SLOVENSKI STANDARD
SIST ISO 6410-1:1995

01-junij-1995

Tehniļ ne risbe - Vijaļ ni navoji in navojni deli - 1. del: Osnovni dogovori

Technical drawings -- Screw threads and threaded parts -- Part 1: General conventions

Dessins techniques -- Filetages et pièces filetées -- Partie 1: Conventions générales

Ta slovenski standard je istoveten z: **ISO 6410-1:1993**

ICS:

01.100.20	Konstrukcijske risbe	Mechanical engineering drawings
21.040.01	Navoji na splošno	Screw threads in general

SIST ISO 6410-1:1995 **en**

INTERNATIONAL STANDARD

ISO 6410-1

First edition
1993-05-15

Technical drawings — Screw threads and threaded parts —

Part 1: General conventions

Dessins techniques — Filetages et pièces filetées —

Partie 1: Conventions générales

Reference number
ISO 6410-1:1993(E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 6410-1 was prepared by Technical Committee ISO/TC 10, *Technical drawings, product definition and related documentation*, Sub-Committee SC 6, *Mechanical engineering documentation*.

This first edition of ISO 6410-1 cancels and replaces ISO 6410:1981, of which it constitutes a technical revision.

ISO 6410 consists of the following parts, under the general title *Technical drawings — Screw threads and threaded parts*:

— *Part 1: General conventions*

— *Part 2: Screw thread inserts*

— *Part 3: Simplified representation*

Annex A of this part of ISO 6410 is for information only.

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Introduction

ISO 6410 has been devised to provide a universal means of communication among the various interests involved in the design, manufacture and installation of fasteners.

Requirements within industries vary considerably; in recognition of this fact, ISO 6410 is presented in three parts (see foreword).

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Technical drawings — Screw threads and threaded parts —

Part 1:
General conventions

1 Scope

This part of ISO 6410 specifies methods for representing screw threads and threaded parts on technical drawings.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 6410. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 6410 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 128:1982, *Technical drawings — General principles of presentation.*

ISO 129:1985, *Technical drawings — Dimensioning — General principles, definitions, methods of execution and special indications.*

ISO 225:1983, *Fasteners — Bolts, screws, studs and nuts — Symbols and designations of dimensions.*

ISO 4753:1983, *Fasteners — Ends of parts with external metric ISO thread.*

ISO 6410-3:1993, *Technical drawings — Screw threads and threaded parts — Part 3: Simplified representation.*

3 Representation

3.1 Detailed representation of threads

In certain types of technical product documentation (e.g. publications, user manuals, etc.) the detailed representation of a thread either in a side view or in a section (see figures 1 to 3) may be needed to illustrate single or assembled parts. Neither pitch nor profile of the threads need usually be drawn exactly to scale.

In technical drawings, the detailed representation of threads (see figures 1 to 3) should only be used if absolutely necessary and whenever possible the helix should be represented by straight lines (see figure 2).

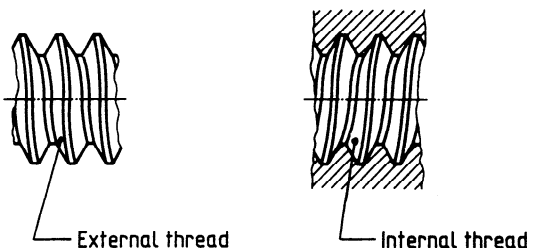

Figure 1

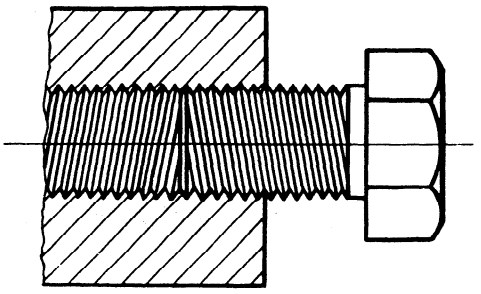

Figure 2

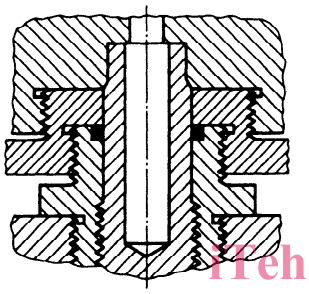

Figure 3

3.2 Conventional representation

Normally, by convention, the representation of threads and threaded parts in all types of technical drawings is simplified as shown in figures 4 to 7.

