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**WELDING - RECOMMENDATIONS FOR  
WELDING OF METALLIC MATERIALS -  
PART 5: WELDING OF CLAD STEEL**

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English version

**Welding - Recommendations for welding of metallic materials -  
Part 5: Welding of clad steel**

Soudage - Recommendations pour le soudage des  
matériaux métalliques - Partie 5: Soudage des aciers  
plaqués

Schweißen - Empfehlungen zum Schweißen metallischer  
Werkstoffe - Teil 5: Schweißen von plattierten Stählen

This European Standard was approved by CEN on 28 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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## **Foreword**

This document (EN 1011-5:2003) 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of an identical text or by endorsement, at the latest by October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

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.

## EN 1011-5:2003 (E)

### 1 Scope

This European Standard gives general recommendations for welding of clad steels by means of appropriate arc welding processes and electroslag strip cladding.

It is generally applicable to all clad steels and is appropriate regardless of the type of fabrication involved, although the application standard may have additional requirements. Non-ferrous claddings, such as titanium, tantalum, zirconium and their alloys are not covered by this standard.

Examples for joint preparation are given in EN ISO 9692-4.

This standard covers welding of cladding deposits as well as welding of the transition zone(s), when existing, between parent metal and cladding. These transition zones are metal combinations of non-alloyed ferrous parent metal with high alloyed stainless steels, nickel alloys or other non-ferrous metals.

The mechanical and physical design of the joints is not covered by this standard. Methods of testing and acceptance levels are not included because they depend on the service conditions of the fabrication. These details should be obtained from the design specification.

The corrosion resistance of the cladding depends on many factors and is not a part of this standard.

For general guidelines see EN 1011-1.

### 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 text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions 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 1011-3, *Welding — Recommendations for welding of metallic materials — Part 3: Arc welding of stainless steels*.

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*.

prEN ISO 5817, *Welding — Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) — Quality levels for imperfections (ISO/DIS 5817:2002)*.

EN ISO 9692-4, *Welding and allied processes — Recommendations for joint preparation — Part 4: Clad steels (ISO 9692-4:2003)*.

EN ISO 13916, *Welding — Guidance on the measurement of preheating temperature, interpass temperature and preheat maintenance temperature (ISO 13916:1996)*.

prEN ISO 15607, *Specification and approval of welding procedures for metallic materials — General rules (ISO/DIS 15607:2000)*.

prEN ISO 15609-1, *Specification and approval of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding (ISO/DIS 15609-1:2000)*.

prEN ISO 15614-1, *Specification and approval of welding procedures for metallic materials — Welding procedure test — Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys (ISO/DIS 15614-1:2000)*.

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