

Welding — Guidelines for a grouping system for welding purposes

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National foreword

This Published Document has been prepared by Technical Committee WEE/36 and is the English language version of CR 12187 : 1995 *Welding — Guidelines for a grouping system of materials for welding purposes*, published by the European Committee for Standardization (CEN).

CR 12187 was produced as a result of international discussions in which the United Kingdom took an active part.

Cross-references

Publication referred to	Corresponding British Standard
EN 288	BS EN 288 <i>Specification and approval of welding procedures for metallic materials</i>
EN 573	BS EN 573 <i>Aluminium and aluminium alloys. Chemical composition and form of wrought products</i>
EN 573-1 : 1994	Part 1 : 1995 <i>Numerical designation system</i>
EN 573-2 : 1994	Part 2 : 1995 <i>Chemical symbol base designation system</i>
EN 573-3 : 1994	Part 3 : 1995 <i>Chemical composition</i>
EN 10025 : 1993	BS EN 10025 : 1993 <i>Hot rolled products of non-alloy structural steels. Technical delivery conditions</i>
EN 10028	BS EN 10028 <i>Specification for flat products made of steels for pressure purposes</i>
EN 10028-2 : 1992	Part 2 : 1993 <i>Non-alloy and alloy steels with specified elevated temperature properties</i>
EN 10028-3 : 1992	Part 3 : 1993 <i>Weldable fine grain steels, normalized</i>
EN 10028-4 : 1994	Part 4 : 1995 <i>Nickel alloy steels with specified low temperature properties</i>
EN 10088-1 : 1995 ¹⁾	BS EN 10088 : <i>Stainless steels</i>
EN 10113	Part 1 : 1995 <i>List of stainless steels</i>
EN 10113-2 : 1993	<i>Hot-rolled products in weldable fine grain structural steels</i> Part 2 : 1993 <i>Delivery conditions for normalized/normalized rolled steels</i>
EN 10113-3 : 1993	Part 3 : 1993 <i>Delivery conditions for thermomechanical rolled steels</i>
EN 10155 : 1993	BS EN 10155 : 1993 <i>Structural steels with improved atmospheric corrosion resistance. Technical delivery conditions</i>
EN 10207 : 1991	BS EN 10207 : 1992 <i>Steels for simple pressure vessels. Technical delivery requirements for plates, strips and bars</i>

This publication is not to be regarded as a British Standard

¹⁾ Referred to as prEN 10088-1 : 1994 in the text.

English version

Welding — Guidelines for a grouping system of materials for welding purposes

Schweißen — Richtlinien für eine
Gruppeneinteilung von Werkstoffen zum Schweißen

Soudage — Lignes directrices pour un groupement
des matériaux pour le soudage

This CEN REPORT has been prepared by Technical Committee CEN/TC 121, Welding, and has been approved by CEN on 1995-09-20.

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CEN

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Foreword

This technical report was prepared by the Technical Committee CEN/TC 121, Welding, of which the secretariat is held by DS.

The Technical Committee decided to publish this technical report.

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0 Introduction

This technical report has been produced to provide a uniform system for grouping of materials to be welded independent of application.

It is based on the grouping systems given in the relevant part of EN 288 for welding procedure approval testing and does not alter the range of approval given in these standards.

Its intention is to provide a uniform system for subdivision of materials groups when required for heat treatment, forming purposes etc.

It is possible to combine subgroups for special purposes, e.g. approval testing of welders, welding procedure tests.

Use of these guidelines will aid unification of welding and welding related requirements (e.g. heat treatment, forming, testing) for similar materials.

1 Scope

This technical report gives a grouping system for all forms of the following materials:

- steel;
- aluminium and its alloys;
- nickel and its alloys;
- copper and its alloys;
- titanium and its alloys;
- zirconium and its alloys.

