International Standard **ISO** 6410

Technical drawings — Conventional representation of threaded parts

Dessins techniques — Représentation conventionnelle des filetages

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6410 was developed by Technical Committee ISO/TC 10, *Technical drawings*, and was circulated to the member bodies in April 1980.

It has been approved by the member bodies of the following countries :

Australia	Finland	Norway
Austria	France	Poland
Belgium	Germany, F. R.	Romania
Brazil	Greece	South Africa, Rep. of
Canada	India	Spain
China	Italy	Sweden
Czechoslovakia	Korea, Rep. of	Switzerland
Denmark	Mexico	United Kingdom
Egypt, Arab Rep. of	Netherlands	USSR

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Japan
USA

This International Standard cancels and replaces section 5 of ISO Recommendation R 128-1959 of which it constitutes a technical revision.

Technical drawings — Conventional representation of threaded parts

1 Scope and field of application

This International Standard specifies the conventional method of simplified representation of threaded parts on technical drawings.

The method is independent of the type of screw thread applied.

The type of screw thread and its dimensions are to be indicated by means of the designations as specified in the relevant International Standards for screw threads.

For reasons of uniformity, the relative disposition of the views in the figures is in accordance with the first angle projection method. It should be understood that alternative projection methods could equally well have been used without prejudice to the principles established.

2 Reference

ISO 128, *Technical drawings — General principles of presentation.*[1]

3 Conventional method of representation

3.1 Visible screw threads

For visible screw threads, the crests of threads should be defined by a continuous thick line (type A of ISO 128), and the roots of threads by a continuous thin line (type B of ISO 128) (see figures 1, 2, 3 and 4).
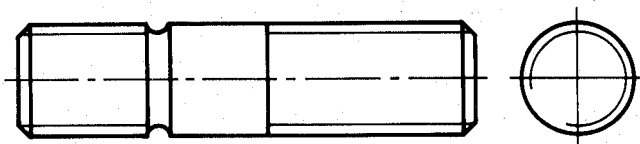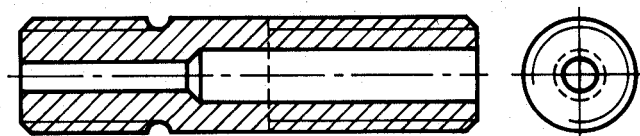

Figure 1

Figure 2

It is recommended that the space between the lines representing the major and minor diameters of the thread be as close as possible to the correct depth of the thread, but in all cases this spacing shall not be less than

— twice the thickness of the thick line,

— 0,7 mm,

whichever is the larger.

3.2 Hidden screw threads

For hidden screw threads, the crests and the roots should be defined by dashed lines (type E or F of ISO 128, but one type only on the same drawing) (see figures 3 and 4).

For the recommended spacing between the two dashed lines, see 3.1.
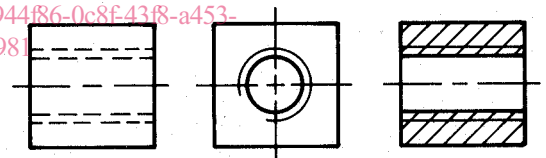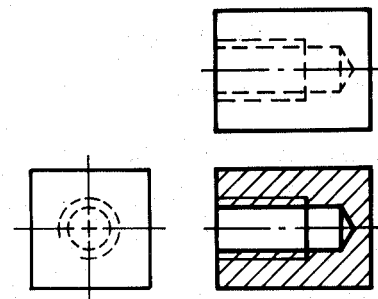

Figure 3

Figure 4

3.3 Sections of threaded parts

For threaded parts shown in section, hatching should be extended to the line defining the crests of the thread (see figures 2, 3 and 4).

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1) At present at the stage of draft. (Revision of ISO/R 128-1959.)

3.4 End view of screw threads

On an end view of a visible screw thread, the thread roots should be represented by a portion of a circle, drawn with a continuous thin line (type B of ISO 128), of length approximately three-quarters of the circumference (see figures 1, 2 and 3).

On an end view of a hidden screw thread, the thread roots should be represented by a portion of a circle, drawn with a dashed line (type E or F of ISO 128, but the same as that used for the crests and one type only on the same drawing), of length approximately three-quarters of the circumference (see figure 4).

For the recommended spacing between the two circles, see 3.1.

3.5 Limits of useful length of screw threads

The limit of useful length of a screw thread should be shown by a continuous thick line (type A of ISO 128) or a dashed line (type E or F of ISO 128, but one type only on the same drawing) according to whether this limit is visible or hidden. This line should terminate at the line defining the major diameter of the thread (see figures 1, 2, 4 and 6).

3.6 Incomplete threads (run-outs)

Incomplete threads or the limits of useful length are not shown (see figures 1, 2, 4 and 6), except in the case where there is a functional necessity (see figure 5).
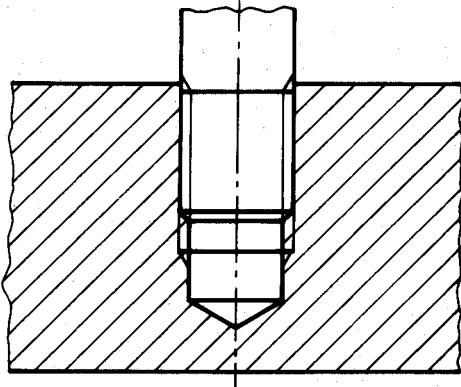
3.7 Assembled threaded parts

The above conventions apply to assemblies of threaded parts. However, externally threaded parts should always be shown covering internally threaded parts and should not be hidden by them (see figures 5 and 6).
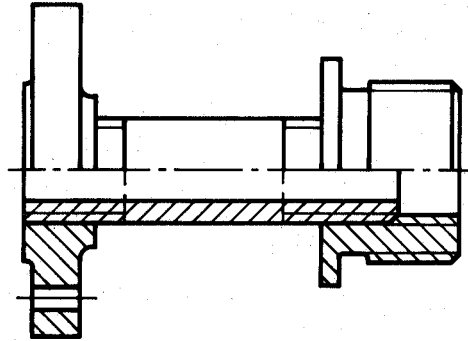
Figure 6

If with complex assemblies the conventional method would not yield a clear picture of the screw threads, it may be replaced by the method depicted in figure 7. It is recommended to show the correct depth of thread, but it is not necessary to draw the correct pitch of thread, nor its exact profile.

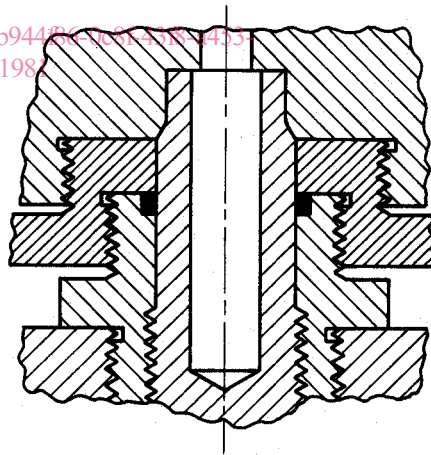The method may also be used for illustrations in publications, etc.

Figure 5

Figure 7