
INTERNATIONAL STANDARD



4029

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Hexagon socket set screws with cup point

Vis sans tête à six pans creux, à cuvette

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Descriptors : fasteners, screws, socket head screws, set screws, specifications, dimensions, dimensional tolerances, designation.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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 4029 was developed by Technical Committee ISO/TC 2, *Fasteners*, and circulated to the member bodies in April 1976.

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

Belgium	India	Poland
Brazil	Ireland	Romania
Bulgaria	Italy	South Africa, Rep. of
Czechoslovakia	Japan	Spain
Denmark	Korea, Rep. of	Sweden
Finland	Mexico	Switzerland
France	Netherlands	Turkey
Germany	Norway	United Kingdom
Hungary	Philippines	U.S.S.R.

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Australia
U.S.A.



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ERRATUM

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Alter *s* max. to read as follows :

Thread size <i>d</i>	M 6	M 8	M 10	M 20	M 24
<i>s</i> max.	3,080	4,095	5,095	10,115	12,142

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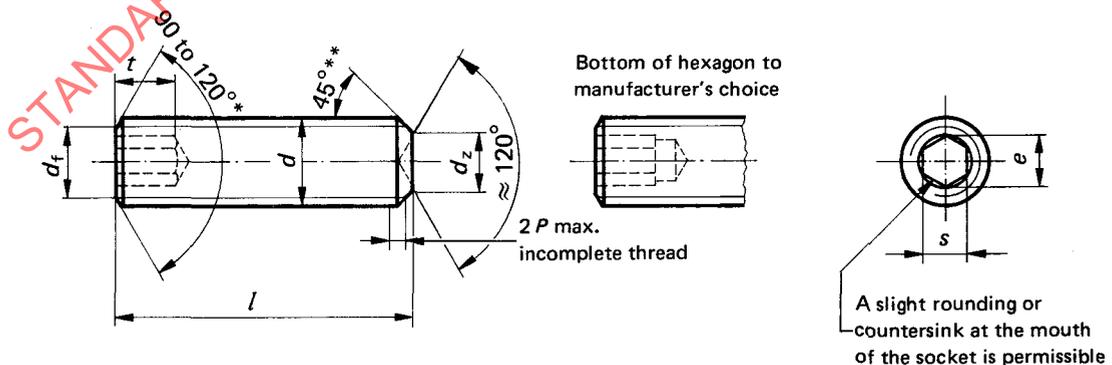
1 SCOPE AND FIELD OF APPLICATION

This International Standard gives specifications for hexagon socket set screws with cup point with metric dimensions and thread diameters from 1,6 up to and including 24 mm and product grade A.

If, in special cases, specifications other than those listed in this International Standard are required, it is recommended that they should be selected from existing International Standards, for example ISO 261, ISO 888, ISO 898, ISO 965.

Alternative forms of self-locking cup points may be supplied unless otherwise specified.

2 DIMENSIONS



* The 120° angle is mandatory for short-length screws above the dotted stepped line.

** The 45° angle applies only to the portion of the point below the root diameter of the thread.

Dimensions in millimetres

Thread size <i>d</i>			M 1,6	M 2	M 2,5	M 3	M 4	M 5	M 6	M 8	M 10	M 12	M 16	M 20	M 24
<i>P</i>	1)		0,35	0,4	0,45	0,5	0,7	0,8	1,0	1,25	1,5	1,75	2,0	2,5	3
<i>d_z</i>	max.		0,8	1,0	1,2	1,4	2,0	2,5	3,0	5,0	6,0	8,0	10,0	14,0	16,0
	min.		0,55	0,75	0,95	1,15	1,75	2,25	2,75	4,7	5,7	7,64	9,64	13,57	15,57
<i>d_f</i>	≈		Minor thread diameter												
<i>e</i>	min. 2)		0,803	1,003	1,427	1,73	2,30	2,87	3,44	4,58	5,72	6,86	9,15	11,43	13,72
<i>s</i>	nominal		0,7	0,9	1,3	1,5	2,0	2,5	3,0	4,0	5,0	6,0	8,0	10,0	12,0
	min.		0,711	0,889	1,270	1,520	2,020	2,520	3,020	4,020	5,020	6,020	8,025	10,025	12,032
	max.		0,724	0,902	1,295	1,545	2,045	2,560	3,071	4,084	5,084	6,095	8,115	10,127	12,146
<i>t</i>	3)		0,7	0,8	1,2	1,2	1,5	2,0	2,0	3,0	4,0	4,8	6,4	8,0	10,0
	4)		1,5	1,7	2,0	2,0	2,5	3,0	3,5	5,0	6,0	8,0	10,0	12,0	15,0
<i>l</i>															
nominal	min.	max.													
2	1,80	2,20													
2,5	2,30	2,70													
3	2,80	3,20													
4	3,76	4,24													
5	4,76	5,24													
6	5,76	6,24	Range												
8	7,71	8,29													
10	9,71	10,29													
12	11,65	12,35	of												
16	15,65	16,35													
20	19,58	20,42													
25	24,58	25,42	popular												
30	29,58	30,42													
35	34,5	35,5													
40	39,5	40,5	lengths												
45	44,5	45,5													
50	49,5	50,5													
55	54,4	55,6													
60	59,4	60,6													

1) *P* = pitch of the thread.

2) *e* min. = 1,14 *s* min., except for sizes M1,6, M 2 and M 2,5.

3) Minimum depth of key engagement for screws with nominal lengths above the stepped line marked thus-----.

4) Minimum depth of key engagement for screws with nominal lengths below the stepped line marked thus-----.

3 SPECIFICATIONS AND REFERENCE STANDARDS

Material		Steel	Stainless steel	Non-ferrous metal
Thread	Tolerances	5g6g for class 45H; for other classes : 6g		
	International Standards	ISO 261, ISO 965		
Mechanical properties	Class	45H	A2-2	...
	International Standards	ISO 898/V	ISO ... ¹⁾	ISO ... ¹⁾
Tolerances	Product grade	A		
	International Standard	ISO 4759/1 ²⁾		
Finish		black oxide (thermal or chemical)	plain	plain
		Requirements for electroplating are covered in ISO 4042 ²⁾ . If different electroplating requirements are desired or if requirements are needed for other finishes, they should be negotiated between customer and supplier.		
Acceptability		For acceptance procedure see ISO ... ¹⁾ .		

1) In preparation.

2) At present at the stage of draft.

4 DESIGNATION

Example for the designation of a hexagon socket set screw with cup point, thread size $d = M6$, nominal length $l = 12$ mm and property class 45H :

Hexagon socket set screw ISO 4029 M6 × 12-45H

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