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Resistance spot welding equipment - Cooling tubes (ISO 9313:1989)

Widerstandspunkt-Schweißeinrichtungen - Kühlrohre (ISO 9313:1989)

Matériel de soudage par points par résistance - Tubes de refroidissement (ISO 9313:1989)

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Ta slovenski standard je istoveten z: EN 29313:1992

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ICS:

25.160.30	Varilna oprema	Welding equipment
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EUROPEAN STANDARD

EN 29313:1992

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 1992

UDC 621.791.763.1.03:62-462-71

Descriptors: Welding, resistance welding, spot welding, welding equipment, cooling systems, dimensions, designation, marking

English version

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

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CEN

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

FOREWORD

In September 1991, CEN Technical Board decided to submit the International Standard

ISO 9313:1989 - "Resistance spot welding equipment - Cooling tubes" to the formal vote procedure. The result was positive and the standard is now adopted as a European Standard.

National standards identical to this European Standard shall be published at the latest by 1992-11-30 and conflicting national standards shall be withdrawn at the latest by 1992-11-30.

According to the CEN/CENELEC Common Rules the following countries are bound to implement this European Standard : Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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Endorsement notice
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The text of the International Standard ISO 9313:1989 was approved by CEN as a European Standard without any modification.

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1992-11-30

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NOTES TO THE FOREWORD

INTERNATIONAL STANDARD

ISO 9313

First edition
1989-04-15

Resistance spot welding equipment — Cooling tubes

Matériel de soudage par points par résistance — Tubes de refroidissement



Reference number
ISO 9313 : 1989 (E)

ISO 9313 : 1989 (E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 9313 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*.

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Case postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Resistance spot welding equipment — Cooling tubes

1 Scope

This International Standard specifies dimensions and tolerances of cooling tubes for resistance spot welding equipment.

The end of the tube shall be cut off at an angle to ensure a sufficient flow of water.

Table 1 — Cooling tube dimensions

	Outside diameter, d_1 mm	Inside diameter, d_2 mm	Cut-off angle, α degrees
Type A (rigid)	$5 \pm 0,08$	4	60
Type B (flexible)	$5^{+0,3}_0$	4	1)
	$6^{+0,3}_0$	4,5 min.	1)

1) Not specified.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5183-1 : 1988, *Resistance spot welding — Electrode adaptors, male taper 1:10 — Part 1: Conical fixing, taper 1:10.*

ISO 5183-2 : 1988, *Resistance spot welding — Electrode adaptors, male taper 1:10 — Part 2: Parallel shank fixing for end-thrust electrodes.*

ISO 5184 : 1979, *Straight resistance spot welding electrodes.*

ISO 8430-1 : 1988, *Resistance spot welding — Electrode holders — Part 1: Taper fixing 1:10.*

ISO 8430-2 : 1988, *Resistance spot welding — Electrode holders — Part 2: Morse taper fixing.*

ISO 8430-3 : 1988, *Resistance spot welding — Electrode holders — Part 3: Parallel shank fixing for end thrust.*

3 Dimensions

The dimensions shall be those given in figure 1 and table 1.

Dimension l illustrated in figure 1 indicates the total length and may be selected by agreement between the purchaser and the manufacturer. To calculate the required length of cooling tube, see ISO 5183-1, ISO 5183-2, ISO 5184, ISO 8430-1, ISO 8430-2 and ISO 8430-3.

4 Designation

The designations of cooling tubes which comply with this International Standard shall comprise the following information in the order given:

- the description block (i.e. "cooling tube");
- a reference to this International Standard;
- the type of cooling tube (i.e. A or B);
- the outside diameter, in millimetres;
- the length, l , in millimetres.

Example: A type A cooling tube having an outside diameter of 5 mm and a length $l = 50$ mm shall be designated as follows:

Cooling tube ISO 9313 - A - 5 × 50

5 Materials

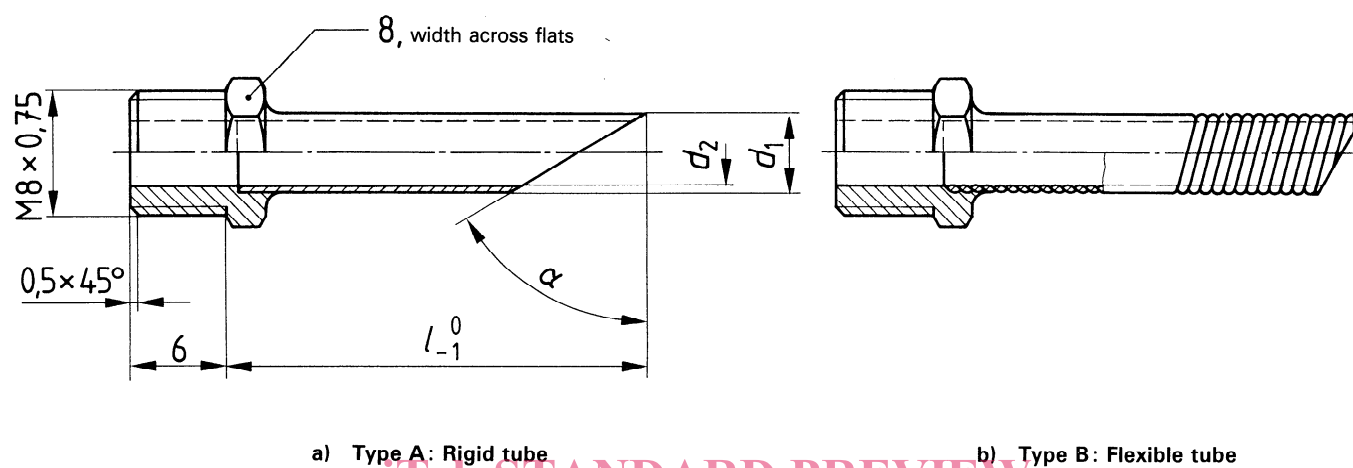
The cooling tube shall be made of brass or copper.

6 Marking

Cooling tubes which comply with this International Standard shall be marked with the designation laid down in clause 4, but excluding the description block and the reference to this International Standard, for example:

A - 5 × 50

Dimensions in millimetres



NOTE — For the dimensions of the type B cooling tube, see those specified for type A in figure 1a).

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 Figure 1 — Cooling tubes