

## SLOVENSKI STANDARD oSIST prEN ISO 4018:2020

01-september-2020

#### Vijaki s šestrobo glavo z navojem do glave - Razred izdelave C (ISO/DIS 4018:2020)

Hexagon head screws - Product grade C (ISO/DIS 4018:2020)

Sechskantschrauben mit Gewinde bis Kopf - Produktklasse C (ISO/DIS 4018:2020)

Vis à tête hexagonale entièrement filetées - Grade C (ISO/DIS 4018:2020)

## Ta slovenski standard je istoveten z: prEN ISO 4018

oSIST prEN ISO 4018:2020

https://standards.iteh.ai/catalog/standards/sist/224f2b19-fdb4-480a-97a9-9ce023eed6e6/osist-pren-iso-4018-2020

21.060.10 Sorniki, vijaki, stebelni vijaki Bolts, screws, studs

oSIST prEN ISO 4018:2020

ICS:

en,fr,de

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# DRAFT INTERNATIONAL STANDARD ISO/DIS 4018

ISO/TC 2/SC 11

Voting begins on: **2020-06-24** 

Secretariat: **DIN** 

Voting terminates on: 2020-09-16

## Hexagon head screws — Product grade C

Vis à tête hexagonale entièrement filetées — Grade C

ICS: 21.060.10

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Reference number ISO/DIS 4018:2020(E)

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### Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

oSIST prEN ISO 4018:2020

This document was prepared by Technical Committee 180/TC 2, Fasteners, Subcommittee SC 11, Fasteners with metric external thread.

This fifth edition cancels and replaces the fourth edition (ISO 4018:2011), which has been technically revised.

The main changes compared to the previous edition are as follows:

- M7 has been added;
- tables for dimensions have been restructured;
- $d_{w,min}$  has been changed for M5 from  $s_{min}$  IT16 to  $s_{min}$  IT15, as for hexagon head screws of product grades A and B;
- standard smallest length has been corrected by deleting  $l_{\text{nom}}$  = 120 mm for M64;
- standard greatest lengths (accidentally removed in the fourth edition for M10 and above) have been restored (greatest lengths  $l_{nom} = 10d$  or 200 mm whichever is the shorter);
- specifications for marking and labelling were added as Clause 6.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at <u>www.iso.org/members.html</u>.

## Hexagon head screws — Product grade C

#### 1 Scope

This document specifies the characteristics of hexagon head screws, in steel, with metric coarse pitch threads M5 to M64, and with product grade C.

NOTE If in certain cases other specifications are requested, property classes can be selected from ISO 898-1, and dimensional options from ISO 888 or ISO 4753.

#### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 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 965-1, ISO general-purpose metric screw threads — Tolerances — Part 1: Principles and basic data

ISO 1891-4, Fasteners — Vocabulary — Part 4: Control, inspection, delivery, acceptance and quality

ISO 3269, Fasteners — Acceptance inspection

(standards.iteh.ai)

ISO 4042, Fasteners — Electroplated coating systems

ISO 4753, Fasteners — Ends of parts with external ISO metric thread https://standards.iteh.avcatalogistandards/site/add/

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

ISO 10683, Fasteners — Non-electrolytically applied zinc flake coating systems

ISO 10684, Fasteners — Hot dip galvanised coatings

### 3 Terms and definitions

No terms and definitions are listed in this document.

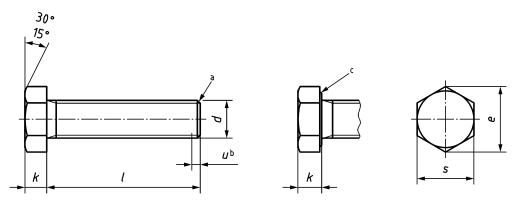
ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at http://www.iso.org/obp
- IEC Electropedia: available at http://www.electropedia.org/

#### **4** Dimensions

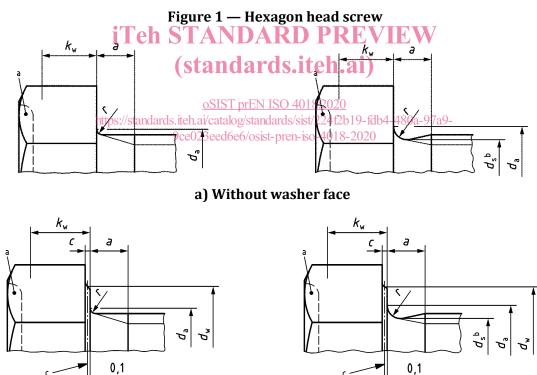
Dimensions shall be in accordance with Figures 1 and 2 and with Tables 1 to 3.

