

**Butt welding pipe fittings - Part 1:
Wrought carbon steel for general use
and without specific inspection
requirements**

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 10253-1:2000 sisaldab Euroopa standardi EN 10253-1:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.02.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 10253-1:2000 consists of the English text of the European standard EN 10253-1:1999.</p> <p>This document is endorsed on 18.02.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This European Standard specifies requirements for steel butt-welding fittings (elbows and return bends, concentric and eccentric reducers, equal and reducing tees, dished ends and caps) made of wrought carbon steel and delivered without specific inspection. It specifies the steel grades and its chemical composition; the mechanical characteristics; the dimensions and tolerances; the technical conditions for inspection and testing; the marking, packaging and inspection documents</p>	<p>Scope: This European Standard specifies requirements for steel butt-welding fittings (elbows and return bends, concentric and eccentric reducers, equal and reducing tees, dished ends and caps) made of wrought carbon steel and delivered without specific inspection. It specifies the steel grades and its chemical composition; the mechanical characteristics; the dimensions and tolerances; the technical conditions for inspection and testing; the marking, packaging and inspection documents</p>
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ICS 23.040.40

Võtmesõnad:

Hinnagrupp Q

ICS 23.040.40

English version

Butt-welding pipe fittings

Part 1: Wrought carbon steel for general use and without specific inspection requirements

Raccords à souder bout à bout –
Partie 1: Acier au carbone pour
usages généraux et sans contrôle
spécifique

Formstücke zum Einschweißen – Teil 1:
Unlegierter Stahl für allgemeine An-
wendungen und ohne besondere Prüf-
anforderungen

This European Standard was approved by CEN on 1999-07-02.

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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

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

CEN

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

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Contents

Foreword.....	3
1 Scope	4
1.1 Scope	4
1.2 Limitation of use	4
1.3 Technical delivery conditions.....	4
2 Normative references	4
3 Definitions and symbols	5
3.1 Definitions.....	5
3.2 Symbols	5
4 Information to be supplied by the purchaser.....	6
4.1 Mandatory information	6
4.2 Options.....	7
4.3 Examples	7
5 Manufacturing process	8
5.1 Steelmaking process	8
5.2 Fitting making-process and heat treatment.....	8
6 Metallurgical properties	9
6.1 Chemical composition.....	9
6.2 Mechanical characteristics	9
6.3 Weldability	9
7 Dimensions and tolerances	10
7.1 Dimensions.....	10
7.2 Tolerances on dimensions.....	23
7.3 End finishing	25
8 Appearance, imperfections and repair	27
8.1 Appearance.....	27
8.2 Imperfections.....	27
8.3 Repair	27
9 Inspection and testing.....	28
9.1 General.....	28
9.2 Inspection documents.....	28
9.3 Summary of inspection and testing.....	28
9.4 Inspection and test methods	28
10 Marking	29
11 Protection and packaging.....	29
Annex A (normative) Alternative specification for all types of fittings	30
A.1 Steel grade.....	30
A.2 Dimensions.....	30
Annex B (informative) A-deviation	32

Foreword

This European Standard has been prepared by Technical Committee ECISS/TC 29 "Steel tubes and fittings for steel tubes", the secretariat of which is held by UNI.

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 March 2000, and conflicting national standards shall be withdrawn at the latest by March 2000.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. This European Standard is considered to be a supporting standard to those application and product standards which in themselves support an essential safety requirement of a New Approach Directive and which make reference to this European Standard.

In writing the European Standard EN 10253, the competent committee recognized that there are two broad types of products commonly used and decided to reflect these in the standard by the differentiation between two parts.

Firstly 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 1 ; it consists of fittings which are not intended to be used in applications covered by the European Pressure Equipment Directive.

Secondly the equipment standards under the Pressure Equipment Directive will impose that the fitting has a defined resistance to internal pressure. This approach imposes enhanced requirements that are considered in Part 2.

Part 1 : fittings are not designed to fulfil specific design requirements in regard of pressure resistance and are only defined by their chemical composition, mechanical characteristics and dimensions (outside diameter, wall thickness, radius ...).

