



SLOVENSKI STANDARD SIST CLC/TS 62081:2003

01-april-2003

Arc welding equipment - Installation and use

Arc welding equipment - Installation and use

Lichtbogenschweißeinrichtungen - Errichtung und Betrieb

Matériel de soudage à l'arc - Installation et utilisation

Ta slovenski standard je istoveten z: **CLC/TS 62081:2002**

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ICS:

25.160.30 Varilna oprema Welding equipment

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TECHNICAL SPECIFICATION

CLC/TS 62081

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

July 2002

ICS 25.160.30

Replaces HD 407 S1:1980 and HD 427 S1:1981

English version

**Arc welding equipment —
Installation and use
(IEC 62081:1999)**Matériel de soudage à l'arc —
Installation et utilisation
(CEI 62081:1999)Lichtbogenschweißeinrichtungen —
Errichtung und Betrieb
(IEC 62081:1999)**iTeh STANDARD PREVIEW**
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This Technical Specification was approved by CENELEC on 2002-07-02.

CENELEC members are required to announce the existence of this TS in the same way as for an EN and to make the TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the Technical Specification IEC 62081:1999, prepared by IEC TC 26, Electric welding, was submitted to the questionnaire and vote procedure and was approved by CENELEC as CLC/TS 62081 on 2002-07-02 without any modification.

This Technical Specification supersedes HD 407 S1:1980 and HD 427 S1:1981.

The following date was fixed:

- latest date by which the existence of the CLC/TS
has to be announced at national level (doa) 2002-10-01

Endorsement notice

The text of the Technical Specification IEC 62081:1999 was approved by CENELEC as a Technical Specification without any modification.

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This Technical Specification incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Technical Specification only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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	1998	International Electrotechnical Vocabulary (IEV) Chapter 195: Earthing and protection against electric shock	-	-
IEC 60204-1	1997	Safety of machinery - Electrical equipment of machines Part 1: General requirements	EN 60204-1	1997
IEC 60364-4-41 (mod)	1992	Electrical installations of buildings Part 4: Protection for safety Chapter 41: Protection against electric shock	HD 384.4.41 S2	1996
IEC 60947-2	1995	Low-voltage switchgear and controlgear Part 2: Circuit-breakers	EN 60947-2	1996
IEC 60974-1	1998	Arc welding equipment Part 1: Welding power sources	EN 60974-1	1998
IEC 60974-11 (mod)	1992	Part 11: Electrode holders	EN 60974-11	1995
IEC 60974-12 (mod)	1992	Part 12: Coupling devices for welding cables	EN 60974-12	1995
IEC 61008 (mod)	Series	Electrical accessories – Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCB's)	EN 61008	Series
IEC 61009 (mod)	Series	Electrical accessories – Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBO's)	EN 61009	Series
IEC 61140	1997	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2001

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TECHNICAL SPECIFICATION

IEC TS 62081

First edition
1999-05

Arc welding equipment – Installation and use

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CONTENTS

	Page
FOREWORD	5
Clause	
1 Scope	7
2 Normative references	7
3 Definitions	9
4 Installation	11
4.1 General	11
4.1.1 Selection of supply cable and protection against overload	11
4.1.2 Supply disconnecting device	11
4.1.3 Emergency stopping device	11
4.1.4 Protection against electric shock from the mains supply	13
4.2 Welding circuit	13
4.2.1 Isolation from the mains supply	13
4.2.2 Welding voltage supply	13
4.2.3 Connection between the welding power source and the work piece	13
4.2.4 Earthing of the work piece	15
4.2.5 Location of gas cylinders	15
5 Use	17
5.1 General requirements	17
5.2 Connection between several welding power sources	17
5.3 Inspection and maintenance of the welding installation	17
5.4 Disconnection of welding power sources and/or welding circuits	17
5.5 Guards	19
5.6 Information for operators	19
5.7 Protective measures	19
5.7.1 Extraneous conductive parts in the welding area	19
5.7.2 Protection against electric shock	19
5.8 Isolation of the welding circuit from the work piece and earth when not in use	19
5.9 Voltage between electrode holders or torches/guns	21
5.10 Welding in an environment with increased hazard of electric shock	25
5.11 Use of shoulder slings	27
5.12 Welding at elevated positions	27
Annex A – Hazards connected with arc welding	29
Bibliography	41

