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Standards

Irish Standard
I.S. EN 10253-4:2008

Butt-welding pipe fittings - Part 4: Wrought austenitic and austenitic-ferritic (duplex) stainless steels with specific inspection requirements

I.S. EN 10253-4:2008

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May 2009

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English version
Version Française
Deutsche Fassung

Butt-welding pipe fittings - Part 4: Wrought austenitic and austenitic-ferritic
(duplex) stainless steels with specific inspection requirements

Raccords à souder bout à bout - Partie 4:
Aciers inoxydables austénitiques et
austéno-ferritiques (duplex) avec contrôle
spécifique

Formstücke zum Einschweißen - Teil 4:
Austenitische und austenitisch-ferritische
(Duplex-)Stähle mit besonderen
Prüfanforderungen

This corrigendum becomes effective on 13 May 2009 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 13 mai 2009 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 13.Mai 2009 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

1 Modification to Clause 4, Symbols

In the text concerning symbol D , replace "return ends" with "return bends" to read:

"Specified outside diameter for elbows, return bends, equal tees, caps and the major outside diameter for reducers and reducing tees, expressed in millimetres;"

2 Modification to 6.1.1.2, Elbows and return bends, 1st paragraph

Delete "inside" to read:

"Elbows and return bends are designated by the model, the angle and the diameter (D or ID) (Inside diameter related to metric series)."

3 Modification to 11.2.5, Tolerances on the form of fittings

Replace "is" with "are" to read:

"The tolerances on the form of every type of fitting (out-of-squareness, alignment) are the following:"

4 Modification to 12.2.2 Content of inspection documents, 3rd paragraph

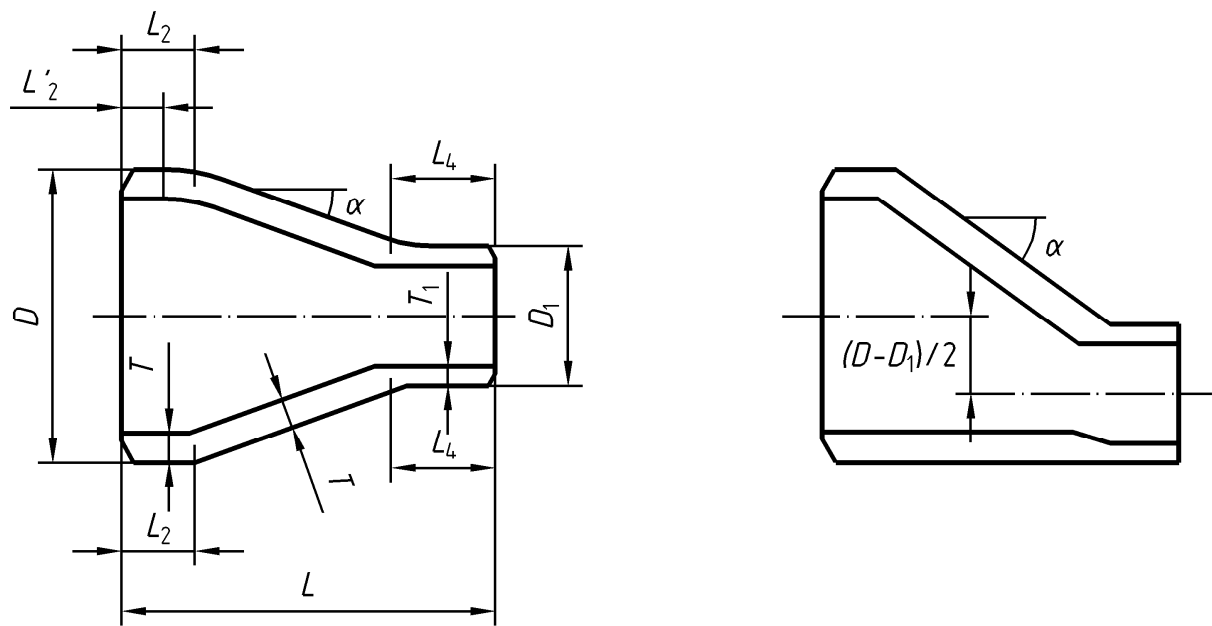
Delete "or inspection report" to read:

"The inspection certificate shall contain the following codes and information:"

5 Modification to "Figure B.3 - Concentric and eccentric reducer type A" in B.4.5, Reducers

Replace the existing Figure B.3 with the following new Figure B.3 (from Figure A.3 of EN 10253-2:2007):

"



6 Modification to Bibliography

Sort the references to read as follows: "

- [1] EN 10020:2000, *Definitions and classification of grades of steel*
- [2] EN 10052:1993, *Vocabulary of heat treatment terms for ferrous products*
- [3] EN 10079:2007, *Definitions of steel products*
- [4] EN 10088-1, *Stainless steels – Part 1: List of stainless steels*
- [5] EN ISO 2566-1, *Steel – Conversion of elongation values – Part 1: Carbon and low alloy steels (ISO 2566-1:1984)*
- [6] EN ISO 8493, *Metallic materials – Tube – Drift-expanding test (ISO 8493:1998)*
- [7] EN ISO 15607:2004, *Specification and qualification of welding procedures for metallic materials – General rules (ISO 15607:2003)*
- [8] ISO 3419, *Non-alloy and alloy steel butt-welding fittings*
- [9] ISO 5251, *Stainless steel butt-welding fittings*

".

