SLOVENSKI STANDARD
SIST EN ISO 9692-4:2004

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Varjenje in sorodni postopki - Priporočila za pripravo zvarnih robov na jeklih - 4. del: Platirana jekla (ISO 9692-4:2003)

Welding and allied processes - Recommendations for joint preparation - Part 4: Clad steels (ISO 9692-4:2003)

Schweißen und verwandte Prozesse - Empfehlungen zur Schweißnahtvorbereitung - Teil 4: Plattierte Stähle (ISO 9692-4:2003)

Soudage et techniques connexes - Recommandations pour la préparation des joints - Partie 4: Aciers plaqués (ISO 9692-4:2003)

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ICS:

25.160.10	Varilni postopki in varjenje	Welding processes
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This European Standard was approved by CEN on 20 February 2003.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Contents

Foreword

This document (EN ISO 9692-4:2003) has been prepared 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of an identical text or by endorsement, at the latest by February 2004, and conflicting national standards shall be withdrawn at the latest by February 2004.

EN ISO 9692 "*Welding and allied processes – Recommendations for joint preparation*" consists of the following Parts:

— *Part 1: Manual metal-arc welding, gas-shielded metal-arc welding, gas welding, TIG welding and beam welding of steels.*

— *Part 2: Submerged arc welding of steels.*

— *Part 3: Metal inert gas welding and tungsten inert gas welding of aluminium and its alloys.*

— *Part 4: Clad steels*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This Part of this European Standard gives recommendations for types of joint preparation for clad steels.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the test and the publications are listed hereafter. For dated references, subsequent amendments to or revision of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1011-5, Welding – Recommendations for welding of metallic materials – Part 5: Welding of clad steels

3 Materials

Joint preparations recommended in this part of EN ISO 9692 are suitable for all types of weldable clad steels.

4 Types of joint preparation

The recommended types of joint preparation and dimensions are specified in Tables 1 to 4.

Details concerning welding recommendations for clad steels are given in EN 1011-5.

Figures showing the completed joint are given in Table 4 for clarity.

In certain cases, where the welding process may produce a brittle phase e.g. clad steels with cladding of titanium, zirconium and their alloys, a deviation from the weld preparations shown may be necessary.

Table 1 — Joint preparation for clad steels welded from both sides

Dimensions in millimetres

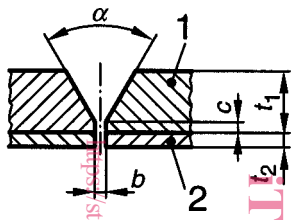
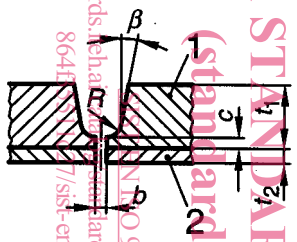
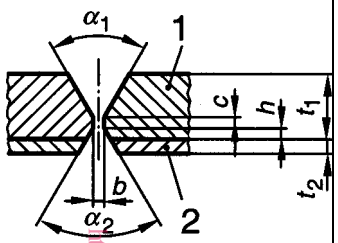
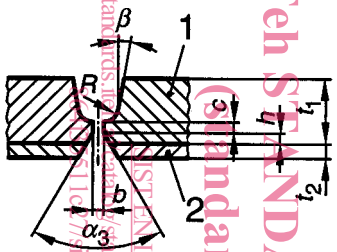
Ref. No.	Parent metal thickness t_1	Joint preparation	Cross section	Angle β	Gap b Radius R	Depth of root face c	Depth of preparation h	Cladding removal e	Remarks
1.1	$t_1 \leq 18$	Single V-butt weld With broad root face		$50° < \alpha < 70°$ $5° < \beta < 15°$	$4 < R < 8$ $b \leq 3$	$2 \leq c \leq 4$	–	–	Back grinding or machining from the clad side.
1.2		Single U-butt weld							

Table 1 — Joint preparation for clad steels welded from both sides (*concluded*)

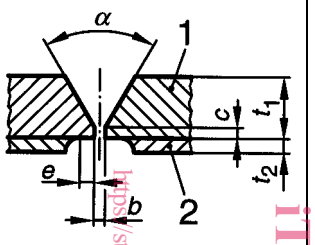
Ref. No.	Parent metal thickness t_1	Joint preparation	Cross section	Angle β	Gap b Radius R	Depth of root face c	Depth of preparation h	Cladding removal e	Remarks
1.3	$t_1 > 18$	Double V-butt weld With broad root face		$50° \le \alpha \le 70°$ $5° \le \beta \le 15°$	$4 \le R \le 8$ $b \le 3$	$2 \le c \le 6$	$h = 3$	–	
1.4		Single U-butt weld with V-root							

Key

1 Parent metal
2 Cladding
t_2 Cladding thickness

Table 2 — Joint preparation for clad steels welded from both sides with cladding removal

Dimensions in millimetres

Ref. No.	Parent metal thickness t_1	Joint preparation	Cross section	Angle α, β	Gap b Radius R	Depth of root face c	Depth of preparation h	Cladding removal e	Remarks
2.1	$t_1 \leq 18$	Single V-butt weld		$50° \leq \alpha \leq 70°$ $5° \leq \beta \leq 15°$	$3 \leq b \leq 5$ $4 \leq R \leq 8$	$c \leq 2$	–	$e \geq 4$	Back grinding or machining is recommended Adjacent clad surfaces should be protected against grinding particles. Where submerged arc welding is used, the cladding removal, e, should be at least 8 mm.
2.2		Single U-butt weld