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**Prevailing torque type hexagon nuts (with non-metallic insert), style 1, with metric fine pitch thread — Property classes 6, 8 and 10**

*Écrous hexagonaux autofreinés (à anneau non métallique), style 1, à filetage métrique à pas fin — Classes de qualité 6, 8 et 10*

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[ISO 10512:1997](#)

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## Foreword

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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.

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International Standard ISO 10512 was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC 1, *Mechanical properties of fasteners*.

ISO 10512:1997

Annex A of this International Standard is for information only.

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# Prevailing torque type hexagon nuts (with non-metallic insert), style 1, with metric fine pitch thread – Property classes 6, 8 and 10

## 1 Scope

This International Standard specifies the characteristics of prevailing torque type hexagon nuts (with non-metallic insert), style 1, with metric fine pitch thread with nominal thread diameters  $d$  from 8 mm up to and including 36 mm, in product grade A for sizes  $d$  up to and including 16 mm and product grade B for sizes  $d$  above 16 mm, and with property classes 6, 8 and 10.

NOTE — The dimensions of the nuts correspond to those given in ISO 8673 plus prevailing torque feature.

If other specifications are required, they should be selected from existing International Standards, for example ISO 261, ISO 965-2, ISO 2320 and ISO 4759-1.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 225:1983, *Fasteners – Bolts, screws, studs and nuts – Symbols and designations of dimensions.*

ISO 261:<sup>1)</sup> *ISO general purpose metric screw threads – General plan.*

ISO 965-2:<sup>2)</sup> *ISO general purpose metric screw threads – Tolerances – Part 2: Limits of sizes for general purpose bolt and nut threads – Medium quality.*

ISO 2320:1997, *Prevailing torque type steel hexagon nuts – Mechanical and performance properties.*

ISO 3269:1988, *Fasteners – Acceptance inspection.*

ISO 4042:<sup>3)</sup> *Fasteners – Electroplated coatings.*

ISO 4759-1:<sup>4)</sup> *Tolerances for fasteners – Part 1: Bolts, screws, studs and nuts – Product grades A, B and C.*

ISO 6157-2:1995, *Fasteners – Surface discontinuities – Part 2: Nuts.*

ISO 8992:1986, *Fasteners – General requirements for bolts, screws and nuts.*

1) To be published. (Revision of ISO 261:1973)

2) To be published. (Revision of ISO 965-2:1980)

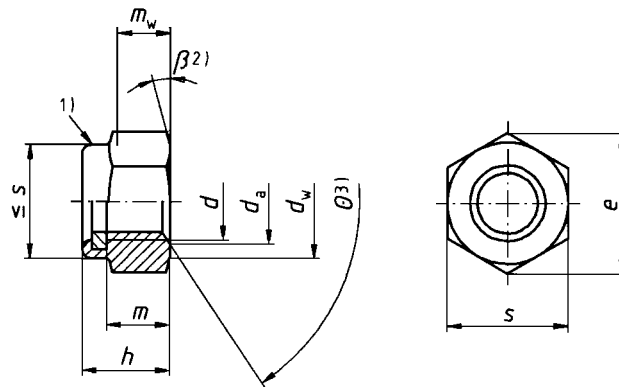
3) To be published. (Revision of ISO 4042:1989)

4) To be published. (Revision of ISO 4759-1:1978)

3 Dimensions

See figure 1 and table 1.

Symbols and designations of dimensions are specified in ISO 225.



- 1) Prevailing torque element, shape optional
- 2)  $\beta = 15^\circ$  to  $30^\circ$
- 3)  $\theta = 90^\circ$  to  $120^\circ$

Figure 1  
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Table 1 — Dimensions  
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<https://standards.iteh.ai/catalog/standards/sist/69be4dd6-59b5-4c74-b1f5-5d69d1be92f8/iso-10512-1997> Dimensions in millimetres

Thread, ( $d \times P^3$ )		M8 × 1	M10 × 1 M10 × 1,25	M12 × 1,25 M12 × 1,5	(M14 × 1,5) <sup>2)</sup>	M16 × 1,5	M20 × 1,5	M24 × 2	M30 × 2	M36 × 3
$d_a$	max.	8,75	10,8	13	15,1	17,3	21,6	25,9	32,4	38,9
	min.	8,00	10,0	12	14,0	16,0	20,0	24,0	30,0	36,0
$d_w$	min.	11,63	14,63	16,63	19,64	22,49	27,7	33,25	42,75	51,11
$e$	min.	14,38	17,77	20,03	23,36	26,75	32,95	39,55	50,85	60,79
$h$	max.	9,50	11,9	14,9	17,0	19,1	22,8	27,1	32,6	38,9
	min.	8,92	11,2	14,2	15,9	17,8	20,7	25,0	30,1	36,4
$m^3$	min.	6,44	8,04	10,37	12,1	14,1	16,9	20,2	24,3	29,4
$m_w^4$	min.	5,15	6,43	8,3	9,68	11,28	13,52	16,16	19,44	23,52
$s$	max.	13,00	16,00	18,00	21,00	24,00	30,00	36	46	55,0
	min.	12,73	15,73	17,73	20,67	23,67	29,16	35	45	53,8

1)  $P$  is the pitch of the thread.  
 2) The size in brackets should be avoided if possible.  
 3) Minimum thread height.  
 4) Minimum wrenching height.

## 4 Requirements and reference International Standards

See table 2.

Table 2 — Requirements and reference International Standards

Material	Nut body	Steel		
	Insert	For example, polyamid		
General requirements	International Standard	ISO 8992		
Thread	Tolerance	6H		
	International Standards	ISO 261, ISO 965-2		
Mechanical and performance properties	Property class	6	8	10
	Style decisive for mechanical properties	style 1	style 1	$d \leq 16$ mm <sup>1)</sup> style 1
	International Standard	ISO 2320		
Tolerances	Product grade	For $d \leq 16$ mm : A For $d > 16$ mm : B		
	International Standard	ISO 4759-1		
Finish		As processed		
		Requirements for electroplated coatings are covered in ISO 4042. If different electroplating requirements are desired or if requirements are needed for other finishes, they should be negotiated between customer and supplier. Limits for surface discontinuities are covered in ISO 6157-2.		
Acceptability		For acceptance procedure, see ISO 3269.		
1) For $d > 16$ mm property class 10 is not specified.				

## 5 Designation

### EXAMPLE

A prevailing torque type hexagon nut, style 1, with non-metallic insert, fine pitch thread M12 × 1,5 and property class 8 is designated as follows:

Prevailing torque type hexagon nut ISO 10512 – M12 × 1,5 – 8

**Annex A**  
(informative)

**Bibliography**

*Hexagon nuts, style 1, with metric fine pitch thread – Product grades A and B.*

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[1] ISO 8673:1988,

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**ICS 21.060.20**

**Descriptors:** fasteners, fine pitch threads, nuts (fasteners), self-locking nuts, hexagonal nuts, specifications, dimensions, designation.

Price based on 4 pages

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