

BS EN ISO 1207:2011



BSI Standards Publication

Slotted cheese head screws — Product grade A (ISO 1207:2011)

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee FME/9/3, Fasteners - Product Standards.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Amendments issued since publication

Date	Text affected
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English Version

Slotted cheese head screws - Product grade A (ISO 1207:2011)

Vis à métaux à tête cylindrique fendue - Grade A (ISO 1207:2011)

Zylinderschrauben mit Schlitz - Produktklasse A (ISO 1207:2011)

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Foreword

This document (EN ISO 1207:2011) has been prepared by Technical Committee ISO/TC 2 "Fasteners" in collaboration with Technical Committee CEN/TC 185 "Fasteners" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2012, and conflicting national standards shall be withdrawn at the latest by February 2012.

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Foreword

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ISO 1207 was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC 11, *Fasteners with metric external thread*.

This third edition cancels and replaces the second edition (ISO 1207:1992), which has been technically revised.

Slotted cheese head screws — Product grade A

1 Scope

This International Standard specifies the characteristics of slotted cheese head screws of product grade A and with threads from M1,6 to M10 inclusive.

If, in special cases, specifications other than those listed in this International Standard are required, they can be selected from existing International Standards, for example ISO 261, ISO 888, ISO 898-1, ISO 965-2, ISO 3506-1, 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 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 1: Bolts, screws and studs with specified property 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 3506-1, *Mechanical properties of corrosion-resistant stainless steel fasteners — Part 1: Bolts, screws and studs*

ISO 4042, *Fasteners — Electroplated coatings*

ISO 4753, *Fasteners — Ends of parts with external ISO metric thread*

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*

Table 1 — Dimensions

Dimensions in millimetres

Thread, <i>d</i>		M1,6	M2	M2,5	M3	(M3,5) ^a	M4	M5	M6	M8	M10	
<i>P</i> ^b		0,35	0,4	0,45	0,5	0,6	0,7	0,8	1	1,25	1,5	
<i>a</i>	max.	0,7	0,8	0,9	1,0	1,2	1,4	1,6	2,0	2,5	3,0	
<i>b</i>	min.	25	25	25	25	38	38	38	38	38	38	
<i>d_a</i>	max.	2,0	2,6	3,1	3,6	4,1	4,7	5,7	6,8	9,2	11,2	
<i>d_k</i>	nom. = max.	3,00	3,80	4,50	5,50	6,00	7,00	8,50	10,00	13,00	16,00	
	min.	2,86	3,62	4,32	5,32	5,82	6,78	8,28	9,78	12,73	15,73	
<i>k</i>	nom. = max.	1,10	1,40	1,80	2,00	2,40	2,60	3,30	3,9	5,0	6,0	
	min.	0,96	1,26	1,66	1,86	2,26	2,46	3,12	3,6	4,7	5,7	
<i>n</i>	nom.	0,4	0,5	0,6	0,8	1	1,2	1,2	1,6	2	2,5	
	max.	0,60	0,70	0,80	1,00	1,20	1,51	1,51	1,91	2,31	2,81	
	min.	0,46	0,56	0,66	0,86	1,06	1,26	1,26	1,66	2,06	2,56	
<i>r</i>	min.	0,10	0,10	0,10	0,10	0,10	0,20	0,20	0,25	0,40	0,40	
<i>t</i>	min.	0,45	0,60	0,70	0,85	1,00	1,10	1,30	1,60	2,00	2,40	
<i>w</i>	min.	0,40	0,50	0,70	0,75	1,00	1,10	1,30	1,60	2,00	2,40	
<i>x</i>	max.	0,90	1,00	1,10	1,25	1,50	1,75	2,00	2,50	3,20	3,80	
<i>l</i> ^c		Approximate mass, in kilograms per 1 000 pieces ($\rho = 7,85 \text{ kg/dm}^3$) (for information only)										
nom. ^a	min.	max.										
2	1,80	2,20	0,07									
3	2,80	3,20	0,082	0,16	0,272							
4	3,76	4,24	0,094	0,179	0,302	0,515						
5	4,76	5,24	0,105	0,198	0,332	0,56	0,786	1,09				
6	5,76	6,24	0,117	0,217	0,362	0,604	0,845	1,17	2,06			
8	7,71	8,29	0,14	0,254	0,422	0,692	0,966	1,33	2,3	3,56		
10	9,71	10,29	0,163	0,291	0,482	0,78	1,08	1,47	2,55	3,92	7,85	
12	11,65	12,35	0,186	0,329	0,542	0,868	1,2	1,63	2,8	4,27	8,49	14,6
(14)	13,65	14,35	0,209	0,365	0,602	0,956	1,32	1,79	3,05	4,62	9,13	15,6
16	15,65	16,35	0,232	0,402	0,662	1,04	1,44	1,95	3,3	4,98	9,77	16,6
20	19,58	20,42		0,478	0,782	1,22	1,68	2,25	3,78	5,69	11	18,6
25	24,58	25,42			0,932	1,44	1,98	2,64	4,4	6,56	12,6	21,1
30	29,58	30,42				1,66	2,28	3,02	5,02	7,45	14,2	23,6
35	34,50	35,50					2,57	3,41	5,62	8,25	15,8	26,1
40	39,50	40,50						3,8	6,25	9,2	17,4	28,6
45	44,50	45,50							6,88	10	18,9	31,1
50	49,50	50,50							7,5	10,9	20,6	33,6
(55)	54,05	55,95								11,8	22,1	36,1
60	59,05	60,95								12,7	23,7	38,6
(65)	64,05	65,95									25,2	41,1
70	69,05	70,95									26,8	43,6
(75)	74,05	75,95									28,3	46,1
80	79,05	80,95									29,8	48,6
NOTE Preferred lengths are those between the solid, bold, stepped lines.												
^a Sizes in parentheses should be avoided if possible.												
^b <i>P</i> = pitch of the thread.												
^c Screws with nominal lengths above the discontinuous line are threaded up to the head ($b = l - a$).												

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		
Thread	Tolerance class	6g		
	International Standard	ISO 261, ISO 965-2, ISO 965-3		
Mechanical property	Property class	4.8, 5.8	A2-50, A2-70	As agreed
	International Standard	ISO 898-1	ISO 3506-1	ISO 8839
Tolerances	Product grade	A		
	International Standard	ISO 4759-1		
Finish — Coating		As processed		
		Requirements for electroplating are specified in ISO 4042. Requirements for non-electrolytically applied zinc flake coatings are specified in ISO 10683.	Requirements for passivation are specified in ISO 16048.	Requirements for electroplating are specified in ISO 4042.
		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 A slotted cheese head screw with thread M5, nominal length $l = 20$ mm and property class 4.8 is designated as follows:

Cheese head screw ISO 1207 - M5 × 20 - 4.8

Bibliography

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

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