INTERNATIONAL STANDARD

ISO 3353

Second edition
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Aerospace — Rolled threads for bolts — Lead and runout requirements

Aéronautique et espace — Filetages roulés des vis — Filets incomplets côté tige (ou tête) et côté extrémité

Reference number
ISO 3353:1992(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 3353 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Sub-Committee SC 4, *Aerospace fastener systems*.

This second edition cancels and replaces the first edition (ISO 3353:1976), which has been technically revised.

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Aerospace — Rolled threads for bolts — Lead and runout requirements

1 Scope

This International Standard specifies the lead and runout requirements for rolled threads for bolts, and the inspection method to be used in case of dispute.

It is also applicable to other threaded male parts, used in aerospace construction, provided that it is referenced in the definition document of the part.

2 Definitions

For the purposes of this International Standard, the following definitions apply.

2.1 lead threads: An area in which are located threads incompletely formed during rolling, beginning at the entering chamfer of the thread.

2.2 runout threads: An area in which are located threads incompletely formed during rolling, between the completely formed threads and the part which has not been rolled.

2.3 completely formed thread: A thread, the profile of which (ABC) is located, over an axial distance of $1P$, within the limits specified in the definition document for the thread. (See figure 1.)

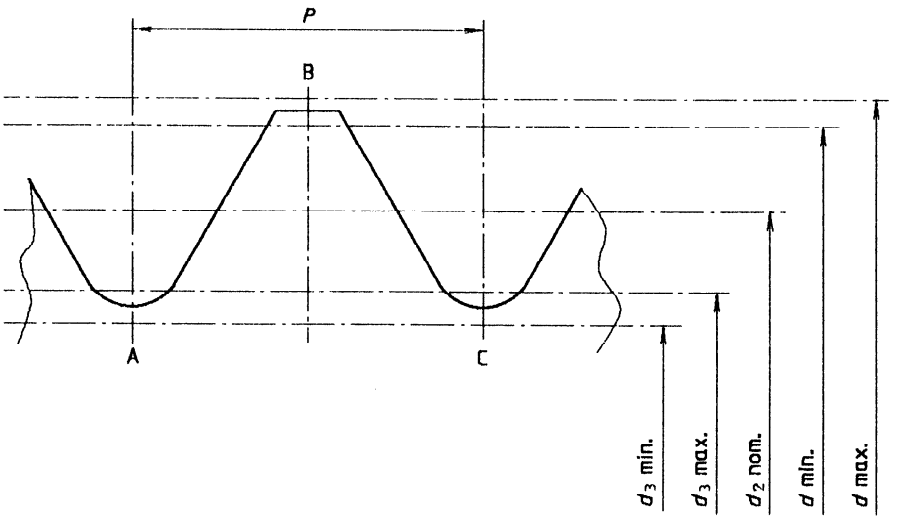


Figure 1

3 Symbols for threads

d = major diameter of the thread

d_2 = pitch diameter of the thread

d_3 = minor diameter of the thread

P = thread pitch

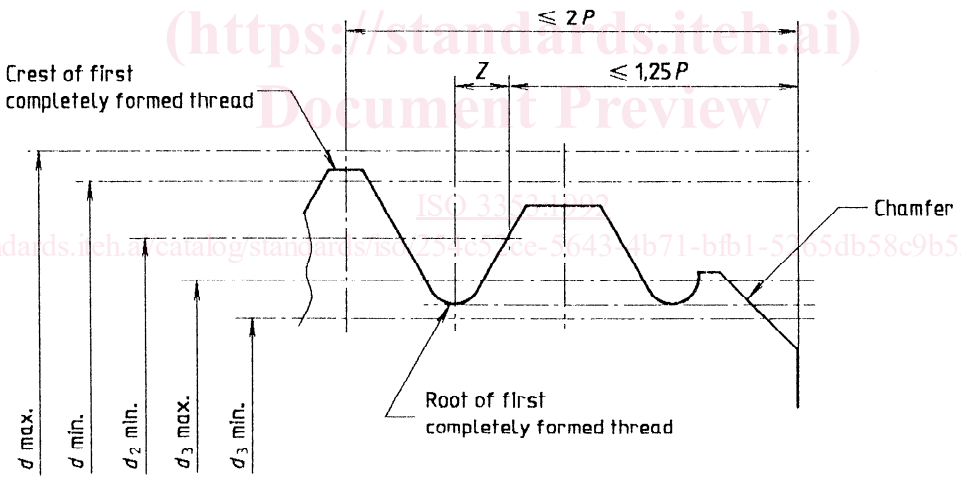
4 Lead and runout requirements

4.1 General requirements

The flanks at the root of the incompletely formed threads shall be joined by a radius or by two radii and a flat, that are smooth and devoid of abrupt tool marks. This radius, or these radii, and the radius r (see figures 3 to 9) shall be not smaller than the minimum root radius specified for the complete threads in the definition document for the thread.

4.2 Lead threads

See figure 2.



NOTE — Over the area Z, the thread shall lie within the limits specified in the definition document for the thread.

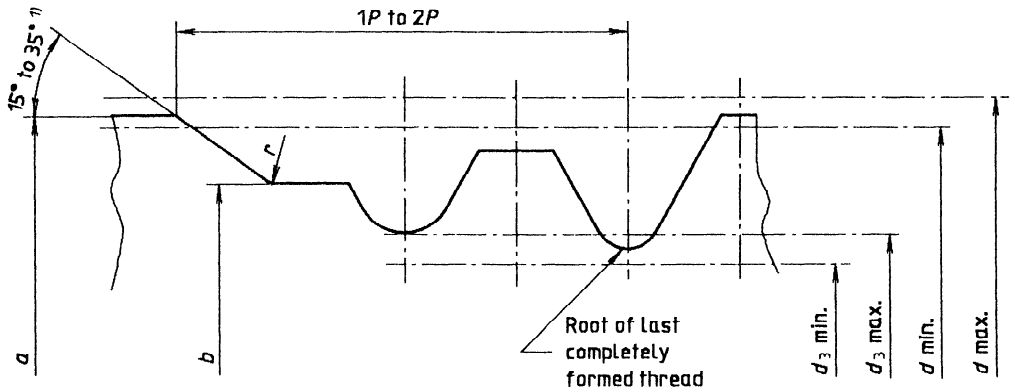
Figure 2

The possible profile projection comparator inspection shall be carried out using a chart drawn in accordance with figure 10.

4.3 Runout threads

4.3.1 Normal shank

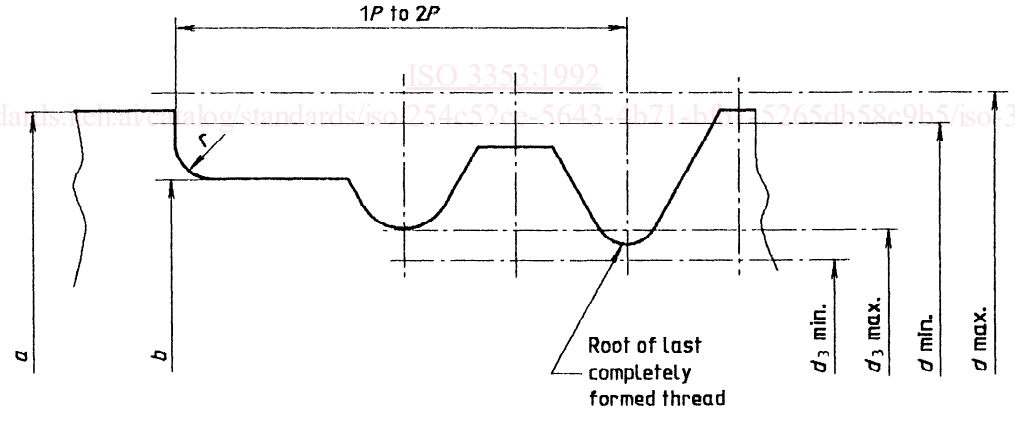
See figures 3 and 4.



a = shank diameter having a nominal value equal to the nominal diameter of the thread
b = blank diameter

1) Angle before rolling. The shape is optional within these limits.

