

**Bright steel products - Technical delivery
conditions - Part 1: General**

Bright steel products - Technical delivery conditions -
Part 1: General

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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| <p>Käesolev Eesti standard EVS-EN 10277-1:2008 sisaldab Euroopa standardi EN 10277-1:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 26.05.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.03.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p> | <p>This Estonian standard EVS-EN 10277-1:2008 consists of the English text of the European standard EN 10277-1:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 26.05.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 12.03.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p> |
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Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

English Version

**Bright steel products - Technical delivery conditions - Part 1:
General**

Produits en acier transformés à froid - Conditions
techniques de livraison - Partie 1: Généralités

Blankstahlerzeugnisse - Technische Lieferbedingungen -
Teil 1: Allgemeines

This European Standard was approved by CEN on 4 February 2008.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 10277-1:2008) has been prepared by Technical Committee ECISS/TC 23 "Steels for heat treatment, alloy steels and free-cutting steels - Qualities and dimensions", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by September 2008, and conflicting national standards shall be withdrawn at the latest by September 2008.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 supersedes EN 10277-1:1999.

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This European Standard EN 10277 'Bright steel products - Technical delivery conditions' is subdivided as follows:

Part 1: General;

Part 2: Steels for general engineering purposes;

Part 3: Free-cutting steels;

Part 4: Case hardening steels;

Part 5: Steels for quenching and tempering.

During the preparation of the first edition of this European Standard there were not enough statistical data available concerning mechanical properties of bright bar products. Since then it has been recognized that the proof strength values in the cold drawn condition were too high. In addition, cyclic stresses that occur during straightening can reduce the proof strength (Bauschinger's effect), which was not taken into account when drafting the first edition of this standard. In this second edition the proof strength values of non-alloy and alloy grades in condition +QT+C in parts 3 and 5 have been adjusted downwards compared to the first edition.

1 Scope

This part of EN 10277 specifies the general technical delivery conditions for bright steel bars in the drawn, turned or ground condition, in straight lengths and of the following steel types:

- a) steels for general engineering purposes as specified in EN 10277-2;
- b) free-cutting steels as specified in EN 10277-3;
- c) case hardening steels as specified in EN 10277-4;
- d) steels for quenching and tempering as specified in EN 10277-5.

It does not cover cold rolled products and cut lengths produced from strip or sheet by cutting.

In special cases variations in these technical delivery requirements or additions to them may form the subject of an agreement at the time of enquiry and order (see Annex B).

In addition to the specifications of this European Standard, the general technical delivery requirements of EN 10021 are applicable, unless otherwise specified.

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 606, *Bar coding - Transport and handling labels for steel products*

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

EN 10020:2000, *Definition and classification of grades of steel*

EN 10021, *General technical delivery conditions for steel products*

EN 10027-1, *Designation systems for steels - Part 1: Steel names*

EN 10027-2, *Designation systems for steels - Part 2: Numerical system*

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

EN 10079:2007, *Definition of steel products*

EN 10083-2, *Steels for quenching and tempering – Part 2: Technical delivery conditions for non alloy steels*

EN 10083-3, *Steels for quenching and tempering – Part 3: Technical delivery conditions for alloy steels*

EN 10084, *Case hardening steels – Technical delivery conditions*

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

prCEN/TR 10261, *Iron and steel - Review of available methods of chemical analysis*

EN 10277-2, *Bright steel products - Technical delivery conditions - Part 2: Steels for general engineering purposes*

EN 10277-3, *Bright steel products - Technical delivery conditions - Part 3: Free-cutting steels*

EN 10277-4, *Bright steel products - Technical delivery conditions - Part 4: Case-hardening steels*

EN 10277-5, *Bright steel products - Technical delivery conditions - Part 5: Steels for quenching and tempering*

EN 10278, *Dimensions and tolerances of bright steel products*

EN ISO 377, *Steel and steel products - Location and preparation of samples and test pieces for mechanical testing (ISO 377:1997)*

EN ISO 643, *Steels - Micrographic determination of the apparent grain size (ISO 643:2003)*

EN ISO 3887, *Steels - Determination of depth of decarburization (ISO 3887:2003)*

EN ISO 6506-1, *Metallic materials - Brinell hardness test - Part 1: Test method (ISO 6506-1:2005)*

EN ISO 14284, *Steel and iron - Sampling and preparation of samples for the determination of chemical composition (ISO 14284:1996)*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 10021:2006, EN ISO 377:1997, EN ISO 14284:2002 and the following apply.

3.1

non-alloy and alloy steel; quality and special steel

see the terms and definitions in EN 10020:2000

3.2

steel products

steel products are defined according to their shape and dimensions in EN 10079. In particular the following definitions are reproduced

3.2.1

drawn products (3.4.5.1, EN 10079:2007)

products of various cross section shapes obtained, after descaling, by drawing of hot rolled bars or rod on a draw bench (cold deformation without removing material)

NOTE This operation gives the product special features with respect to shape, dimensional accuracy and surface finish. In addition, the process causes cold working of the product, which can be eliminated by subsequent heat treatment. Products in lengths are delivered straightened regardless of size.

3.2.2

turned products (3.4.5.2, EN 10079:2007)

round bars produced by turning on a lathe where the product can be further processed by straightening and polishing

NOTE 1 This operation gives the bar special features with respect to shape, dimensional accuracy and surface finish. The removal of metal is carried out in such a way that the bright product is generally free from rolling defects and surface decarburization.

NOTE 2 For technical reasons some bars ordered as hot rolled products may be delivered roughly turned (peeled), nevertheless such products are treated as hot rolled products and not as bright products.