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National Standards Authority of Ireland
Údarás um Chaighdeán Náisiúnta na hÉireann

IRISH STANDARD

I.S. EN 10253-4:2008

ICS 23.040.40
77.140.20

**BUTT-WELDING PIPE FITTINGS - PART 4:
WROUGHT AUSTENITIC AND AUSTENITIC-
FERRITIC (DUPLEX) STAINLESS STEELS
WITH SPECIFIC INSPECTION REQUIREMENTS**

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EUROPEAN STANDARD

EN 10253-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2008

ICS 23.040.40; 77.140.20

English Version

**Butt-welding pipe fittings - Part 4: Wrought austenitic and
austenitic-ferritic (duplex) stainless steels with specific
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Raccords à souder bout à bout - Partie 4: Aciers
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contrôle spécifique

Formstücke zum Einschweißen - Teil 4: Austenitische und
austenitisch-ferritische (Duplex-)Stähle mit besonderen
Prüfanforderungen

This European Standard was approved by CEN on 5 January 2008.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

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 CEN 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

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Foreword

This document (EN 10253-4:2008) has been prepared by Technical Committee ECISS/TC 29 “Steel tubes and fittings for steel tubes”, the secretariat of which is held by UNI/UNSIDER.

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 September 2008, and conflicting national standards shall be withdrawn at the latest by September 2008.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of the EU Directive 97/23/EC.

For relationship with the EU Directive 97/23/EC, see informative Annex ZA, which is an integral part of this document.

EN 10253 comprises a series of European Standards about *Butt-welding pipe fittings*, namely:

- *Part 1: Wrought carbon steel for general use and without specific inspection requirements*
- *Part 2: Non alloy and ferritic alloy steels with specific inspection requirements*
- *Part 3: Wrought austenitic and austenitic-ferritic (duplex) stainless steels without specific inspection requirements*
- *Part 4: Wrought austenitic and austenitic-ferritic (duplex) stainless steels with specific inspection requirements*

In writing EN 10253 the competent committee recognized that there are two broad types of products commonly used for stainless steels, and decided to reflect these in the standard by differentiating between two parts, Part 3 and Part 4.

Part 4 defines two types of fittings: Type A fittings have the same wall thickness at the welding ends than a pipe having the same specified wall thickness. Their resistance to internal pressure is, in general, less than that of a straight pipe with the same dimensions. Type B fittings showing increased wall thickness at the body of the fitting are designed to resist the same internal pressure as a straight pipe with same dimensions. These two types of fittings are intended to be used in applications covered by the EU Directive 97/23/EC. According to this Directive and further interpretation guidelines (e.g. guideline 7/19), seamless fittings are considered as materials whereas welded fittings are considered as components. Therefore, in some areas of this European Standard, provisions for seamless and welded fittings are different.

The committee recognized the need to provide a basic type in which the minimum wall thickness of the fitting is guaranteed without formal reference to the pressure resistance. This type is considered in Part 3 and includes products not intended for use in applications covered by the Pressure Equipment Directive category I – IV except applications according to Article 3 Paragraph 3.

Information about structural dimensions of fittings is given in Annex A.

For fittings specified in accordance with this part of EN 10253, the resistance to internal pressure of the fitting may be determined by calculation. Annex B gives information about the calculation.

For some wall thickness series Annex C lists pressure factors for fittings type A and Annex D lists wall thickness values for the body of the fittings of fittings type B.

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EN 10253-4:2008 (E)

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Introduction

The European Committee for Standardisation (CEN) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents applied to steel grade 1.4410, the compositions of which is given in Table 3.

CEN takes no position concerning the evidence, validity and scope of these patent rights.

The holder of these patent rights has assured CEN that they are willing to negotiate licences, under reasonable and non-discriminatory terms and conditions, with applicants throughout the world. In this respect, the statements of the holders of these patent rights are registered with CEN. Information may be obtained from:

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Attention is drawn to the possibility that some of the elements within this document may be the subject of patent rights other than those indicated above. CEN shall not be responsible for identifying any or all such patents rights.

1 Scope

1.1 This European Standard specifies the technical delivery requirements for seamless and welded butt-welding fittings (elbows, concentric and eccentric reducers, equal and reducing tees, caps) made of austenitic and austenitic-ferritic (duplex) stainless steel which are intended for pressure and corrosion resisting purposes at room temperature, at low temperature or at elevated temperatures.

It specifies:

- the type of fittings;
 - type A (see 7.2)
 - type B (see 7.3)
- the steel grades;
- the mechanical properties;
- the dimensions and tolerances;
- the requirements for inspection and testing;
- the inspection documents;
- the marking;
- the handling and packaging.

NOTE In the case of a harmonised supporting standard for materials, presumption of conformity to the Essential Requirement(s) (ESRs) is limited to technical data of materials in the standard and does not presume adequacy of the material to a specific item of equipment. Consequently the technical data stated in the material standard should be assessed against the design requirements of this specific item of equipment to verify that the ESRs of the Pressure Equipment Directive (PED) are satisfied.

1.2 Unless otherwise specified in this European Standard the general technical delivery requirements in EN 10021 apply.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 287-1, *Qualification test of welders - Fusion welding - Part 1: Steels*

EN 473, *Non destructive testing - Qualification and certification of NDT personnel - General principles*

EN 910, *Destructive tests on welds in metallic materials – Bend test*

EN 1418, *Welding personnel - Approval testing of welding operators for fusion welding and resistance weld setters for fully mechanized and automatic welding of metallic materials*

EN 10002-1, *Metallic materials - Tensile testing - Part 1: Method of test at ambient temperature*

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