International Standard ISO 5835/4

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Implants for surgery — Metal bone screws — Dimensions — Part 4: Screws with symmetrical thread, conical under-surfaces

Implants chirurgicaux — Vis métalliques pour os — Dimensions — Partie 4: Vis à filet symétrique, embase conique

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Foreword

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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 5835/4 was developed by Technical Committee ISO/TC 150, *Implants for surgery*, and was circulated to the member bodies in May 1982.

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

Austria	India	Romania
Canada	Ireland	South Africa, Rep. of
China	Korea, Rep. of	Spain
Egypt, Arab Rep. of	Mexico	United Kingdom
France	New Zealand	USA
Germany, F.R.	Poland	USSR

The member body of the following country expressed disapproval of the document on technical grounds:

Australia

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Implants for surgery — Metal bone screws — Dimensions — Part 4: Screws with symmetrical thread, conical under-surfaces

1 Scope and field of application

This part of ISO 5835 specifies dimensions and tolerances for metal bone screws used in surgery, having symmetrical threads and heads with conical under-surfaces.

Both single slot and cruciate recess (which may be a modified Phillips socket) are specified as drive elements but not as alternatives.

2 Reference

ISO 1478, *Tapping screws thread.*

3 Code for screw thread

The following code shall be used to distinguish the type of thread of screws conforming to this International Standard:

Type of thread	Code
Symmetrical thread	HC

4 Dimensions and tolerances

All dimensions in tables 1 to 3 are in millimetres.

4.1 Screw with single slot recess

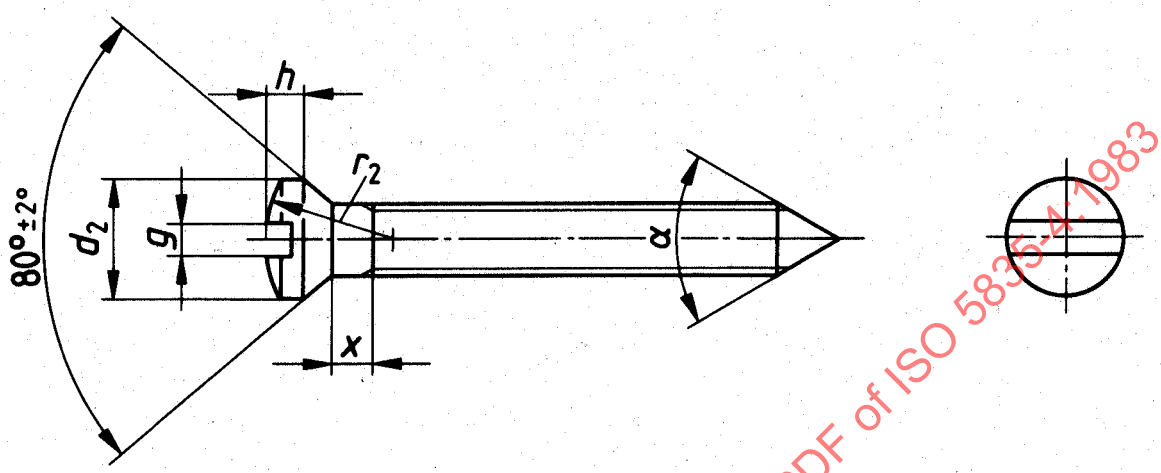

Figure 1 — Screw with single slot recess

Table 1 — Dimensions of screw with single slot recess

Code and diameter of thread	d_2	g	h	r_2	x max.	α
HC 2,9	4,62 to 6,10	1,25 to 1,40	1,5 to 2,0	5	1,6	Optional: for example > 60°

