



SLOVENSKI STANDARD SIST EN ISO 6947:1999

01-december-1999

Zvari - Položaji pri varjenju - Definicije kotov nagiba in zasuka (ISO 6947:1993)

Welds - Working positions - Definitions of angles of slope and rotation (ISO 6947:1993)

Schweißnähte - Arbeitspositionen - Definitionen der Winkel von Neigung und Drehung (ISO 6947:1993)

Soudures - Positions de travail - Définitions des angles d'inclinaison et de rotation (ISO 6947:1993)

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Ta slovenski standard je istoveten z: **EN ISO 6947:1997**
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ICS:

01.040.25	Izdelavna tehnika (Slovarji)	Manufacturing engineering (Vocabularies)
25.160.40	Varjeni spoji in vari	Welded joints

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EUROPEAN STANDARD

EN ISO 6947

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 1997

ICS 01.040.25; 25.160.10

Descriptors: See ISO document

English version

**Welds - Working positions - Definitions of angles
of slope and rotation (ISO 6947:1993)**

Soudures - Positions de travail - Définitions
des angles d'inclinaison et de rotation
(ISO 6947:1993)

Schweißnähte - Arbeitspositionen - Definitionen
des Winkel von Neigung und Drehung
(ISO 6947:1993)

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CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

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

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

Foreword

The text of the International Standard from Technical Committee ISO/TC 44 "Welding and allied processes" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 1997, and conflicting national standards shall be withdrawn at the latest by July 1997.

This document replaces prEN 1157.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of 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 the United Kingdom.

Endorsement notice

The text of the International Standard ISO 6947:1993 has been approved by CEN as a European Standard without any modification.

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INTERNATIONAL STANDARD

ISO 6947

Second edition
1990-02-01

Corrected and reprinted
1993-05-01

Welds — Working positions — Definitions of angles of slope and rotation

(Revision of ISO 6947 : 1980)

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*Soudures — Positions de travail — Définitions des angles d'inclinaison et de
rotation*
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Reference number
ISO 6947 : 1990 (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 6947 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*.

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This second edition cancels and replaces the first edition (ISO 6947:1980), of which it constitutes a technical revision; reasons for the revision are given in the "Introduction" (p. iii).

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Introduction

The main reasons for the revision of ISO 6947 : 1980 are given below.

The working positions should be valid for welds in plates and pipes.

The direction of welding is an essential parameter for determining the working position, e.g. up or down; however, in ISO 6947 : 1980, the working direction was not dealt with.

The working position is not dependent on the geometrical arrangement of the joint, e.g. butt or fillet joint, or that of the semi-finished product.

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The limitations for slope (within 0° to 90°) and for rotation (up to a maximum of 180°), as specified in ISO 6947 : 1980 (clockwise or counter-clockwise), prevent the complete specification of the weld and the direction of welding in space; it could not, therefore, be applicable for automatic and robotic welding. It is intended in this second edition of ISO 6947 that the whole sphere be included so that welds in all types and all directions are covered.
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To avoid any misunderstanding, the main positions have been given symbols which can easily be used for designation purposes; these symbols were chosen independently of possible meaningful abbreviations, i.e. they are not derived from any particular language.

The centreline is normally identical with the position of the stick electrode. The main positions have been defined without any tolerances for slope and rotation. For some stick electrodes, it may be useful to add the required tolerances as necessary for their application. In such cases, the main position, e.g. flat position, can be supplemented by specifying limits of slope and rotation.

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Welds — Working positions — Definitions of angles of slope and rotation

1 Scope

This International Standard defines working positions and makes it possible to locate welds in space with reference to the horizontal reference plane (usually parallel to the workshop floor) by means of angles of slope and rotation which are independent from surrounding construction.

2 Definitions

For the purposes of this International Standard, the following definitions apply.

2.1 working position: Position determined by the position of the weld in space and by the working direction.

2.2 slope, S : In the case of straight welds, the angle between the root line and the positive x -axis of the horizontal reference plane (see figure 1); the slope is measured in the mathematically positive (i.e. counter-clockwise) direction.