3.2.1 Views and sections of screw threads

For visible screw threads in side views and sections, the crests[1] of threads shall be defined by a continuous thick line (type A, ISO 128), and the roots[2] of threads by a continuous thin line (type B, ISO 128), as shown in figures 4 to 13.

The space between the lines representing the crest and root of the thread should approximate as closely as possible the depth of the thread, but, in all cases, this spacing shall be not less than

— twice the thickness of the thick line, or

— 0,7 mm,

whichever is the larger.

NOTE 1 In certain cases, for example computer-aided draughting,

— a distance of 1,5 mm for threads of nominal diameter $d \geqslant 8$ mm is generally acceptable;

— a simplified representation is recommended for threads of nominal diameter $d \leqslant 6$ mm, see ISO 6410-3.

3.2.2 End view of screw threads

On an end view of a screw thread, the thread roots shall be represented by a portion of a circle, drawn with a continuous thin line (type B, ISO 128) approximately equal to three-quarters of the circumference (see figures 4 and 5), preferably open in the right-hand upper quadrant. The thick line representing the chamfer circle is generally omitted on the end view (see figures 4 and 5).

NOTE 2 The portion of the circle may also have any other position relative to the intersecting axes (see figure 6).

3.2.3 Hidden screw threads

Where it is necessary to show hidden screw threads, the crests[1] and the roots[2] shall be represented by dashed thin lines (type F, ISO 128), as shown in figure 7.

3.2.4 Hatching of sections of threaded parts

For threaded parts shown in section, hatching shall extend to the line defining the crests of the thread (see figures 5 to 8).

1) "Crest" normally refers to the major diameter for external threads and to the minor diameter for internal threads.

2) "Root" normally refers to the minor diameter for external threads and to the major diameter for internal threads.

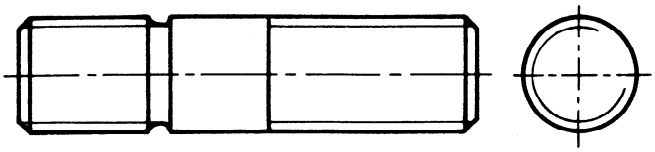

Figure 4

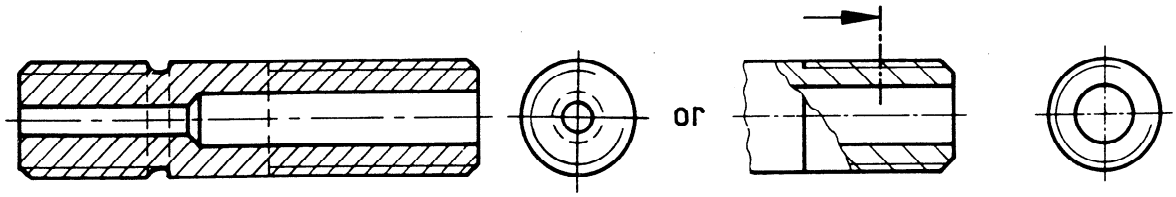

Figure 5

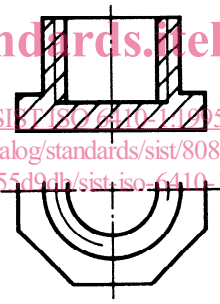

Figure 6

3.2.5 Limit of length of full depth thread

The limit of the length of full depth thread

— shall be shown, if visible, by a continuous thick line (type A, ISO 128)

— may be shown, if hidden, by a dashed line (type F, ISO 128).

These limit lines shall terminate at the lines defining the major diameter of the thread (see figures 4, 8 to 11 and 13).

3.2.6 Thread run-outs

Thread run-outs are beyond the effective ends of the thread except for the end of studs.

They shall be represented by a continuous inclined thin line (type B, ISO 128) if functionally necessary (see figure 8) or for dimensioning (see figure 13). However it is allowed not to represent the run-out wherever possible (see figures 4, 5 and 7).

3.3 Assembled threaded parts

The conventions specified in 3.2 apply also to assemblies of threaded parts. However, externally threaded parts shall always be shown covering internally threaded parts and shall not be hidden by them (see figures 8 and 10). The thick line representing the limit of the useful length of the internal screw thread shall be drawn to the root of the internal thread (see figures 8 and 9).