

INTERNATIONAL STANDARD



4027

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

Hexagon socket set screws with cone point

Vis sans tête à six pans creux, à bout conique

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[ISO 4027:1977](#)

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Ref. No. ISO 4027-1977 (E)

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 4027 was developed by Technical Committee ISO/TC 2, *Fasteners*, and was circulated to the member bodies in April 1976.

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

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

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

Australia
Japan
U.S.A.

Hexagon socket set screws with cone point

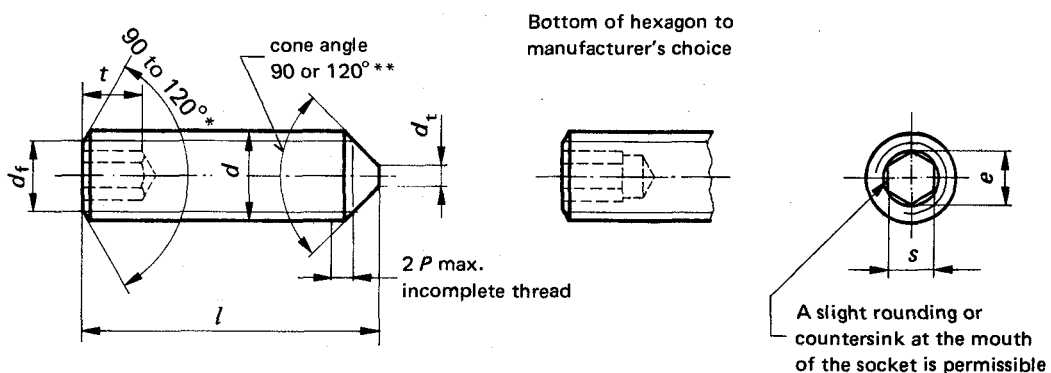
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1 SCOPE AND FIELD OF APPLICATION

This International Standard gives specifications for hexagon socket set screws with cone 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.

2 DIMENSIONS



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

** The cone angle applies only to the portion of the point below the root diameter of the thread, and shall be 120° for lengths above the dotted stepped line. For all other lengths it shall be 90°.

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	3,0
<i>d_t</i>	max.		0	0	0	0	0	0	1,5	2,0	2,5	3,0	4,0	5,0	6,0
<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	3,080	4,095	5,095	6,095	8,115	10,115	12,142
<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													
8	7,71	8,29													
10	9,71	10,29													
12	11,65	12,35													
16	15,65	16,35													
20	19,58	20,42								popular					
25	24,58	25,42													
30	29,58	30,42													
35	34,5	35,5												lengths	
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													

- 1) *P* = pitch of the thread.
- 2) *e* min. = 1,14 *s* min., except for sizes M 1,6, 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/ ¹²⁾		
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.

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4 DESIGNATION

[ISO 4027:1977](https://standards.iteh.ai/catalog/standards/sist/d38c97f1-176e-4436-b146-c09c09d5e150/iso-4027-1977)

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

Hexagon socket set screw ISO 4027 M6 × 12-45H