

Technical product documentation - Representation of  
splines and serrations (ISO 6413:2018)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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| See Eesti standard EVS-EN ISO 6413:2018 sisaldab Euroopa standardi EN ISO 6413:2018 ingliskeelset teksti.           | This Estonian standard EVS-EN ISO 6413:2018 consists of the English text of the European standard EN ISO 6413:2018.                |
| 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 24.10.2018. | Date of Availability of the European standard is 24.10.2018.   |
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English Version

## Technical product documentation - Representation of splines and serrations (ISO 6413:2018)

Documentation technique de produits - Représentation  
des cannelures et des dentelures (ISO 6413:2018)

Technische Produktdokumentation - Darstellungen  
von Keilwellen und Kerbverzahnungen (ISO  
6413:2018)

This European Standard was approved by CEN on 6 August 2018.

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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-CENELEC 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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

## European foreword

This document (EN ISO 6413:2018) has been prepared by Technical Committee ISO/TC 10 "Technical product documentation" in collaboration with Technical Committee CEN/SS F01 "Technical drawings" the secretariat of which is held by CCMC.

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of an identical text or by endorsement, at the latest by April 2019, and conflicting national standards shall be withdrawn at the latest by April 2019.

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

This document supersedes EN ISO 6413:1994.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 6413:2018 has been approved by CEN as EN ISO 6413:2018 without any modification.

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 10, *Technical product documentation*, Subcommittee SC 6, *Mechanical engineering documentation*.

This second edition cancels and replaces the first edition (ISO 6413:1988), which has been technically revised. The following changes have been made:

- title changed from *Technical drawings — Representation of splines and serrations* to *Technical product documentation — Representation of splines and serrations*;
- Introduction added;
- normative references reviewed;
- figures improved and titles added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

The representations of splines in technical product documentation are different from those used in mechanical drawings. In mechanical drawings, the drawings of spline teeth are complicated.

This document improves the efficiency of drawing.

# Technical product documentation — Representation of splines and serrations

## 1 Scope

This document specifies the rules and graphical symbols for the representations of splines and serrations in technical product documentation.

Two methods of representation are specified:

- a) complete representation;
- b) simplified representation.

The rules and graphical symbols specified in this document are applicable to detail drawings of parts (shafts and hubs) and to assembly drawings of joints.

**NOTE** For uniformity, all the figures in this document have been drawn in the first-angle orthographic projection. A third-angle orthographic projection could equally have been used without prejudice to principles established.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 128-24:2014, *Technical drawings — General principles of presentation — Part 24: Lines on mechanical engineering drawings*

ISO 3098-2, *Technical product documentation — Lettering — Part 2: Latin alphabet, numerals and marks*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1 spline joint

connecting, coaxial elements that transmit torque through the simultaneous engagement of equally spaced teeth situated around the periphery of a cylindrical external member with similar spaced mating spaces situated around the inner surface of the related cylindrical internal member

[SOURCE: ISO 4156-1:2005, 3.1]

### 3.2 involute spline

member of a spline joint having teeth or spaces that have involute flank profiles

[SOURCE: ISO 4156-1:2005, 3.2]