.S. EN IEC 60974-13:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN IEC 60974-13:2021 is the adopted Irish version of the European Document EN IEC 60974-13:2021, Arc welding equipment - Part 13: Welding current return clamp

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In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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EUROPEAN STANDARD

EN IEC 60974-13

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2021

ICS 25.160.30

Supersedes EN 60974-13:2011 and all of its
amendments and corrigenda (if any)

English Version

**Arc welding equipment - Part 13: Welding current return clamp
(IEC 60974-13:2021)**

Matériel de soudage à l'arc - Partie 13: Connecteur de
pièce
(IEC 60974-13:2021)

Lichtbogenschweißeinrichtungen - Teil 13:
Schweißstromrückleitungsklemmen
(IEC 60974-13:2021)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 60974-13:2021 (E)

European foreword

The text of document 26/717/FDIS, future edition 2 of IEC 60974-13, prepared by IEC/TC 26 "Electric welding" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60974-13:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2022-02-20 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-05-20 document have to be withdrawn

This document supersedes EN 60974-13:2011 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 60974-13:2021 was approved by CENELEC as a European Standard without any modification.

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 60050-151	2001	International Electrotechnical Vocabulary – Part 151: Electrical and magnetic devices (available at: http://www.electropedia.org)	-	-
+ A1	2013		-	-
+ A2	2014		-	-
+ A3	2019		-	-
+ A4	2020		-	-
IEC 60974-1	2017	Arc welding equipment – Part 1: Welding power source	EN60974-1	2018
+ A1	2019		+ A1	2019

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].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

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 10 and 11	
1(b)	Clause 11	
1(c)	Clauses 6,8 and 9	
2(a)	Clause 7 and 8	
2(b)	Clauses 7 and 8	
2(c)	Clauses 8.2 and 9	
2(d)	Clause 8.2	
3(a)	Clause 9	
3(b)	Clauses 8.2	Functional safety is covered in separate standards Safety-related security is covered in separate standards
3(c)	Clause 8	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.



IEC 60974-13

Edition 2.0 2021-04

INTERNATIONAL STANDARD

**Arc welding equipment –
Part 13: Welding current return clamp**





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The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 18 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.



IEC 60974-13

Edition 2.0 2021-04

INTERNATIONAL STANDARD

Arc welding equipment – Part 13: Welding current return clamp

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 25.160.30

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ARC WELDING EQUIPMENT –

Part 13: Welding current return clamp

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60974-13 has been prepared by IEC technical committee 26: Electric welding.

This second edition cancels and replaces the first edition, published in 2011, and constitutes a technical revision.

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

- Modified the title from "Welding clamp" to "Welding current return clamp" and updated the term through the document.
- Updated all values of test current in Table 1 corrected to 40 °C.
- Updated the reference to EN 50565-1:2014, *Electric cables – Guide to use for cables with a rated voltage not exceeding 450/750 V (U0/U) – Part 1: General guidance*

This part of IEC 60974 is to be used in conjunction with IEC 60974-1.

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

FDIS	Report on voting
26/717/FDIS	26/722/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 defined in Clause 3: in SMALL ROMAN CAPITALS.

A list of all parts of 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 13: Welding current return clamp

1 Scope

This part of IEC 60974 is applicable to WELDING CURRENT RETURN CLAMPS for arc welding processes, designed to make an electrical connection to the workpiece without using tools.

This document is not applicable to WELDING CURRENT RETURN CLAMPS for underwater welding and plasma cutting.

This document specifies safety and performance requirements of WELDING CURRENT RETURN CLAMPS.

This document does not specify requirements for welding cables.

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

IEC 60050-151:2001/AMD1:2013

IEC 60050-151:2001/AMD2:2014

IEC 60050-151:2001/AMD3:2019

IEC 60050-151:2001/AMD4:2020

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

IEC 60974-1:2017/AMD1:2019

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

WELDING CURRENT RETURN CLAMP

WORK CLAMP, US

RETURN CURRENT CLAMP, UK

clamp that is attached to, or in contact with, the workpiece, to connect the welding return cable to the workpiece

[SOURCE: IEC 60050-851:2008, 851-14-36]

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