4.2 Screw with cruciate recess

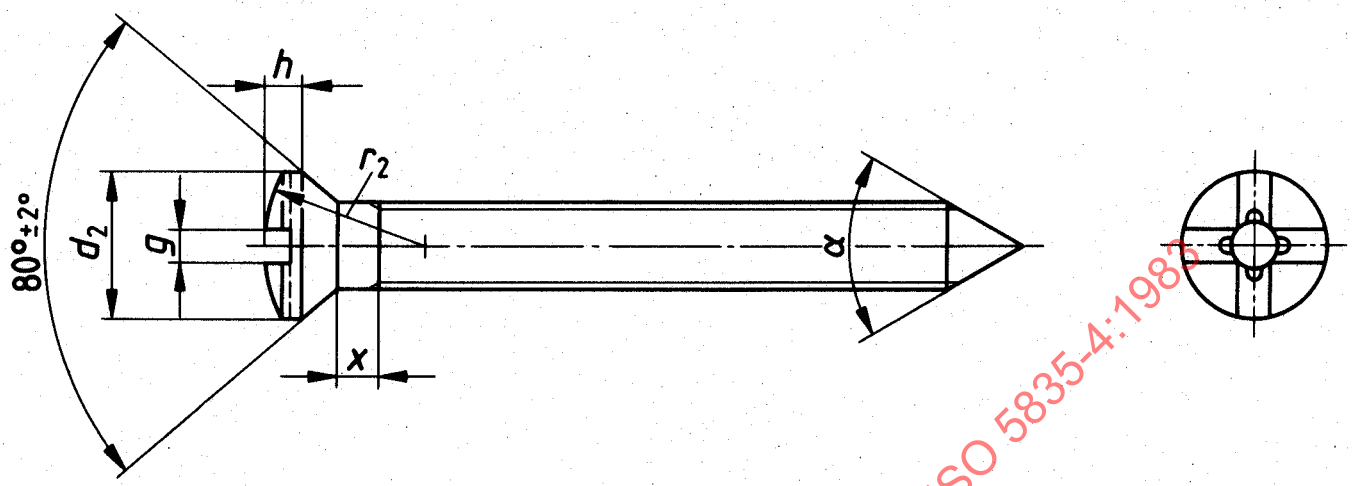

Figure 2 — Screw with cruciate recess

Table 2 — Dimensions of screw with cruciate recess

Code and diameter of thread	d_2	g	h	r_2	x max.	α
HC 3,5 HC 3,9 HC 4,2	5,8 to 6,5	1,25 to 1,40	1,5 to 2,0	6,35	1,6	Optional: for example > 60°

A modified Phillips socket may be used. The maximum depth of the socket shall be such that the torque strength of the screw is not reduced. The slot shall penetrate to 30 % edge width (minimum) but not intersect below the bottom edge.

5 Thread

Screw threads shall be in accordance with ISO 1478 with the exception of the following:

The pitch of screws **HC 3,5**; **HC 3,9**; **HC 4,2** shall be the same i.e. 1,27 mm.

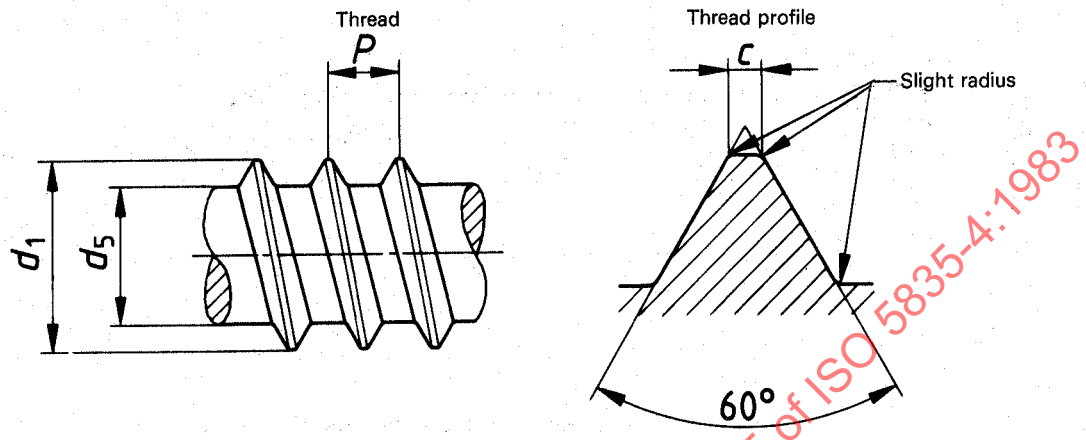

Figure 3 — Thread

Suitable flutes may be added to make the screws self-tapping.

Table 3 — Dimensions of the HC thread

Code and nominal diameter of thread	d_1		d_5		P	c
	min.	max.	min.	max.		max.
HC 2,9	2,79	2,90	2,03	2,18	1,06	0,1
HC 3,5	3,43	3,53	2,51	2,64	1,27	0,1
HC 3,9	3,78	3,91	2,77	2,92	1,27	0,1
HC 4,2	4,09	4,22	2,95	3,25	1,27	0,1