SVENSK STANDARD SS-EN IEC 60974-14

Fastställd	Utgåva	Sida	Ansvarig kommitté
2019-02-20	1	1 (1+32)	SEK TK 26

Bågsvetsutrustning – Del 14: Kalibrering, validering och konsistensprovning

Arc welding equipment – Part 14: Calibration, validation and consistency testing

Som svensk standard gäller europastandarden EN IEC 60974-14:2018. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60974-14:2018.

Nationellt förord

Europastandarden EN IEC 60974-14:2018

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60974-14, First edition, 2018 - Arc welding equipment - Part 14: Calibration, validation and consistency testing**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 50504, utgåva 1, 2009, gäller ej fr o m 2021-11-23.

ICS 25.160.30

Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60974-14

November 2018

ICS 25.160.30

Supersedes EN 50504:2008

English Version

Arc welding equipment - Part 14: Calibration, validation and consistency testing (IEC 60974-14:2018)

Matériel de soudage à l'arc - Partie 14: Étalonnage, validation et essais de consistance (IEC 60974-14:2018)

Lichtbogenschweißeinrichtungen - Teil 14: Kalibrierung, Validierung und Konsistenzprüfung (IEC 60974-14:2018)

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

Ref. No. EN IEC 60974-14:2018 E

SEK Svensk Elstandard

SS-EN IEC 60974-14, utg 1:2019

European foreword

The text of document 26/661/FDIS, future edition 1 of IEC 60974-14, prepared by IEC/TC 26 "Electric welding" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60974-14:2018.

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) 2019-08-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-11-23

This document supersedes EN 50504:2008.

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.

Endorsement notice

The text of the International Standard IEC 60974-14:2018 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 60974-4	NOTE	Harmonized as EN 60974-4
IEC 60974-5	NOTE	Harmonized as EN 60974-5
IEC 60974-6	NOTE	Harmonized as EN 60974-6
IEC 60974-9	NOTE	Harmonized as EN IEC 60974-9
ISO 17662	NOTE	Harmonized as EN ISO 17662

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.

Publication	Year	Title	EN/HD	Year
IEC 60974-1	2017	Arc welding equipment - Part 1: Welding power sources	EN IEC 60974-1	2018

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ARC WELDING EQUIPMENT –

Part 14: CALIBRATION, VALIDATION and CONSISTENCY TESTING

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 60974-14 has been prepared by IEC technical committee TC 26: Electric welding.

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

FDIS	Report on voting
26/661/FDIS	26/666/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:

– terms used throughout this standard which have been defined in clause 3: SMALL ROMAN CAPITALS.

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

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

This document is the first international edition for CALIBRATION, VALIDATION and CONSISTENCY TESTING of arc welding equipment. It is based on the European Standard EN 50504:2008 and will replace it. A brief history helps to understand the origin and development of this document.

In Great Britain, BS 7570:1992, *Code of practice for the validation of arc welding equipment*, was published and it became the equivalent European pre-standard ENV 50184:1996 (withdrawn).

The revised second edition of BS 7570 was published in 2000 and was later replaced by the equivalent EN 50504:2008.

For quality management in the field of welding, this document should be used in conjunction with ISO 17662.

The significant changes in respect to EN 50504:2008 are the following:

– terms VERIFICATION and VALIDATION aligned to ISO/IEC Guide 99:2007;
– wire feed equipment moved from the annex to main part of the document;
– new preferred requirement for digital instrument CALIBRATION with fixed tolerance values;
– flow charts for determination of VERIFICATION methods and sample reports added;
– EN 50504:2008 Annex E *Validation of ancillary components in a welding system* and Annex F *Voltage drops in the welding circuit* deleted.

ARC WELDING EQUIPMENT –

Part 14: CALIBRATION, VALIDATION and CONSISTENCY TESTING

1 Scope

This part of IEC 60974 specifies requirements for the VERIFICATION of arc welding and external monitoring equipment. This document also serves for practical implementation of the VERIFICATION procedure for arc welding equipment.

This document can be applied at the time of installation and any other times or intervals the user deems appropriate to ensure the equipment is capable of operating to the manufacturer's specification or other specifications deemed applicable by the user.

This document is not applicable to

– plasma systems used for cutting and gouging;
– arc striking and stabilizing devices;
– arc welding equipment designed in accordance with IEC 60974-6.

NOTE 1 Other components in welding systems such as for example robots, turning devices, gas consoles, etc. also have influence on the welding result and can be verified, if necessary. Additional information can be found in ISO 17662.

NOTE 2 Periodic inspection and testing for arc welding equipment is covered in IEC 60974-4.

This document is applicable for the user, service shop or manufacturer. It can be used

– stand alone;
– in conjunction with manufacturer's instructions; or
– as the basis for an equivalent VERIFICATION procedure written by the manufacturer for specific equipment.

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