INTERNATIONAL STANDARD

ISO 3353-2

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Aerospace — Lead and runout threads —

Part 2: Internal threads

Aéronautique et espace — Filets incomplets, débuts et fins de filets —

Partie 2: Filetages intérieurs

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this part of ISO 3353 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 3353-2 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 4, *Aerospace fastener systems*.

ISO 3353 consists of the following parts, under the general title *Aerospace — Lead and runout*:

— *Part 1: Rolled external threads*

— *Part 2: Internal threads*

Aerospace — Lead and runout threads —

Part 2:
Internal threads

1 Scope

This part of ISO 3353 specifies the lead and runout thread and undercut requirements for internal threads (blind tapped holes) for aerospace construction.

It is applicable whenever it is referenced in a definition document.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of ISO 3353. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 3353 are encouraged to investigate the possibility of applying the most recent edition of the normative document 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 5855-1, *Aerospace — MJ threads — Part 1: General requirements*

3 Terms and definitions

For the purposes of this part of ISO 3353, the following terms and definitions apply.

3.1
lead threads
part of screw threads in which are located threads incompletely formed during cutting, beginning at the entering countersunk of the thread

3.2
runout threads
part of screw threads in which are located threads incompletely formed during cutting, between the completely formed threads and the end of the cylindrical part of the blind tapped hole

3.3
undercut
groove dug at the hole bottom to limit the threads with completely formed thread (except at the crossing between the last thread and the groove flank)

3.4
completely formed thread
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.

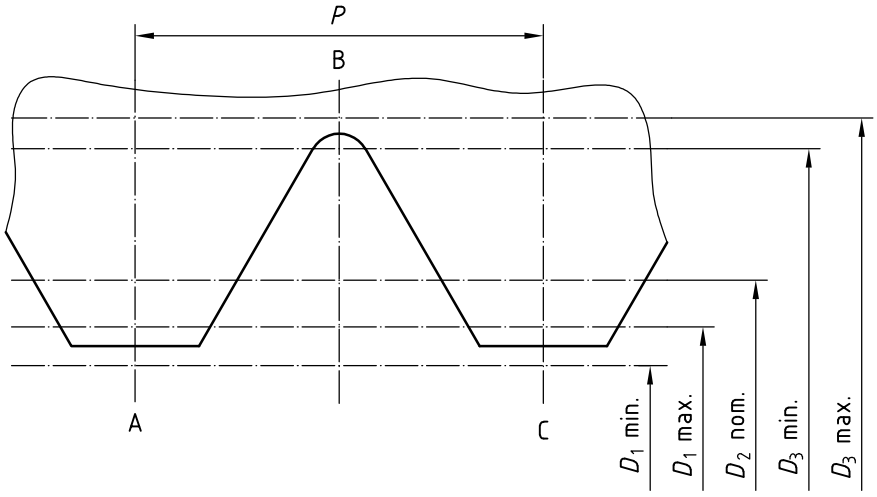


Figure 1

4 Symbols for threads

D_1 is the minor diameter of the thread.

D_2 is the pitch diameter of the thread.

D_3 is the major diameter of the thread.

P is the thread pitch.

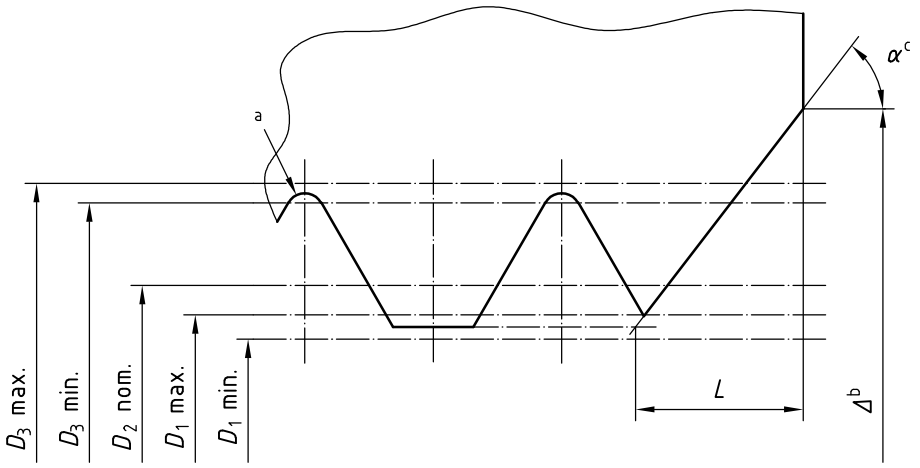
5 Requirements

5.1 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 not compatible with respect to the roughness specified in the product standard. This radius, or these radii shall be greater than or equal to the calculated radius of the root of the maximum profile specified ISO 5855-1 (diameter D_3 max.).

5.2 Lead threads

See Figure 2.