Figure 3



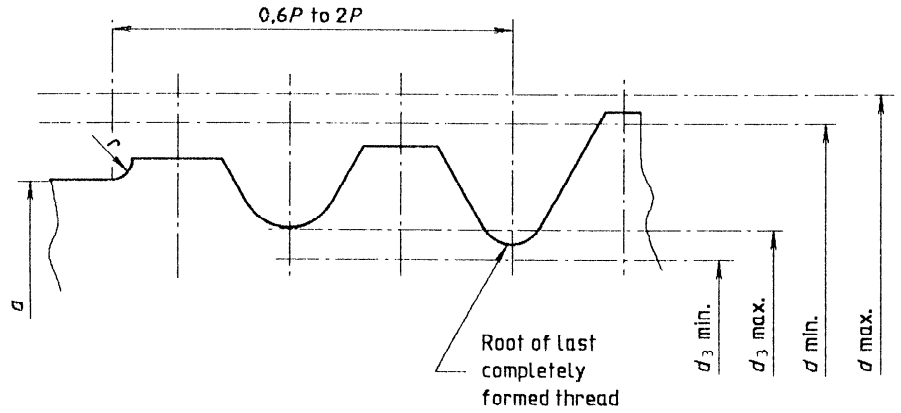
a = shank diameter having a nominal value equal to the nominal diameter of the thread
b = blank diameter

Figure 4

The possible profile projection comparator inspection shall be carried out using a chart drawn in accordance with figure 11.

4.3.2 Pitch diameter shank

See figure 5.



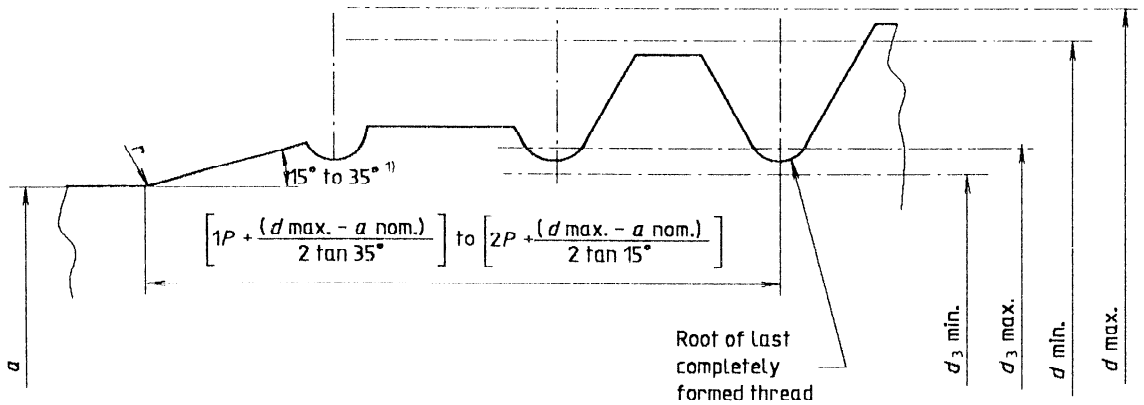
a = shank diameter having a nominal value equal to the maximum pitch diameter

Figure 5

The possible profile projection comparator inspection shall be carried out using a chart drawn in accordance with figure 12.

4.3.3 Stepped shank

See figure 6.



a = diameter of stepped shank, having a nominal value equal to d_3 min. − 0,1 mm

1) Angle before rolling. The shape is optional within these limits.

Figure 6

The possible profile projection comparator inspection shall be carried out using a chart drawn in accordance with figure 13.