

**Kaarkeevitusseadmed. Osa 5: Traadi  
etteandemehhanismid**

**Arc welding equipment - Part 5: Wire feeders (IEC 60974-  
5:2013)**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 60974-5:2013 sisaldab Euroopa standardi EN 60974-5:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 60974-5:2013 consists of the English text of the European standard EN 60974-5:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 02.08.2013.	Date of Availability of the European standard is 02.08.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 25.160

### Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:  
Aru 10, 10317 Tallinn, Eesti; [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

### The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:  
Aru 10, 10317 Tallinn, Estonia; [www.evs.ee](http://www.evs.ee); phone 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

English version

**Arc welding equipment -  
Part 5: Wire feeders  
(IEC 60974-5:2013)**

Matériel de soudage à l'arc -  
Partie 5: Dévidoirs  
(CEI 60974-5:2013)

Lichtbogenschweißeinrichtungen -  
Teil 5: Drahtvorschubgeräte  
(IEC 60974-5:2013)

This European Standard was approved by CENELEC on 2013-06-27. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**CENELEC**

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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 26/503/FDIS, future edition 3 of IEC 60974-5, prepared by IEC/TC 26 "Electric welding" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60974-5:2013.

The following dates are fixed:

- latest date by which the document has to be (dop) 2014-03-27  
implemented at national level by  
publication of an identical national  
standard or by endorsement
- latest date by which the national (dow) 2016-06-27  
standards conflicting with the  
document have to be withdrawn

This document supersedes EN 60974-5:2008.

EN 60974-5:2013 includes the following significant technical changes with respect to EN 60974-5:2008:

- changes induced by the publication of EN 60974-1:2012;
- addition of a new symbol for hot surface (as specified in Clause 9);
- determination of the maximum load in accordance with 10.7.

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

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

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

## Endorsement notice

The text of the International Standard IEC 60974-5:2013 was approved by CENELEC as a European Standard without any modification.

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

IEC 60974-6      NOTE      Harmonised as EN 60974-6.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-195	-	International Electrotechnical Vocabulary (IEV) - Chapter 195: Earthing and protection against electric shock	-	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
IEC 60974-1	2012	Arc welding equipment - Part 1: Welding power sources	EN 60974-1	2012
IEC 60974-7	-	Arc welding equipment - Part 7: Torches	EN 60974-7	-
IEC 60974-10	-	Arc welding equipment - Part 10: Electromagnetic compatibility (EMC) requirements	EN 60974-10	-
IEC 61140	-	Protection against electric shock - Common aspects for installation and equipment	EN 61140	-

# CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references .....	6
3 Terms and definitions .....	6
4 Environmental conditions.....	7
5 Tests .....	7
5.1 Test conditions .....	7
5.2 Measuring instruments .....	7
5.3 Conformity of components .....	8
5.4 Type tests .....	8
5.5 Routine tests .....	8
6 Protection against electric shock .....	8
6.1 Insulation .....	8
6.2 Protection against electric shock in normal service (direct contact) .....	8
6.2.1 Protection provided by the enclosure .....	8
6.2.2 Capacitors .....	9
6.2.3 Automatic discharge of supply circuit capacitors .....	9
6.2.4 Isolation of the welding circuit.....	9
6.2.5 Welding circuit touch current .....	9
6.2.6 Touch current in normal condition.....	9
6.3 Protection against electric shock in case of a fault condition (indirect contact) .....	10
6.3.1 Protective provisions .....	10
6.3.2 Isolation between windings of the supply circuit and the welding circuit .....	10
6.3.3 Internal conductors and connections.....	10
6.3.4 Isolation of the welding circuit from the frame .....	10
6.3.5 Touch current in fault condition.....	10
6.4 Supply voltage.....	10
6.5 Protective provisions .....	10
6.6 Overcurrent protection of the supply circuit.....	11
6.7 Cable anchorage .....	11
6.8 Auxiliary power supply.....	11
6.9 Inlet openings.....	11
6.10 Control circuits .....	11
6.11 Isolation of hanging means .....	11
7 Liquid cooling system .....	11
8 Shielding gas supply.....	11
9 Thermal requirements.....	12
10 Mechanical provisions .....	12
10.1 Wire feeder .....	12
10.2 Enclosure strength .....	12
10.3 Handling means .....	13
10.4 Drop withstand .....	13
10.5 Tilting stability .....	13
10.6 Filler wire supply .....	13

10.6.1 Filler wire supply mounting .....	13
10.6.2 Wire spool retaining device.....	13
10.6.3 Filler wire over-run .....	13
10.7 Feeding .....	14
10.8 Protection against mechanical hazards.....	14
11 Rating plate .....	15
11.1 General .....	15
11.2 Description .....	15
11.3 Contents.....	15
12 Indication of wire-feed speed .....	16
13 Instructions and markings.....	16
13.1 Instructions .....	16
13.2 Markings .....	17
Annex A (normative) Determination of the variation in wire-feed speed .....	18
Annex B (informative) Example for a rating plate of a stand-alone wire feeder .....	20
Bibliography.....	21
Figure 1 – Principle of the rating plate of stand-alone wire feeder .....	15
Table 1 – Minimum degree of protection .....	9

## ARC WELDING EQUIPMENT –

### Part 5: Wire feeders

#### 1 Scope

This part of IEC 60974 specifies safety and performance requirements for industrial and professional equipment used in arc welding and allied processes to feed filler wire.

The wire feeder may be a stand-alone unit which may be connected to a separate welding power source or one where the welding power source and the wire feeder are housed in a single enclosure.

The wire feeder may be suitable for manually or mechanically guided torches.

This part of IEC 60974 is not applicable to spool-on torches that are covered by IEC 60974-7.

This part of IEC 60974 is not applicable to wire feeders which are designed mainly for use by laymen and design in accordance with IEC 60974-6.

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

NOTE 2 This standard does not include electromagnetic compatibility (EMC) requirements.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-195, *International Electrotechnical Vocabulary (IEV) – Part 195: Earthing and protection against electric shock*

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

IEC 60974-1:2012, *Arc welding equipment – Part 1: Welding power sources*

IEC 60974-7, *Arc welding equipment – Part 7: Torches*

IEC 60974-10, *Arc welding equipment – Part 10: Electromagnetic compatibility (EMC) requirements*

IEC 61140, *Protection against electric shock – Common aspects for installation and equipment*

#### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-195, IEC 60974-1, and IEC 60974-7, as well as the following apply.