NOTE Length L corresponds to the length of the lead threads. It results from the intersection of the entering countersunk and of the minor diameter of the thread D_1.

a Crest of first completely formed thread.

b $\Delta = D_3$ max. $^{+0,6}_{0}$, for $D \leqslant$ 5 mm

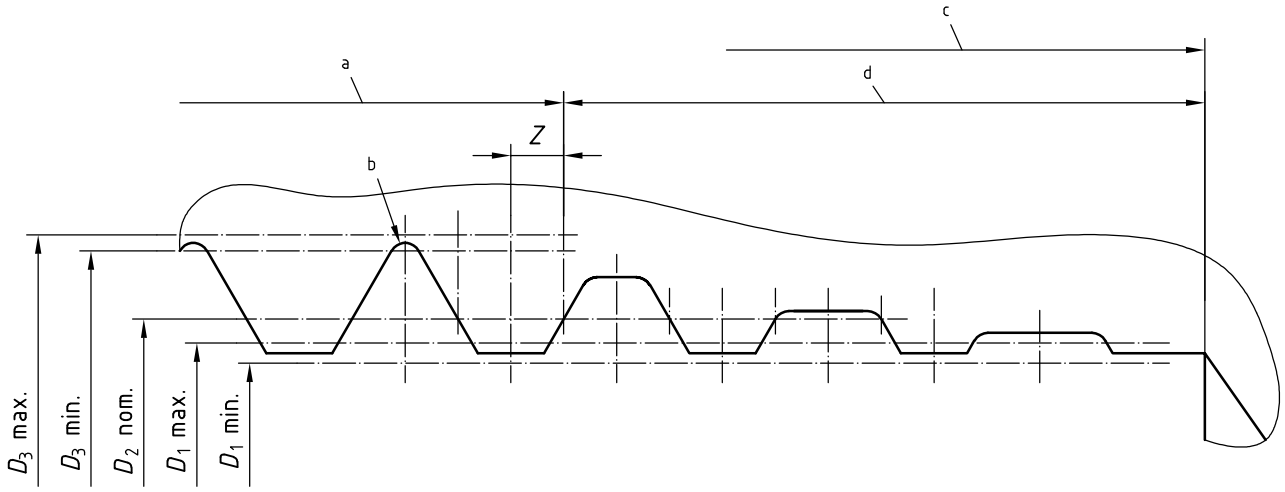
$\Delta = D_3$ max. $^{+0,8}_{0}$, for $D >$ 5 mm.

c $45° \leqslant \alpha \leqslant 60°$.

Figure 2

5.3 Runouts

See Figure 3.



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

a Required minimum full thread depth as specified on the product standard or drawing.

b Crest of first completely formed thread.

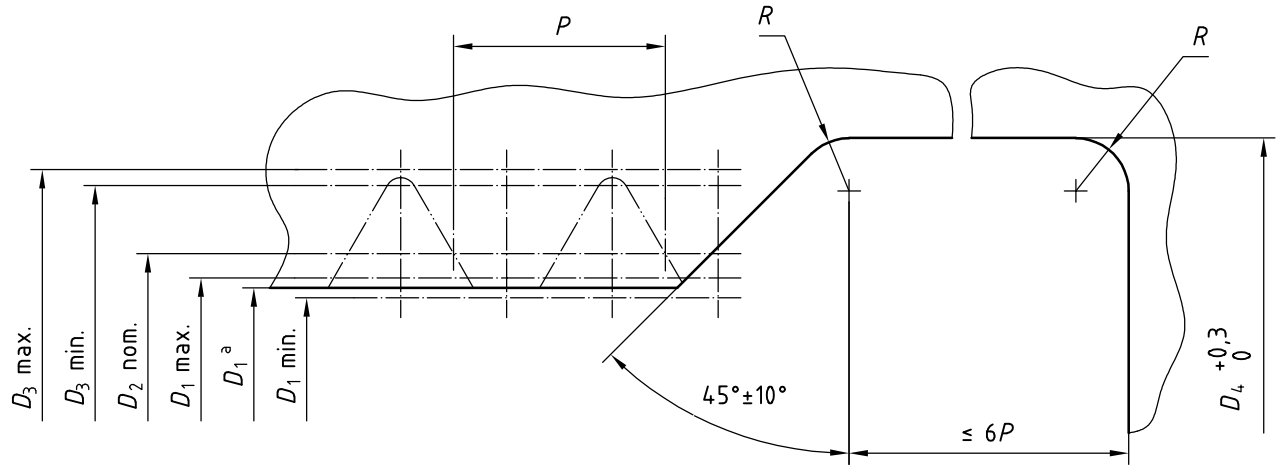
c Maximum hole depth as permitted by the product standard or drawing.

d Thread runout $\leqslant 10P$.

Figure 3

5.4 Undercuts

See Figure 4.



$0{,}25P \leqslant R \leqslant 0{,}5\ P$

D_4 = D_3 max. + 0,3 mm for $P \leqslant 0{,}8$ mm

D_4 = D_3 max. + 0,5 mm for $P > 0{,}8$ mm

a Actual.

Figure 4

ICS 49.030.10

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