INTERNATIONAL STANDARD

ISO 14584

Second edition
2011-03-15

Hexalobular socket raised countersunk head screws

Vis à métaux à tête fraisée bombée à six lobes internes

Reference number
ISO 14584:2011(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 14584 was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC 10, *Product standards for fasteners*.

This second edition cancels and replaces the first edition (ISO 14584:2001), of which it constitutes a minor revision.

Hexalobular socket raised countersunk head screws

1 Scope

This International Standard specifies the characteristics of hexalobular socket raised countersunk head screws of product grade A, and with thread sizes from M2 up to and including M10.

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 and 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 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 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 7721, *Countersunk head screws — Head configuration and gauging*

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*

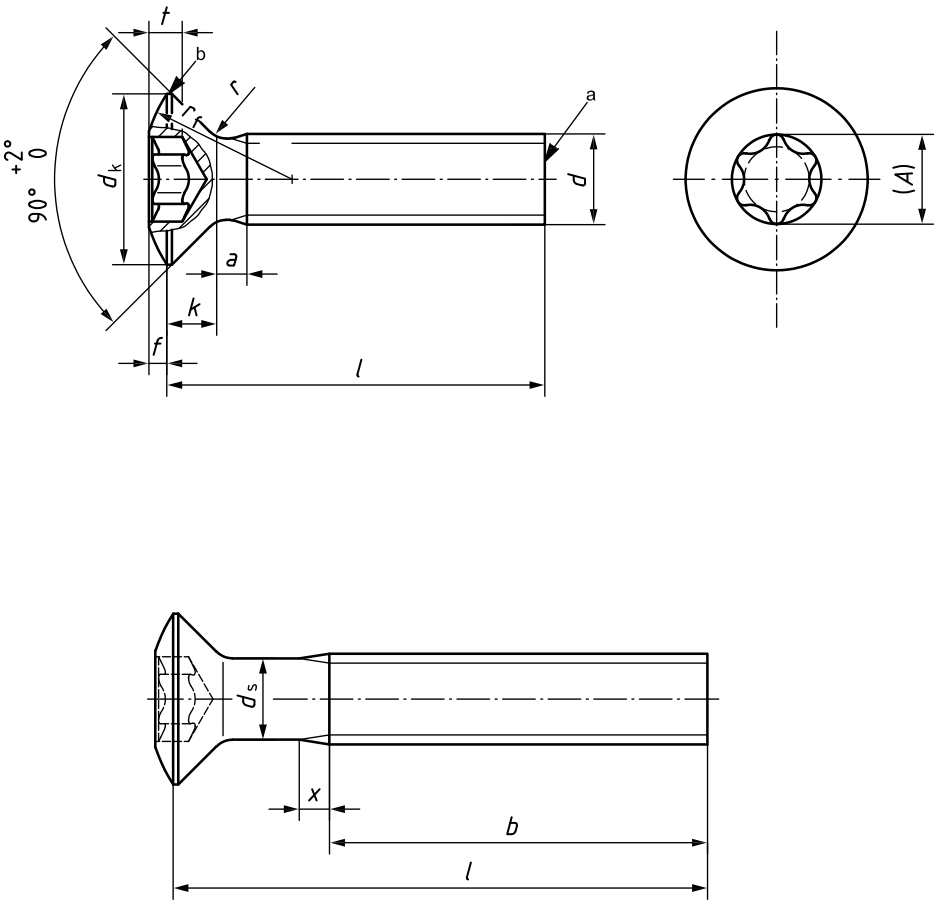
ISO 10664, *Hexalobular internal driving feature for bolts and screws*

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

3 Dimensions

See Figure 1 and Table 1.

Symbols and descriptions of dimensions are specified in ISO 225.



NOTE The shank diameter, d_s, is approximately equal to the pitch diameter or equal to the major thread diameter permissible.

a As-rolled end.

b Edge may be rounded or flat.