2 Normative references

This European Technical Report 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 Technical Report only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 288	<i>Specification and approval of welding procedures for metallic materials</i>	prEN 1412 : 1994	<i>Copper and copper alloys — European numbering system</i>
EN 573-1 : 1994	<i>Aluminium and aluminium alloys — Chemical composition and form of wrought products — Part 1: Numerical designation system</i>	prEN 1652 : 1994	<i>Copper and copper alloys — Plate, sheet, strip and circles for general purposes</i>
EN 573-2 : 1994	<i>Aluminium and aluminium alloys — Chemical composition and form of wrought products — Part 2: Chemical symbol based designation system</i>	prEN 1653 : 1994	<i>Copper and copper alloys — Plate, sheet and circles for boilers, pressure vessels and hot water storage units</i>
EN 573-3 : 1994	<i>Aluminium and aluminium alloys — Chemical composition and form of wrought products — Part 3: Chemical composition</i>	prEN 1654 : 1994	<i>Copper and copper alloys — Strip for springs and connectors</i>
		EN 10025 : 1993	<i>Hot-rolled products of non-alloy structural steels — Technical delivery conditions (includes amendment A1 : 1993)</i>
		EN 10028-2 : 1992	<i>Flat products made of steels for pressure purposes — Part 2: Non-alloy and alloy steels with specified elevated temperature properties</i>
		EN 10028-3 : 1992	<i>Flat products made of steels for pressure purposes — Part 3: Weldable fine grain steels, normalized</i>
		EN 10028-4 : 1994	<i>Flat products made of steels for pressure purposes — Part 4: Nickel alloy steels with specified low temperature properties</i>
		prEN 10028-5 : 1993	<i>Flat products made of steels for pressure purposes — Part 5: Weldable fine grain steels, thermomechanically rolled</i>
		prEN 10028-6 : 1993	<i>Flat products made of steels for pressure purposes — Part 6: Weldable fine grain steels, quenched and tempered</i>
		prEN 10088-1 : 1994	<i>Stainless steels — Part 1: List of stainless steels</i>
		EN 10113-2 : 1992	<i>Hot-rolled products in weldable fine grain structural steels — Part 2: Delivery conditions for normalized/normalized rolled steels</i>
		EN 10113-3 : 1992	<i>Hot-rolled products in weldable fine grain structural steels — Part 3: Delivery conditions for thermomechanical rolled steels</i>
		prEN 10120 : 1994	<i>Steel sheet and strip for welded gas cylinders</i>
		prEN 10137-2 : 1995	<i>Plates and wide flats made of high yield strength structural steels in the quenched and tempered or precipitation hardened conditions — Part 2: Delivery conditions for quenched and tempered steels</i>

- prEN 10137-3 : 1995 *Plates and wide flats made of high yield strength structural steels in the quenched and tempered or precipitation hardened conditions — Part 3: Delivery conditions for precipitation hardened steels*
- prEN 10149-2 : 1995 *Hot-rolled flat products made of high yield strength steels for cold forming — Part 2: Delivery conditions for thermomechanical rolled steels*
- prEN 10149-3 : 1995 *Hot-rolled flat products made of high yield strength steels for cold forming — Part 3: Delivery conditions for normalized/normalized rolled steels*
- EN 10155 : 1993 *Structural steels with improved atmospheric corrosion resistance — Technical delivery conditions*
- EN 10207 : 1991 *Steels for simple pressure vessels — Technical delivery requirements for plates, strips and bars*
- prEN 10213-1 : 1994 *Technical delivery conditions for steel castings for pressure purposes — Part 1: General*
- prEN 10213-2 : 1994 *Technical delivery conditions for steel castings for pressure purposes — Part 2: Steel grades for use at room temperature and elevated temperatures*
- prEN 10213-3 : 1994 *Technical delivery conditions for steel castings for pressure purposes — Part 3: Steel grades for use at low temperature*
- prEN 10213-4 : 1994 *Technical delivery conditions for steel castings for pressure purposes — Part 4: Austenitic and austeno-ferritic steel grades*
- prEN 10222-3 : 1994 *Steel forgings for pressure purposes — Part 3: Ferritic and martensitic steels with elevated temperature properties*
- prEN 10222-4 : 1994 *Steel forgings for pressure purposes — Part 4: Nickel steels with specified low temperature properties*
- prEN 10222-5 : 1994 *Steel forgings for pressure purposes — Part 5: Fine grain steels with high proof stress*
- prEN 10222-6 : 1994 *Steel forgings for pressure purposes — Part 6: Austenitic, martensitic and austeno-ferritic stainless steels*
- prEN 10225 : 1994 *Weldable structural steels for fixed offshore structures*
- prEN 10248-1 : 1995 *Hot rolled sheet piling of non-alloy steels — Part 1: Technical delivery conditions*