Symbols and descriptions of dimensions are defined in ISO 225.



#### Кеу

- <sup>a</sup> Thread end at the discretion of the manufacturer, in accordance with ISO 4753.
- <sup>b</sup> Incomplete thread  $u \le 2P$ .
- <sup>c</sup> Washer face at the discretion of the manufacturer, in accordance with Figure 2 b).



#### b) With washer face

#### Кеу

<sup>a</sup> Indentation at the discretion of the manufacturer, within a maximum diameter of 0.8s and a maximum depth of 0.2k.

- <sup>c</sup>  $d_s \approx$  pitch diameter.
- <sup>d</sup> Reference datum for  $d_w$ .

#### Figure 2 — Head details and permissible shapes

Thread, d		M5	M6	(M7)	M8	M10	M12	(M14)	M16	
<b>y</b> a			0,8	1	1	1,25	1,5	1,75	2	2
		max.	2,40	3,00	3,00	3,75	4,50	5,25	6,00	6,00
a p		min.	0,80	1,00	1,00	1,25	1,50	1,75	2,00	2,00
с		max.	0,5	0,5	0,6	0,6	0,6	0,6	0,6	0,8
d <sub>a</sub>		max.	6,0	7,2	8,2	10,2	12,2	14,7	16,7	18,7
d <sub>w</sub>		min.	7,06	8,74	9,47	11,47	14,47	16,47	19,15	22,00
е		min.	8,63	10,89	11,94	14,20	17,59	19,85	22,78	26,17
		nom.	3,5	4	4,8	5,3	6,4	7,5	8,8	10
k		max.	3,875	4,375	5,175	5,675	6,85	7,95	9,25	10,75
		min.	3,125	3,625	4,425	4,925	5,95	7,05	8,35	9,25
k <sub>w</sub>		min.	2,19	2,54	3,10	3,45	4,17	4,94	5,85	6,48
r		min.	0,20	0,25	0,25	0,4	0,4	0,6	0,6	0,6
	nom. =		8,00	10,00	11,00	13,00	16,00	18,00	21,00	24,00
S		min.	7,64	9,64	10,57	12,57	15,57	17,57	20,16	23,16
	1					engths betw				
nom.	min.	max.		Range of sta	indardized i	engins betw	een the step		inuous iines	
10	9,25	10,75		 						
12	11,10	12,90							s with	
16	15,10	16,90	<b>11e</b>	h STA	NDAI	KD PR	EVIE	V too sho	rt length	
20	18,95	21,05		(sta	ndard	s itch	ai)			
25	23,95	26,05		(sta	nuaru	S.IU.II.	ai)		, ,	
30	28,95	31,05		05	IST prEN IS	0 4018:2020				
35	33,75	36,25	https://stan	dards.iteh.ai/c	atalog/standar	ds/sist/224f2t	19-fdb4-480	a-97a9-		
40	38,75	41,25	1	9ce023e	ed6e6/osist-p	ren-iso-4018	-2020			
45	43,75	46,25								
50	48,75	51,25								
55	53,50	56,50								
60	58,50	61,50								
65	63,50	66,50								
70	68,50	71,50								
80	78,50	81,50								
90	88,25	91,75								
100	98,25	101,75								
110	108,25									
120	118,25				be agreed b					
130	128,0	132,0		purchaser	and the mai	nulacturer			! 	
140	138,0	142,0							i	
	148,0	152,0								
140 150 160	156,0	164,0								

