



ANSI/IEC 60974-2-2009

**American National Standard
for Arc Welding Equipment**

Part 2: Liquid Cooling Systems

This is a preview of "ANSI/IEC 60974-2-200...". [Click here to purchase the full version from the ANSI store.](#)



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*Arc Welding Equipment—
Part 2: Liquid Cooling Systems*

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FOREWORD FOR U.S. ADOPTION

This American National Standard is an adoption of IEC 60974-2, edition 2, *Arc welding equipment —Part 2: Liquid cooling systems*, and was developed and approved in accordance with procedures set forth by the American National Standards Institute. It is the intention that this American National Standard be a standalone document, replacing the use of IEC 60974-2 in the U.S. As such, any reference in this standard to an IEC 60974 part is understood to mean a reference to the equivalent ANSI/IEC 60974 part, where it exists.

This standard contains all the original text as-is from IEC 60974-2, edition 2, in addition to a number of U.S. Differences to the IEC standard that were identified by Accredited Standards Committee W1, *Requirements for Apparatus Designed for Use in Arc Welding, Plasma Arc Cutting, and Allied Processes*. Each U.S. Difference is found both in a compilation of U.S. Differences following this foreword, and inserted in the appropriate place(s) in the standard relating to the difference. Each insertion is in red text and is marked by three lines on its left (two thin, one thick). Each Difference is identified with the following format:

[Clause/Subclause Number]DV.[Number of Difference for the Given Clause/Subclause]

Following this format, the example 17.1DV.3 signifies that it is the third U.S. Difference to subclause 17.1.

Suggestions for the improvement of this standard are welcome and should be submitted to the Secretariat of Accredited Standards Committee W1 as follows:

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This standard was processed and approved by the Accredited Standards Committee W1. Committee approval does not necessarily imply that all Committee members voted for its approval. At the time this standard was published, Accredited Standards Committee W1 consisted of the following members:

John Freudenberg, Chairman
Wayne Hoffman, Vice Chairman
Greg Winchester, Secretary

<i>Organization Represented</i>	<i>Name of Representative</i>
American Welding Society	Andrew Davis – principal Dick Holdren – alternate
CenterLine (Windsor) Limited	David Beneteau – principal
CSA International	Andrew Krumins
ESAB Welding and Cutting	Charles Aimar
Hypertherm Inc.	Tony Zeller – principal Bill Lynn – alternate
Lincoln Electric Company	Frank Stupczy – principal Gary Mikitin – alternate
Miller Electric Manufacturing Company	David Werba – principal Terry Christianson-Plato – alternate Mike Madsen – alternate
Northeast Product Safety Society	John Freudenberg
Wayne Hoffman - Consultant / U.S. Technical Advisor, IEC TC 26	Wayne Hoffman

CONTENTS

FOREWORD.....	9
1 Scope.....	11
2 Normative references	11
3 Terms and definitions	12
4 Environmental conditions.....	12
5 Tests	12
5.1 Test conditions.....	12
5.2 Measuring instruments	12
5.3 Conformity of components.....	12
5.4 Type tests	12
5.5 Routine tests.....	13
6 Protection against electric shock	13
6.1 Insulation	13
6.2 Protection against electric shock in normal service (direct contact)	13
6.3 Protection against electric shock in case of a fault condition (indirect contact)	14
6.4 Connection to the input supply network	14
6.5 Leakage current between welding circuit and protective earth	14
7 Mechanical provisions	15
7.1 General	15
7.2 Cooling liquid overflow	15
7.3 Hose coupling devices and hose connections.....	15
8 Cooling system.....	16
8.1 Rated maximum pressure.....	16
8.2 Thermal requirements	16
8.3 Pressure and temperature	16
9 Abnormal operation	16
9.1 General requirements.....	16
9.2 Stalled test.....	17
10 Cooling power	17
10.1 Test procedure	17
11 Rating plate.....	19
11.1 General	19
11.2 Description.....	19
11.3 Contents	19
11.4 Tolerances	20
12 Instructions.....	20
12.1 Supplied documents and information	20
13 Marking	21
13.1 General markings	21
13.2 Inlet and outlet	21
13.3 Pressure warning	21

Annex A (informative) Example diagram of built-in and stand-alone liquid cooling systems ..	23
Annex B (informative) Example for a rating plate of stand-alone cooling system	24
Figure 1 – Leakage current measurement configuration	15
Figure 2 – Measuring circuit for determination of the cooling power	18
Figure 3 – Principle of the rating plate of stand-alone cooling systems.....	19
Figure A.1 – Example diagram of built-in liquid cooling systems	23
Figure A.2 – Example diagram of stand-alone liquid cooling systems.....	23
Table 1 – Example of cooling liquid data at 60 °C	18

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ARC WELDING EQUIPMENT –

Part 2: Liquid cooling systems

FOREWORD

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International Standard IEC 60974-2 has been prepared by IEC technical committee 26: Electric welding.

This second edition cancels and replaces the first edition published in 2002 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- changes induced by the publication of IEC 60974-1, edition 3;
- introduction of a set-up for torch simulation during leakage test;
- complementary requirement for attachment plug in 125 V supply network;
- introduction of new items in instructions;
- correction of density value for water/alcohol (50/50);
- improvement of rating plate example.

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

FDIS	Report on voting
26/362/FDIS	26/366/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This standard shall be used in conjunction with IEC 60974-1.

The list of all parts of IEC 60974, under the general title *Arc welding equipment*, can be found on the IEC web site.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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.

ForewordDV.1 Modify the foreword by adding the following:

The numbering system in this standard uses a space instead of a comma to indicate thousands and uses a comma instead of a period to indicate a decimal point. For example, 1 000 means 1,000 and 1,01 means 1.01.

ARC WELDING EQUIPMENT –

Part 2: Liquid cooling systems

GlobalDV.1 Throughout this document, replace the phrase "this part of IEC 60974" with "this part of ANSI/IEC 60974"

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, for example, plasma arc cutting and arc spraying.

NOTE 2 This part of IEC 60974 does not include electromagnetic compatibility (EMC) requirements.