
Slotted set screws with flat point

Vis sans tête fendues à bout plat



Reference number
ISO 4766:2011(E)

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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 2.

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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 4766 was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC 11, *Fasteners with metric external thread*.

This second edition cancels and replaces the first edition (ISO 4766:1983), which has been technically revised.

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1 Scope

This International Standard specifies the characteristics of slotted set screws with flat point and thread sizes from M1,2 to M12 inclusive and product grade A.

If other specifications are required, they can be selected from existing International Standards, for example ISO 261, ISO 888, ISO 898-5, ISO 965-2, ISO 3506-3, ISO 4759-1.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 225, *Fasteners — Bolts, screws, studs and nuts — Symbols and descriptions of dimensions*

ISO 261, *ISO general purpose metric screw threads — General plan*

ISO 898-5, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 5: Set screws and similar threaded fasteners with specified hardness classes — Coarse thread and fine pitch thread*

ISO 965-2, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose external and internal screw threads — Medium quality*

ISO 965-3, *ISO general purpose metric screw threads — Tolerances — Part 3: Deviations for constructional screw threads*

ISO 3269, *Fasteners — Acceptance inspection*

ISO 3506-3, *Mechanical properties of corrosion-resistant stainless steel fasteners — Part 3: Set screws and similar fasteners not under tensile stress*

ISO 4042, *Fasteners — Electroplated coatings*

ISO 4759-1, *Tolerances for fasteners — Part 1: Bolts, screws, studs and nuts — Product grades A, B and C*

ISO 6157-1, *Fasteners — Surface discontinuities — Part 1: Bolts, screws and studs for general requirements*

ISO 8839, *Mechanical properties of fasteners — Bolts, screws, studs and nuts made of non-ferrous metals*

ISO 8992, *Fasteners — General requirements for bolts, screws, studs and nuts*

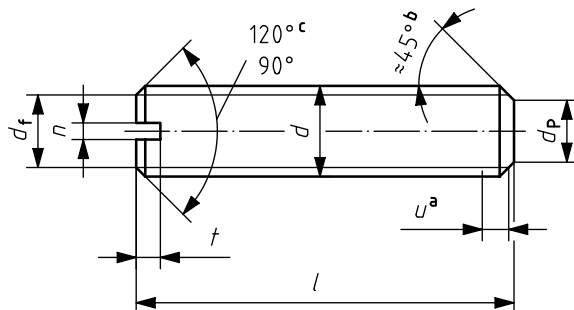
ISO 10683, *Fasteners — Non-electrolytically applied zinc flake coatings*

ISO 16048, *Passivation of corrosion-resistant stainless-steel fasteners*

3 Dimensions

See Figure 1 and Table 1.

Symbols and descriptions of dimensions are specified in ISO 225.



- a Incomplete thread $u \leq 2P$.
- b The 45° angle applies only to the portion of the point below the root diameter of the thread.
- c The 120° angle is mandatory for short length screws above the dotted stepped line.

Figure 1 — Slotted set screw with flat point

Table 1 — Dimensions

Dimensions in millimetres

Thread size (<i>d</i>)	M1,2	M1,6	M2	M2,5	M3	(M3,5) ^a	M4	M5	M6	M8	M10	M12	
<i>p</i> ^b	0,25	0,35	0,4	0,45	0,5	0,6	0,7	0,8	1	1,25	1,5	1,75	
<i>d_f</i> max.	Minor thread diameter												
<i>d_p</i>	max.	0,60	0,80	1,00	1,50	2,00	2,20	2,50	3,50	4,00	5,50	7,00	8,50
	min.	0,35	0,55	0,75	1,25	1,75	1,95	2,25	3,20	3,70	5,20	6,64	8,14
<i>n</i>	nom.	0,2	0,25	0,25	0,4	0,4	0,5	0,6	0,8	1	1,2	1,6	2
	max.	0,40	0,45	0,45	0,60	0,60	0,70	0,80	1,00	1,20	1,51	1,91	2,31
	min.	0,26	0,31	0,31	0,46	0,46	0,56	0,66	0,86	1,06	1,26	1,66	2,06
<i>t</i>	max.	0,52	0,74	0,84	0,95	1,05	1,21	1,42	1,63	2,00	2,50	3,00	3,60
	min.	0,40	0,56	0,64	0,72	0,80	0,96	1,12	1,28	1,60	2,00	2,40	2,80
<i>l^c</i>													
nom. ^a	min.	max.											
2	1,8	2,2											
2,5	2,3	2,7											
3	2,8	3,2											
4	3,7	4,3											
5	4,7	5,3											
6	5,7	6,3											
8	7,7	8,3											
10	9,7	10,3											
12	11,6	12,4											
(14)	13,6	14,4											
16	15,6	16,4											
20	19,6	20,4											
25	24,6	25,4											
30	29,6	30,4											
35	34,5	35,5											
40	39,5	40,5											
45	44,5	45,5											
50	49,5	50,5											
55	54,4	55,6											
60	59,4	60,6											
<p>^a Sizes in brackets should be avoided if possible.</p> <p>^b <i>P</i> = pitch of the thread.</p> <p>^c Minimum and maximum values in accordance with ISO 4759-1, but rounded to one decimal place.</p>													

4 Specifications and reference International Standards

See Table 2.

Table 2 — Specifications and reference International Standards

Material		Steel	Stainless steel	Non-ferrous metal
General requirements	International Standard	ISO 8992		
	Tolerance class	6g		
Thread	International Standard	ISO 261, ISO 965-2, ISO 965-3		
	Hardness class	14H, 22H	A1-12H	as agreed
Mechanical property	International Standard	ISO 898-5	ISO 3506-3	ISO 8839
	Product grade	A		
Tolerance	International Standard	ISO 4759-1		
	Finish — Coating	As processed		
Requirements for electroplating are specified in ISO 4042.		Requirements for passivation are specified in ISO 16048.	Requirements for electroplating are specified in ISO 4042.	
	Requirements for non-electrolytically applied zinc flake coatings are specified in ISO 10683.			
	Additional requirements or other finishes or coatings shall be agreed between the supplier and the purchaser.			
Surface integrity	Limits for surface discontinuities are specified in ISO 6157-1.			
Acceptability	Acceptance inspection is specified in ISO 3269.			

5 Designation

EXAMPLE 1 A slotted set screw with flat point, thread size $d = M5$, nominal length $l = 12$ mm and steel with hardness class 14H is designated as follows:

Set screw ISO 4766 - M5 × 12 - 14H

EXAMPLE 2 A slotted set screw with flat point, thread size $d = M5$, nominal length $l = 12$ mm and stainless steel (A1) with hardness class 12H is designated as follows:

Set screw ISO 4766 - M5 × 12 - A1 - 12H

Bibliography

- [1] ISO 888, *Bolts, screws and studs — Nominal lengths, and thread lengths for general purpose bolts*

ICS 21.060.10

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