

# INTERNATIONAL STANDARD

# IEC 60974-2

First edition  
2002-06

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**Arc welding equipment –**

**Part 2:  
Liquid cooling systems**

*Matériel de soudage à l'arc –*

*Partie 2:  
Systèmes de refroidissement par liquide*



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Withholdings

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ARC WELDING EQUIPMENT –****Part 2: Liquid cooling systems**

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

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

|             |                  |
|-------------|------------------|
| FDIS        | Report on voting |
| 26/236/FDIS | 26/238/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 standard shall be used in conjunction with IEC 60974-1 (1998).

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

The committee has decided that the contents of this publication will remain unchanged until 2005. At this date, the publication will be

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- withdrawn;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

A bilingual version of this publication may be issued at a later date.

## ARC WELDING EQUIPMENT –

### Part 2: Liquid cooling systems

#### 1 Scope

This part of IEC 60974 specifies safety and construction requirements for liquid cooling systems intended to cool torches. These liquid cooling systems can be internal or external to power sources for arc welding and allied processes (see annex A).

This standard is not applicable to refrigerated cooling systems.

#### 2 Normative references

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

IEC 60974-1:1998, *Arc-welding equipment – Part 1: Welding power sources*  
Amendment 1 (2000)

IEC 60974-7:2000, *Arc-welding equipment – Part 7: Torches*

#### 3 Terms and definitions

For the purposes of this part of IEC 60974 the definitions of IEC 60974-1, IEC 60974-7 and following apply.

##### 3.1

##### **liquid cooling system**

system that circulates and cools liquid used for decreasing the temperature of equipment of arc welding and allied processes

##### 3.2

##### **internal cooling system**

cooling system incorporated in a welding power source

##### 3.3

##### **external cooling system**

cooling system not incorporated in a welding power source

##### 3.4

##### **cooling power ( $P$ )**

cooling energy related to the mass flow rate

#### 4 Environmental conditions

As specified in IEC 60974-1, clause 4.