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ARC WELDING EQUIPMENT – Installation and use

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports, technical specifications or guides and they are accepted by the National Committees in that sense.
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The main task of IEC technical committees is to prepare International Standards. In exceptional circumstances, a technical committee may propose the publication of a technical specification when

- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62081, which is a technical specification, has been prepared by technical committee 26: Electric welding.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
26/136/CDV	26/143 + 143A/RVC

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

ARC WELDING EQUIPMENT – Installation and use

1 Scope

This technical specification is applicable to the installation and industrial and professional use of welding power sources, equipment and accessories for arc welding and allied processes.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this technical specification. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this technical specification are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60050-195:1998, *International Electrotechnical Vocabulary – Part 195: Earthing and protection against electric shock*

IEC 60204-1:1997, *Electrical equipment of industrial machines – Part 1: General requirements*
(standards.iteh.ai)

IEC 60364-4-41:1992, *Electrical installations of buildings – Part 4: Protection for safety – Chapter 41: Protection against electric shock*/TS 62081:2003

<https://standards.iteh.ai/catalog/standards/sist/add5631f-e2d8-44aa-a5f5-6b966737013d/iec-62081-2003>

IEC 60947-2:1995, *Low-voltage switchgear and controlgear – Part 2: Circuit breakers*

IEC 60974-1:1998, *Arc welding equipment – Part 1: Welding power sources*

IEC 60974-11:1992, *Arc welding equipment – Part 11: Electrode holders*

IEC 60974-12:1992, *Arc welding equipment – Part 12: Coupling devices for welding cables*

IEC 61008 (all parts), *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCB's)*

IEC 61009 (all parts), *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBO's)*

IEC 61140:1997, *Protection against electric shock – Common aspects for installation and equipment*

3 Definitions

For the purpose of this technical specification, the following definitions apply:

3.1

welding circuit

a circuit that includes all conductive material through which the welding current is intended to flow

NOTE 1 – In arc welding, the arc is a part of the welding circuit.

NOTE 2 – In certain arc welding processes, the arc may be established between two electrodes. In such a case, the work piece is not necessarily a part of the welding circuit. [IEC 60974-1, 3.11]

3.2

extraneous conductive part

conductive part not forming part of the electrical installation and liable to introduce an electric potential, generally the electric potential of a local earth [IEV 195-06-11]

NOTE – Electrical installation includes the welding circuit.

3.3

work piece

metal piece or pieces on which welding or allied processes are performed

3.4

protective clothing and accessories

protective clothing and accessories (e.g. gloves, hand shields, head masks and filter lenses) used in order to diminish electric shock risks and the effects of fume and spatter and to protect the skin and eyes against arc radiation

3.5

environments with increased hazard of electric shock

environments where the hazard of electric shock by arc welding is increased in relation to normal arc welding conditions

NOTE 1 – Such environments are found for example

- in locations in which freedom of movement is restricted, so that the operator is forced to perform the welding in a cramped position (kneeling, sitting, lying) with physical contact with conductive parts;
- in locations which are fully or partially limited by conductive elements and in which there is a high risk of unavoidable or accidental contact by the operator;
- in wet, damp or hot locations where humidity or perspiration considerably reduces the skin resistance of the human body and the insulating properties of accessories.

NOTE 2 – Environments with increased hazard of electric shock are not meant to include places where electrically conductive parts in the near vicinity of the operator which can cause increased hazard have been insulated. [IEC 60974-1, 3.46]

3.6

industrial and professional use

use intended only for experts or instructed persons [IEC 60974-1, 3.2]

3.7

expert (competent person, skilled person)

a person who can judge the work assigned and recognize possible hazards on the basis of professional training, knowledge, experience and knowledge of the relevant equipment

NOTE – Several years of practice in the relevant technical field may be taken into consideration in assessment of professional training [IEC 60974-1, 3.3]