The co-ordinate system shall be arranged so that the root line lies in the vertical reference plane (x/z -plane; see figure 1) and that the working direction radiates outwards from the co-ordinate origin.

In the case of curved welds, the same stipulation applies: the slope is obtained from the tangent to the root line — at the particular cross-section of the weld in question — and the x -axis.

Each particular cross-section has its own specific co-ordinate system.

NOTE For pipes with inclined axes, the slope is intrinsically expressed by the welding direction (see 3.2).

2.3 rotation, R : The angle between the centreline of the weld (i.e. the line joining the centres of the weld root and the capping layer) and the positive y -axis or a line parallel to the y -axis, measured in the mathematically positive (i.e. counter-clockwise) direction in the plane of the transverse cross-section of the weld in question.

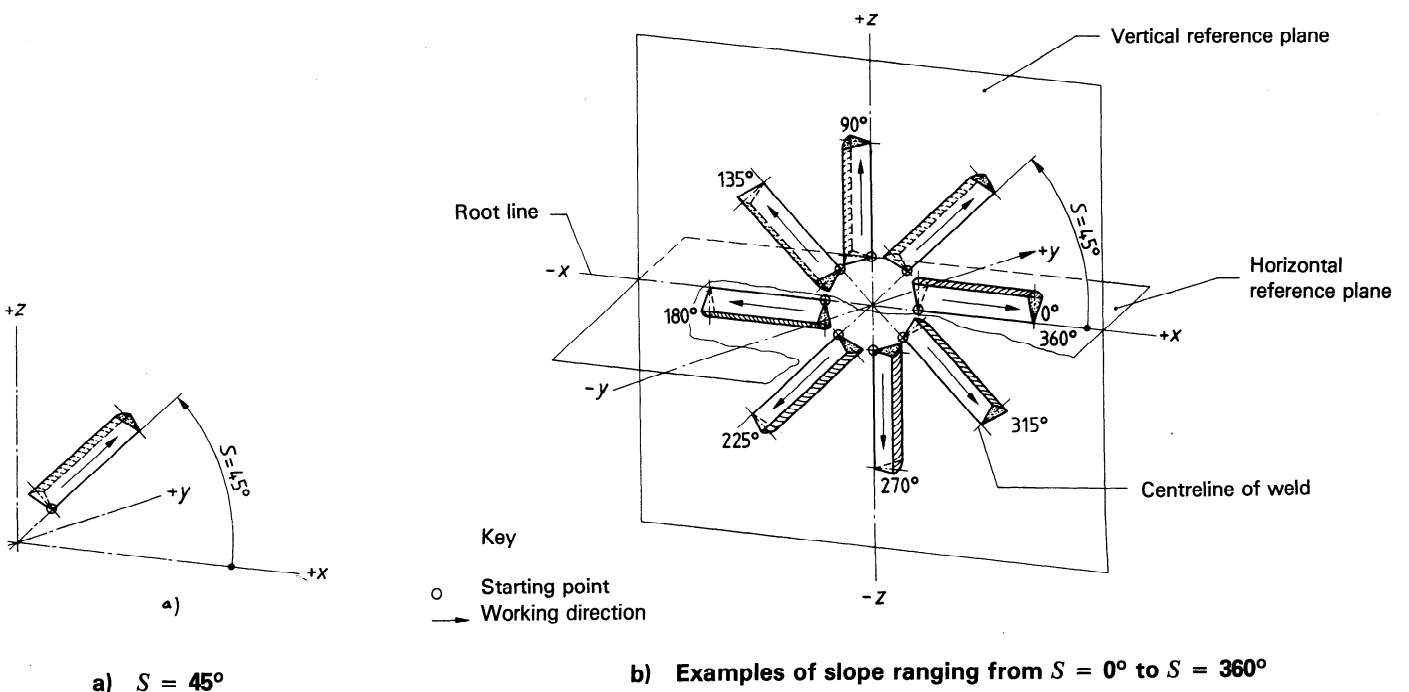


Figure 1 — Slope, S