BS EN 60974-2:2013



BSI Standards Publication

Arc welding equipment

Part 2: Liquid cooling systems

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National foreword

This British Standard is the UK implementation of EN 60974-2:2013. It is identical to IEC 60974-2:2013. It supersedes BS EN 60974-2:2008 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/6, Electric arc welding equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Lichtbogenschweißeinrichtungen - Teil 2: Flüssigkeitskühlsysteme (IEC 60974-2:2013)

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European Committee for Electrotechnical Standardization
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Foreword

The text of document 26/494/FDIS, future edition 3 of IEC 60974-2, prepared by IEC/TC 26 "Electric welding" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60974-2:2013.

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)	2013-11-30
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-02-28

This document supersedes EN 60974-2:2008.

EN 60974-2:2013 includes the following significant technical changes with respect to EN 60974-2:2008:

- changes induced by the publication of EN 60974-1:2012;
- addition of a liquid temperature fixed to 65 °C during the heating test in order to allow testing at different ambient air temperature (see 10 d));
- correction factor of cooling power at 40 °C required in instruction manual (see 12.1 o)).

This standard shall be used in conjunction with EN 60974-1:2012.

In this standard, the following print types are used:

- *conformity statements: in italic type.*

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 60974-2:2013 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, 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.

Publication	Year	Title	EN/HD	Year
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	-

CONTENTS

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 7
5.4 Type tests 7
5.5 Routine tests 7
6 Protection against electric shock 8
6.1 Insulation 8
6.1.1 General 8
6.1.2 Clearances 8
6.1.3 Creepage distances 8
6.1.4 Insulation resistance 8
6.1.5 Dielectric strength 8
6.2 Protection against electric shock in normal service (direct contact) 8
6.3 Protection against electric shock in case of a fault condition (indirect contact) 8
6.3.1 Protective provisions 8
6.3.2 Isolation between windings of the supply circuit and the welding circuit 8
6.3.3 Internal conductors and connections 8
6.3.4 Touch current in fault condition 8
6.4 Connection to the supply network 8
6.4.1 Supply voltage 8
6.4.2 Multi-supply voltage 8
6.4.3 Means of connection to the supply circuit 9
6.4.4 Marking of terminals 9
6.4.5 Protective circuit 9
6.4.6 Cable anchorage 9
6.4.7 Inlet openings 9
6.4.8 Supply circuit on/off switching device 9
6.4.9 Supply cables 9
6.4.10 Supply coupling device (attachment plug) 9
6.5 Leakage current between welding circuit and protective earth 9
7 Mechanical provisions 10
7.1 General 10
7.2 Cooling liquid overflow 10
7.3 Hose coupling devices and hose connections 10
8 Cooling system 10
8.1 Rated maximum pressure 10
8.2 Thermal requirements 11
8.2.1 Heating test 11
8.2.2 Tolerances of test parameters 11

8.2.3 Duration of test 11
8.3 Pressure and temperature 11
9 Abnormal operation 11
9.1 General requirements 11
9.2 Stalled test 11
10 Cooling power 12
11 Rating plate 13
11.1 General 13
11.2 Description 13
11.3 Contents 14
11.4 Tolerances 15
12 Instructions and markings 15
12.1 Instructions 15
12.2 Markings 15
12.2.1 General 15
12.2.2 Inlet and outlet 15
12.2.3 Pressure warning 16
Annex A (informative) Example diagram of built-in and stand-alone liquid cooling systems 17
Annex B (informative) Example for a rating plate of stand-alone cooling system 18

Figure 1 – Leakage current measurement configuration 10
Figure 2 – Measuring circuit for determination of the cooling power 13
Figure 3 – Principle of the rating plate of stand-alone cooling systems 14
Figure A.1 – Example diagram of built-in liquid cooling systems 17
Figure A.2 – Example diagram of stand-alone liquid cooling systems 17

Table 1 – Example of cooling liquid data at 60 °C 13

ARC WELDING EQUIPMENT –

Part 2: Liquid cooling systems

1 Scope

This part of IEC 60974 specifies safety and construction requirements for industrial and professional liquid cooling systems used in arc welding and allied processes to cool torches.

This part of IEC 60974 is applicable to stand-alone liquid cooling systems that are either connected to a separate welding power source or built into the welding power source enclosure.

This part of IEC 60974 is not applicable to refrigerated cooling systems.

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

NOTE 2 This part of IEC 60974 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 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*

3 Terms and definitions

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

3.1
cooling power
P
cooling energy related to the flow rate

3.2
liquid cooling system
system that circulates and cools liquid used for decreasing the temperature of torches

3.3
cooling power at 1 l/min
$P_{1\ l/min}$
cooling power at 1 l/min flow rate defined for comparison