Part 2 : fittings are designed to fulfil specific design requirements.

It is the ultimate responsibility of the user to select the appropriate part for the intended application.

NOTE This European Standard intends to reflect the needs of various national markets ; consequently it offers in a normative annex an alternative solution for an associated combination of steel grade and dimensions (see clause 1).

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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

1.1 Scope

This European Standard specifies requirements for steel butt-welding fittings (elbows and return bends, concentric and eccentric reducers, equal and reducing tees, dished ends and caps) made of wrought carbon steel and delivered without specific inspection.

The fittings described in this European Standard do not fulfil specific design requirements ; consequently they cannot be considered as conforming to the Essential Requirements of the Pressure Equipment Directive (Directive 97/23/EC of 29.05.1997).

It specifies :

- the steel grade and its chemical composition ;
- the mechanical characteristics ;
- the dimensions and tolerances ;
- the technical conditions for inspection and testing ;
- the marking, packaging and inspection documents.

When steel grade S265 is specified in 4.1.2, the normative annex A applies and takes preference over conflicting requirements in the relevant areas of the main text.

Another part of this European Standard (describing fittings intended to fulfil the Essential Requirements of the PED) is :

- Butt-welding pipe fittings - Part 2 : Wrought carbon and ferritic alloy steels with specific inspection requirements.

1.2 Limitation of use

The allowed pressures and temperatures are the responsibility of the customer according to the state of the art and in application of the safety coefficients specified in the applicable regulations, codes or standards.

1.3 Technical delivery conditions

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

2 Normative references

This European Standard incorporates by dated or undated references, 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.

EN 287-1, *Approval testing of welders - Fusion welding - Part 1 : Steels.*

EN 288-1, *Specification and qualification of welding procedures for metallic materials - Part 1 : General rules for fusion welding.*

EN 10002-1, *Metallic materials - tensile testing - Part 1 : Method of test (at ambient temperature).*

EN 10003-1, *Metallic materials - Brinell hardness testing - Part 1 : Method of test.*

EN 10020, *Definitions and classification of grades of steel.*

EN 10021, *General technical delivery requirements for iron and steel.*

EN 10052, *Vocabulary of heat treatment terms for ferrous products.*

EN 10079, *Definition of steel products.*

EN 10204, *Metallic products - Types of inspection documents.*

EN ISO 6708, *Pipework components - Definition and selection of DN (nominal size).*

EN 10246-7, *Non destructive testing of steel tubes - Part 7 : Automatic full peripheral ultrasonic testing of seamless and welded (except submerged arc welded) steel tubes for the detection of longitudinal imperfections.*

prEN 10246-8¹⁾, *Non destructive testing of steel tubes - Part 8 : Automatic ultrasonic testing of the weld seam of electric welded tubes for the detection of longitudinal imperfections.*

ISO 3166, *Codes for the representation of names of countries.*

3 Definitions and symbols

3.1 Definitions

For the purpose of this European Standard the definitions in EN 10020, EN 10021, EN 10052 and EN 10079 shall apply. In addition following definitions apply :

type

For elbows and return bends the type defines the bending radius of the piece. Possible types are :

- type 2D : $R \approx 1D$;
- type 3D : $R \approx 1,5D$;
- type 5D : $R \approx 2,5D$.

welded fitting

Fitting made from a welded tube or fitting where welding is part of the fabrication of the fitting.

3.2 Symbols

- DN Conventional dimension used in piping ; non measurable value (See EN ISO 6708)
- D Specified outside diameter for elbows, return bends, equal tees and large diameter for reducers and reducing tees, in millimetres
- D_1 Specified small outside diameter for reducers and reducing tees, in millimetres
- T Specified wall thickness at the welding ends, in millimetres
- T_1 Specified wall thickness at the welding end of the D_1 face of reducers and reducing tees, in millimetres

¹⁾ In preparation. Until this document is published as a European Standard, the corresponding national standard should be agreed at the time of enquiry and order.