EESTI STANDARD EVS-EN 10343:2009

EHITUSES KASUTATAV PARENDATAV TERAS. TEHNILISED TARNETINGIMUSED

Steels for quenching and tempering for construction purposes - Technical delivery conditions

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 10343:2009 sisaldab Euroopa standardi EN 10343:2009 ingliskeelset teksti.	This Estonian standard EVS-EN 10343:2009 consists of the English text of the European standard EN 10343:2009.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 18.03.2009.	Date of Availability of the European standard is 18.03.2009.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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Steels for quenching and tempering for construction purposes - Technical delivery conditions

Aciers pour trempe et revenu pour usage de construction - Conditions techniques de livraison

Vergütungsstähle für das Bauwesen - Technische Lieferbedingungen

This European Standard was approved by CEN on 14 February 2009.

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Foreword

This document (EN 10343:2009) 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of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by December 2010.

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 EU Construction Products Directive (89/106/EEC).

For relationship with EU Construction Products Directive (CPD), see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This document specifies the technical delivery requirements for the following steel products intended for use in the construction industry:

bars (including hammer-forged bars);

wide flats;

hot-rolled strip and sheet/plate;

forgings.

They are manufactured from the direct hardening non alloy steels for quenching and tempering and the direct hardening alloy steels for quenching and tempering and supplied in one of the heat treatment conditions given for the different types of products in Table 1.

These steels are generally intended for the manufacture of quenched and tempered parts, but can also be used in the normalized condition.

The requirements for mechanical properties are restricted to part sizes given in Tables 4 and 5.

NOTE 1 In accordance with EN 10020, the steels covered by this standard are quality and special steels. The differences between quality and special steels are characterized by the following requirements, which are valid for special steels only:

— the minimum impact values in the quenched and tempered condition (for non alloy special steels in the case of mean percentages by mass of carbon < 0,50 % only);

— limited oxide inclusion content;

— lower maximum contents for phosphorus and sulphur.

NOTE 2 This standard does not apply for bright steel products.

NOTE 3 This standard only applies for the manufacture of products without any further cold or hot forming and no additional heat treatment, i.e. the properties are according to the delivery condition (+N, +QT).

In addition to the specifications of this European Standard, the general technical delivery conditions given in EN 10021 will be 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 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 steel - Part 1: Steel names*

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

EN 10045-1, *Metallic materials - Charpy impact test - Part 1: Test method*

EN 10052:1993, *Vocabulary of heat treatment terms for ferrous products*

EN 10079:2007, *Definition of steel products*

EN 10083-1:2006*, Steels for quenching and tempering - Part 1: General technical delivery conditions*

EN 10083-2:2006*, Steels for quenching and tempering - Part 2: Technical delivery conditions for non-alloy steels*

EN 10083-3:2006*, Steels for quenching and tempering - Part 3: Technical delivery conditions for alloy steels*

EN 10160*, Ultrasonic testing of steel flat product of thickness equal to or greater than 6 mm (reflection method)*

EN 10163-2, *Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections - Part 2: Plates and wide flats*

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

EN 10221, *Surface quality classes for hot-rolled bars and rods - Technical delivery conditions*

EN 10308*, Non destructive testing – Ultrasonic testing of steel bars*

EN ISO 377:1997, *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 9001:2008*, Quality management systems - Requirements (ISO 9001:2008)*

EN ISO 14284:2002, *Steel and iron - Sampling and preparation of samples for the determination of chemical composition (ISO 14284:1996).*

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

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply in addition to the terms and definitions given in EN 10020:2000, EN 10052:1993, EN 10079:2007, EN ISO 377:1997 and EN ISO 14284:2002.

3.1
steels for quenching and tempering
engineering steels which because of their chemical composition are suitable for hardening and in the quenched and tempered condition have good toughness at a given tensile strength

3.2
ruling section
section for which the specified mechanical properties apply (see Annex A)

NOTE Independent of the actual shape and dimensions of the cross-section of the product the size of its ruling section is always given by a diameter. This corresponds to the diameter of an "equivalent round bar". That is, a round bar which, at the position of its cross-section specified for taking the test pieces for the mechanical tests, will, when being