#### Table 1 — Dimensions - M5 to M16

Thread, d (N			(M18)	M20	(M22)	M24	(M27)	M30	(M33)	M36
<b>P</b> a			2,5	2,5	2,5	3	3	3,5	3,5	4
b		max.	7,5	7,5	7,5	9,0	9,0	10,5	10,5	12,0
a <sup>b</sup>		min.	2,5	2,5	2,5	3,0	3,0	3,5	3,5	4,0
С		max.	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8
da		max.	21,2	24,4	26,4	28,4	32,4	35,4	38,4	42,4
dw		min.	24,85	27,70	31,35	33,25	38,00	42,75	46,55	51,11
е		min.	29,56	32,95	37,29	39,55	45,20	50,85	55,37	60,79
		nom.	11,5	12,5	14	15	17	18,7	21	22,5
k		max.	12,40	13,40	14,90	15,90	17,90	19,75	22,05	23,55
		min.	10,60	11,60	13,10	14,10	16,10	17,65	19,95	21,45
kw		min.	7,42	8,12	9,17	9,87	11,27	12,36	13,97	15,02
r		min.	0,6	0,8	0,8	0,8	1,0	1,0	1,0	1,0
c	nom. =	max.	27,00	30,00	34,00	36,00	41,0	46,0	50,0	55,0
S		min.	26,16	29,16	33,00	35,00	40,0	45,0	49,0	53,8
	1			Range of sta	andardized l	engths hetw	een the sten	ned discont	inuous lines	
nom.	min.	max.			indui dized I	engens betw		peu uiscolle	inuous mies	
35	33,75	36,25								
40	38,75	41,25						1	vs with	
45	43,75	46,25	iTo	<del>ь ст л</del>		-D-D-D-D-D-D-D-D-D-D-D-D-D-D-D-D-D-D-D	EVIE	too sho	rt length	
50	48,75	51,25	116		IDAI					
55	53,50	56,50		<del>(sta</del>	ndard	s.iteh.	ai)			
60	58,50	61,50							┦	
65	63,50	66,50		<u>0</u>	IST prEN IS	O 4018:2020				
70	68,50	71,50	https://stan		0		19-fdb4-480	a-97a9-		
80	78,50	81,50		9ce023e	ed6e6/osist-p	ren-iso-4018	-2020			
90	88,25	91,75								
100	98,25	101,75								
110	108,25	111,75								
120	118,25	121,75								
130	128,0	132,0								
140	138,0	142,0								
4 2 0	148,0	152,0								
150	156,0	164,0								
160		1010								
160 180	176,0	184,0						1		
160		184,0 204,6					e purchaser a			

#### Table 2 — Dimensions - M18 to M36

					- Dimensi				Dimensions in	n millimetres
]	Thread,	d	(M39)	M42	(M45)	M48	(M52)	M56	(M60)	M64
Pa			4	4,5	4,5	5	5	5,5	5,5	6
æ b		max.	12,0	13,5	13,5	15,0	15,0	16,5	16,5	18,0
a <sup>b</sup>		min.	4,0	4,5	4,5	5,0	5,0	5,5	5,5	6,0
С		max.	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
d <sub>a</sub>		max.	45,4	48,6	52,6	56,6	62,6	67,0	71,0	75,0
d <sub>w</sub>		min.	55,86	59,95	64,70	69,45	74,20	78,66	83,41	88,16
ę		min.	66,44	71,30	76,95	82,60	88,25	93,56	99,21	104,86
		nom.	25	26	28	30	33	35	38	40
k		max.	26,05	27,05	29,05	31,05	34,25	36,25	39,25	41,25
		min.	23,95	24,95	26,95	28,95	31,75	33,75	36,75	38,75
k <sub>w</sub>		min.	16,77	17,47	18,87	20,27	22,23	23,63	25,73	27,13
r		min.	1,0	1,2	1,2	1,6	1,6	2,0	2,0	2,0
	nom. =	max.	60,0	65,0	70,0	75,0	80,0	85,0	90,0	95,0
5		min.	58,8	63,1	68,1	73,1	78,1	82,8	87,8	92,8
nom.	<i>l</i> min.	may		Range of sta	ndardized l	engths betw	een the step	ped discon	tinuous lines	6
80	78,50	max. 81,50								
90	88,25	91,75							Screws with	
100	98,25	101,75	iTe	h STA	NDAI	אירחז	EVIE	t t	oo short leng	
110	108,25	111,75							1	
120	118,25	121,75		<del>(sta</del>	ndard	s.iteh.	ai)		1	
130	128,0	132,0								┡━━━
140	138,0	142,0	1	<u>0</u> S	IST prEN IS	0 4018:2020	10 01 4 400	07.0		
150	148,0	152,0	https://stane	<del>lards.itch.a⊮e</del> 9ce023e	<del>atalog/standar</del> ed6e6/osist-n	<del>ds/sist/224120</del> ren-iso-4018;	<del>19-1db4-480</del> .2020	a-9/a9-		
160	156,0	164,0		71,51,12,115	culicolosisi-p	ucu-180-4010.				
180	176,0	184,0								
200	195,4	204,6								
				Lengths to	o be agreed	between the	purchaser a	and the mai	nufacturer	
NOTE Pi	Sizes s s the pitc			non-preferre	d diameters.					
ur.	nlike ISO 3	3508, a <sub>ma</sub>	x = 3P.							

#### Table 3 — Dimensions - M39 to M64