INTERNATIONAL STANDARD

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Prevailing torque type hexagon nuts (with non-metallic insert), style 2 — Property classes 9 and 12

Écrous hexagonaux autofreinés (à anneau non métallique), style 2 — Classes de qualité 9 et 12

Reference number
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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 7041 was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC 1, *Mechanical properties of fasteners*.

This third edition cancels and replaces the second edition (ISO 7041:1997), which has been technically revised.

Prevailing torque type hexagon nuts (with non-metallic insert), style 2 — Property classes 9 and 12

1 Scope

This International Standard specifies the characteristics of prevailing torque type hexagon nuts (with non-metallic insert), style 2, with threads from M5 up to and including M36, in product grade A for threads up to and including M16 and product grade B for threads above M16, and with property classes 9 and 12.

NOTE The dimensions of the nuts correspond to those given in ISO 4033 plus prevailing torque feature.

If other specifications are required, they should be selected from existing International Standards, e.g. ISO 261, ISO 965-2, ISO 2320 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 225:1983, *Fasteners — Bolts, screws, studs and nuts — Symbols and designations of dimensions*

ISO 261:1998, *ISO general-purpose metric screw threads — General plan*

ISO 965-2:1998, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose external and internal screw threads — Medium quality*

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

ISO 3269:2000, *Fasteners — Acceptance inspection*

ISO 4042:1999, *Fasteners — Electroplated coatings*

ISO 4759-1:2000, *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*

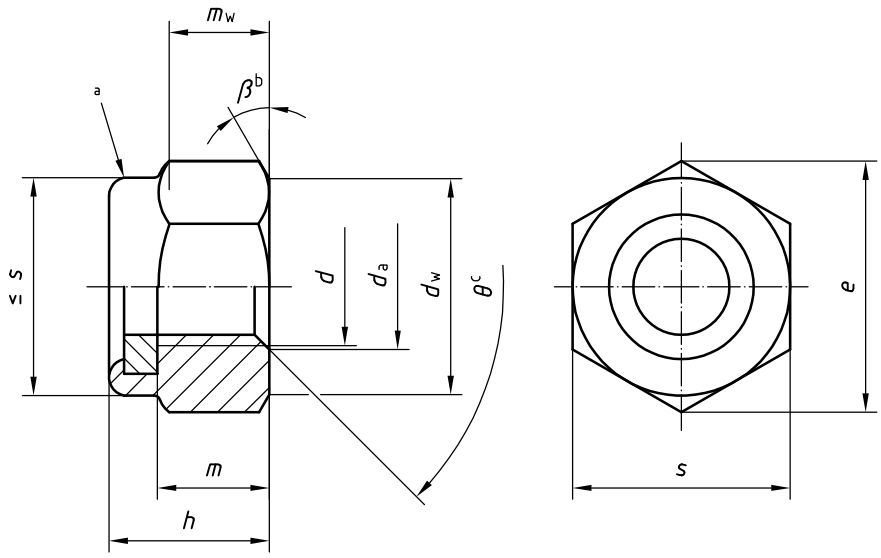
ISO 8992:1986, *Fasteners — General requirements for bolts, screws, studs and nuts*

ISO 10683:2000, *Fasteners — Non-electrolytically applied zinc flake coatings*

3 Dimensions

See Figure 1 and Table 1.

Symbols and designations of dimensions are specified in ISO 225.



a Prevailing torque element, shape optional

b β = 15° to 30°

c θ = 90° to 120°

Figure 1

Table 1 — Dimensions

Dimensions in millimetres

Thread (d)		M5	M6	M8	M10	M12	(M14)[a]	M16	M20	M24	M30	M36
P [b]		0,8	1	1,25	1,5	1,75	2	2	2,5	3	3,5	4
d_a	max.	5,75	6,75	8,75	10,8	13	15,1	17,3	21,6	25,9	32,4	38,9
	min.	5,00	6,00	8,00	10,0	12	14,0	16,0	20,0	24,0	30,0	36,0
d_w	min.	6,88	8,88	11,63	14,63	16,63	19,64	22,49	27,7	33,25	42,75	51,11
e	min.	8,79	11,05	14,38	17,77	20,03	23,36	26,75	32,95	39,55	50,85	60,79
h	max.	7,20	8,50	10,2	12,8	16,1	18,3	20,7	25,1	29,5	35,6	42,6
	min.	6,62	7,92	9,5	12,1	15,4	17,0	19,4	23,0	27,4	33,1	40,1
m [c]	min.	4,8	5,4	7,14	8,94	11,57	13,4	15,7	19	22,6	27,3	33,1
m_w [d]	min.	3,84	4,32	5,71	7,15	9,26	10,7	12,6	15,2	18,1	21,8	26,5
s	max.	8,00	10,00	13,00	16,00	18,00	21,00	24,00	30,00	36	46	55,0
	min.	7,78	9,78	12,73	15,73	17,73	20,67	23,67	29,16	35	45	53,8

a The size in brackets should be avoided if possible.

b P is the pitch of the thread.

c Minimum thread height.

d Minimum wrenching height.

4 Requirements and reference International Standards

See Table 2.

Table 2 — Requirements and reference International Standards

Material	Nut body	Steel	
	Insert	e.g., polyamid	
General requirements	International Standard	ISO 8992	
Thread	Tolerance	6H	
	International Standard	ISO 261, ISO 965-2	
Mechanical and performance properties	Property class	9	12
	Style decisive for mechanical properties	style 2	style 2
	International Standard	ISO 2320	
Tolerances	Product grade	For $d \leqslant$ M16: A For $d >$ M16: B	
	International Standard	ISO 4759-1	
Finish		As processed Requirements for electroplated coatings are covered in ISO 4042. Requirements for non-electrolytically applied zinc flake coatings are covered in ISO 10683	
Surface discontinuities		Limits for surface discontinuities are covered in ISO 6157-2.	
Acceptability		For acceptance procedure, see ISO 3269.	

5 Designation

EXAMPLE A prevailing torque type hexagon nut, style 2, with non-metallic insert, thread M12 and property class 12 is designated as follows:

Prevailing torque type hexagon nut ISO 7041 - M12 - 12

Bibliography

[1] ISO 4033:2000, *Hexagon nuts, style 2 — Product grades A and B*

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