

This document is a preview generated by EVS

Tool steels

Tool steels

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

| | |
|--|---|
| <p>Käesolev Eesti standard EVS-EN ISO 4957:2000 sisaldab Euroopa standardi EN ISO 4957:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 16.06.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p> | <p>This Estonian standard EVS-EN ISO 4957:2000 consists of the English text of the European standard EN ISO 4957:1999.</p> <p>This document is endorsed on 16.06.2000 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> |
|--|---|

| | |
|---|---|
| <p>Käsitlusala: This International Standard covers the grades of wrought tools steels such as: a) non-alloy cold-work tool steels; b) alloy cold-work tool steels; c) alloy hot-work tool steels; d) high-speed tool steels.</p> | <p>Scope: This International Standard covers the grades of wrought tools steels such as: a) non-alloy cold-work tool steels; b) alloy cold-work tool steels; c) alloy hot-work tool steels; d) high-speed tool steels.</p> |
|---|---|

ICS 25.100.01, 77.140.10, 77.140.20

Võtmesõnad: chemical composition, conformity tests, heat treatment, marking, mechanical properties, specifications, steels, tests, tool steels

ICS 25.100.01; 77.140.10; 77.140.20

English version

Tool steels
(ISO 4957 : 1999)

Aciers à outils (ISO 4957 : 1999)

Werkzeugstähle (ISO 4957 : 1999)

This European Standard was approved by CEN on 1999-12-15.

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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 4957 : 1999 Tool steels,

which was prepared by ISO/TC 17 'Steel' of the International Organization for Standardization, has been adopted 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, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by June 2000 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

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.

Endorsement notice

The text of the International Standard ISO 4957 : 1999 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

Contents

| | | |
|------------------------------|--|-----------|
| 1 | Scope | 3 |
| 2 | Normative references | 3 |
| 3 | Terms and definitions | 4 |
| 4 | Requirements | 5 |
| 5 | Inspection, testing and conformance of products | 6 |
| 6 | Marking | 7 |
| 7 | Ordering and designation | 7 |
| Annex A (informative) | Hardness-tempering temperature-curves | 20 |
| Annex B (normative) | Supplementary or special requirements | 30 |
| Annex C (informative) | Designations of comparable steels | 32 |
| Bibliography | | 33 |

1 Scope

1.1 This International Standard covers the following grades of wrought tool steels:

- a) non-alloy cold-work tool steels;
- b) alloy cold-work tool steels;
- c) alloy hot-work tool steels;
- d) high-speed tool steels.

If not stated otherwise, this International Standard applies to all types of hot-rolled, forged, cold-drawn or cold-rolled products which are supplied in one of the surface and heat-treatment conditions given in 4.1.2 and Table 1.

Products according to this International Standard may be produced by powder metallurgy.

NOTE 1 The Tables 2, 4, 6 and 8 cover only those steels which have gained certain international importance, which does not mean however, that they are available in all industrial countries. In addition, a number of other steels for tools are specified in regional, national or company standards.

NOTE 2 Where the heat resistance of the tools is of particular importance, as for example in the case of tools for hot forming glass, the material selection should be based on ISO 4955 or ISO 9722.

1.2 In addition to this International Standard, the general technical delivery requirements of ISO 404 are applicable.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 377:1997, *Steel and steel products — Location and preparation of samples and test pieces for mechanical testing.*

ISO 404:1992, *Steel and steel products — General technical delivery requirements.*

ISO 1035-1:1980, *Hot-rolled steel bars — Part 1: Dimensions of round bars.*

ISO 1035-3:1980, *Hot-rolled steel bars — Part 3: Dimensions of flat bars.*

ISO 1035-4:1982, *Hot-rolled steel bars — Part 4: Tolerances.*

ISO 4948-1:1982, *Steels — Classification — Part 1: Classification of steels into unalloyed and alloy steels based on chemical composition.*

ISO 6506:1981¹⁾, *Metallic materials — Hardness test — Brinell test.*

ISO 6508:1986²⁾, *Metallic materials — Hardness test — Rockwell test (scales A - B - C - D - E - F - G - H - K).*

ISO 6929:1987, *Steel products — Definitions and classification.*

ISO/TR 9769:1991, *Steel and iron — Review of available methods of analysis.*

ISO 10474:1991, *Steel and steel products — Inspection documents.*

ISO 14284:1996, *Steel and iron — Sampling and preparation of samples for the determination of chemical composition.*

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 4948-1 and ISO 6829 as well as the following apply.

**3.1
product forms**
[ISO 6929]

**3.2
unalloyed and alloyed steel**
[ISO 4948-1]

**3.3
tool steels**

special steels suitable for working or processing of materials, for handling and measuring workpieces and, for this purpose, exhibiting high hardness and wear resistance and/or toughness

**3.3.1
cold-work tool steels**
non-alloy or alloy tool steels for applications in which the surface temperature is generally below 200 °C

**3.3.2
hot-work tool steels**
alloy tool steels for applications in which the surface temperature is generally over 200 °C

**3.3.3
high-speed tool steels**
steels used mainly for machining and for forming processes and which, because of their chemical composition, have the highest high-temperature hardness and temper resistance up to about 600 °C

1) To be replaced by ISO 6506-1, ISO 6506-2 and ISO 6506-3.

2) To be replaced by ISO 6508-1, ISO 6508-2 and ISO 6508-3.