Figure 1

Table 1 — Dimensions

Dimensions in millimetres

Thread, d				**M2**	**M2,5**	**M3**	**(M3,5)**[a]	**M4**	**M5**	**M6**	**M8**	**M10**
P[b]				0,4	0,45	0,5	0,6	0,7	0,8	1,0	1,25	1,5
a			max.	0,8	0,9	1	1,2	1,4	1,6	2	2,5	3
b			min.	25	25	25	38	38	38	38	38	38
d_k[c]	theoretical		max.	4,4	5,5	6,3	8,2	9,4	10,4	12,6	17,3	20,0
	actual		nom. = max.	3,8	4,7	5,5	7,30	8,40	9,30	11,30	15,80	18,30
			min.	3,5	4,4	5,2	6,94	8,04	8,94	10,87	15,37	17,78
f			≈	0,5	0,6	0,7	0,8	1	1,2	1,4	2	2,3
k[c]			nom. = max.	1,2	1,5	1,65	2,35	2,7	2,7	3,3	4,65	5
r			max.	0,5	0,6	0,8	0,9	1,0	1,3	1,5	2,0	2,5
r_f			≈	4	5	6	8,5	9,5	9,5	12	16,5	19,5
x			max.	1,0	1,1	1,25	1,5	1,75	2,0	2,5	3,2	3,8
Hexalobular socket[d]		Socket no.		**6**	**8**	**10**	**15**	**20**	**25**	**30**	**45**	**50**
		A	ref.	1,75	2,4	2,8	3,35	3,95	4,5	5,6	7,95	8,95
		t	max.	0,77	1,04	1,15	1,53	1,80	2,03	2,42	3,31	3,81
			min.	0,63	0,91	0,88	1,27	1,42	1,65	2,02	2,92	3,42

l[e]			**Approximate mass of carbon steel screws, in kilograms per 1 000 pieces** (ρ = 7,85 kg/dm^3) (for information only)								
nom.[a]	min.	max.									
3	2,8	3,2	0,119	0,212							
4	3,76	4,24	0,138	0,242	0,351						
5	4,76	5,24	0,156	0,272	0,395	0,669	0,99				
6	5,76	6,24	0,175	0,302	0,439	0,729	1,07	1,49			
8	7,71	8,29	0,212	0,362	0,527	0,849	1,23	1,73	2,79		
10	9,71	10,29	0,249	0,422	0,615	0,969	1,39	1,97	3,14	6,89	
12	11,65	12,35	0,287	0,482	0,703	1,09	1,54	2,21	3,49	7,53	11,4
(14)	13,65	14,35	0,325	0,543	0,791	1,21	1,70	2,45	3,84	8,17	12,5
16	15,65	16,35	0,362	0,603	0,879	1,33	1,85	2,69	4,19	8,81	13,5
20	19,58	20,42	0,436	0,723	1,06	1,57	2,17	3,17	4,89	10,1	15,5
25	24,58	25,42		0,874	1,28	1,87	2,56	3,77	5,77	11,7	18,0
30	29,58	30,42			1,50	2,17	2,95	4,37	6,64	13,3	20,6
35	34,5	35,5				2,47	3,34	4,97	7,52	14,9	23,1
40	39,5	40,5					3,73	5,57	8,39	16,5	25,6
45	44,5	45,5						6,16	9,27	18,1	28,1
50	49,5	50,5						6,76	10,1	19,7	30,7
(55)	54,4	55,6							11,0	21,3	33,2
60	59,4	60,6							11,9	22,9	35,7

NOTE Preferred lengths are the ones between the solid, bold, stepped lines.

a Sizes in parentheses should be avoided, if possible.

b P is the pitch of the thread.

c The gauging of head dimensions is specified in ISO 7721.

d For the acceptance of the hexalobular socket and for gauges, see ISO 10664.

e Screws with nominal lengths above the discontinuous, stepped line are threaded up to the head [$b = l - (k + a)$].

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		
Mechanical property	Property class	4.8	A2-70 A3-70	As agreed
	International Standard	ISO 898-1	ISO 3506-1	ISO 8839
Tolerance	Product grade	A		
	International Standard	ISO 4759-1		
Hexalobular socket	International Standard	ISO 10664		
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.	As processed	As processed 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 hexalobular socket raised countersunk head screw with thread M5, nominal length l = 20 mm and property class 4.8 is designated as follows:

Hexalobular socket raised countersunk head screw ISO 14584 - M5 × 20 - 4.8

Bibliography

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

ICS 21.060.10

Price based on 5 pages