SLOVENSKI STANDARD
SIST EN 60974-10:2014/A1:2015

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Oprema za obločno varjenje - 10. del: Zahteve za elektromagnetno združljivost (EMC) - Dopolnilo A1

Arc welding equipment - Part 10: Electromagnetic comppatibility (EMC) requirements

Lichtbogenschweißeinrichtungen - Teil 10: Anforderungen an die elektromagnetische Verträglichkeit (EMV)

Matériel de soudage à l'arc - Partie 10: Exigences de compatibilité électromagnétique (CEM)

Ta slovenski standard je istoveten z: **EN 60974-10:2014/A1:2015**

ICS:

25.160.30	Varilna oprema	Welding equipment
33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

SIST EN 60974-10:2014/A1:2015 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60974-10:2014/A1

August 2015

ICS 25.160

English Version

Arc welding equipment - Part 10: Electromagnetic compatibility (EMC) requirements (IEC 60974-10:2014/A1:2015)

Matériel de soudage à l'arc - Partie 10: Exigences de compatibilité électromagnétique (CEM) (IEC 60974-10:2014/A1:2015)

Lichtbogenschweißeinrichtungen - Teil 10: Anforderungen an die elektromagnetische Verträglichkeit (EMV) (IEC 60974-10:2014/A1:2015)

This amendment A1 modifies the European Standard EN 60974-10:2014; it was approved by CENELEC on 2015-07-24. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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

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European Foreword

The text of document 26/549/CDV, future IEC 60974-10/A1, prepared by IEC/TC 26 "Electric welding" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60974-10:2014/A1:2015.

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)	2016-04-24
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-07-24

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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.

For the relationship with EU Directive see informative Annex ZZ, included in EN 60974-10:2014.

Endorsement notice

The text of the International Standard IEC 60974-10:2014/AMD 1:2015 was approved by CENELEC as a European Standard without any modification.

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

Arc welding equipment – Part 10: Electromagnetic compatibility (EMC) requirements

Matériel de soudage à l'arc – Partie 10: Exigences de compatibilité électromagnétique (CEM)

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 25.160

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FOREWORD

This amendment has been prepared by technical committee 26: Electric welding.

The text of this amendment is based on the following documents:

CDV	Report on voting
26/549/CDV	26/560/RVC

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

5.1 General

Add, after the existing first paragraph of this subclause, the following new paragraph:

For the measurement of the output current ripple, there are no specific requirements for the equipment configuration.

5.2 Load

Add, after the existing first paragraph of this subclause, the following new paragraph:

For the measurement of the output current ripple, the inductance of the load including welding cables at the fundamental frequency shall be less than 10 μH per 100 mΩ total resistance.

6.2.1.1 Test conditions for RF emission tests

Replace the existing items a) and b) of the list by the following new items:

a) at rated minimum welding current;

b) at rated welding current at 100 % duty cycle. If no rated current is specified for 100 % duty cycle, the test shall be carried out at 50 % of I_{2max}.

Add, at the end of the existing 6.2.1.3, the following new subclause:

6.2.1.4 Test conditions for output current ripple

The welding power source shall be tested at the conventional load voltages referenced in 6.2.2 at rated welding current at 100 % duty cycle. If no rated current is specified for 100 % duty cycle, the test shall be carried out at 50 % of I_{2max}.

The current ripple shall be recorded in the time domain.

6.2.2 Load

Replace the existing title of this subclause by the following new title:

6.2.2 Load voltages

Add, after the existing Figure 5, the following new subclause:

6.3.5 Output current ripple

The output current ripple of Class B arc welding power sources shall comply with the limits given in Table 4.

NOTE 1 Application of these limits to the peak-peak amplitude of the output current ripple ensures compliance with the limits for magnetic field emissions at a protection distance of 10 m from the welding circuit in the range from 150 kHz to 30 MHz as given in CISPR 11.

NOTE 2 The permissible peak-peak value is selected based on the fundamental frequency of the output current ripple. Compliance with this value at the fundamental frequency, which can be below the frequency range where limits for the magnetic field strength are defined, ensures compliance of all spectral components.

Table 4 – Output current ripple limits for Class B arc welding power sources

Frequency range MHz	**Current ripple amplitude in time domain** dBA[a] peak-peak
0,01 to 0,150	55,6 Decreasing linearly with logarithm of frequency to 8,6
0,150 to 30	8,6 Decreasing linearly with logarithm of frequency to -27,4
[a] dBA is a logarithmic unit where 0 dBA represents a current of 1 A.	

Table 1 – Immunity levels – Enclosure

Replace the existing table by the following new table:

Table 1 – Immunity levels – Enclosure

Phenomena		Units	Test specification	Basic standard	Remarks	Performance criteria
Radiofrequency EM field, amplitude modulated		MHz V/m (unmod. r.m.s.) % AM (1 kHz)	80 to 1 000 10 80	IEC 61000-4-3	The test level specified is prior to modulation	A
		GHz V/m (unmod. r.m.s.) % AM (1 kHz)	1,4 to 2,0 3 80	IEC 61000-4-3	The test level specified is prior to modulation	A
		GHz V/m (unmod. r.m.s.) % AM (1 kHz)	2,0 to 2,7 1 80	IEC 61000-4-3	The test level specified is prior to modulation	A
Electrostatic discharge	Contact discharge	kV (charge voltage)	±4[a]	IEC 61000-4-2	See basic standard for applicability of contact and/or air discharge test.	B
	Air discharge	kV (charge voltage)	±8[a]			B
[a] Testing is not required at lower levels than those specified.						