

INTERNATIONAL STANDARD

**ISO
4034**

Third edition
1999-08-15

Hexagon nuts — Product grade C

Écrous hexagonaux — Grade C

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Reference number
ISO 4034:1999(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

International Standard ISO 4034 was prepared by Technical Committee ISO/TC 2, *Fasteners*.

This third edition cancels and replaces the second edition (ISO 4034:1986) which has been technically revised.

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Printed in Switzerland

Introduction

This International Standard is part of the complete ISO product standard series on external hexagon drive fasteners. The series comprises:

- a) hexagon head bolts (ISO 4014 to ISO 4016 and ISO 8765);
- b) hexagon head screws (ISO 4017, ISO 4018 and ISO 8676);
- c) hexagon nuts (ISO 4032 to ISO 4036, ISO 8673 to ISO 8675);
- d) hexagon bolts with flange (ISO 4162 and ISO 15071);
- e) hexagon nuts with flange (ISO 4161 and ISO 10663);
- f) structural bolts and nuts (ISO 4775, ISO 7411 to ISO 7414 and ISO 7417).

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Hexagon nuts — Product grade C

1 Scope

This International Standard specifies the characteristics of hexagon nuts with threads from M5 up to and including M64 and product grade C.

If, in special cases, specifications other than those listed in this International Standard are required, they should be selected from existing International Standards, for example ISO 724, ISO 898-2, ISO 965-1 and ISO 4759-1.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

ISO 724:1993, *ISO general-purpose metric screw threads — Basic dimensions*.

ISO 898-2:1992, *Mechanical properties of fasteners — Part 2: Nuts with specified proof load values — Coarse thread*.

ISO 965-1:1998, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data*.

ISO 3269:—¹⁾, *Fasteners — Acceptance inspection*.

ISO 4042:1999, *Fasteners — Electroplated coatings*.

ISO 4759-1:—²⁾, *Tolerances for fasteners — Part 1: Bolts, screws, studs and nuts — Product grades A, B and C*.

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

ISO 10683:—³⁾, *Fasteners — Non-electrolytically applied zinc flake coatings*.

¹⁾ To be published. (Revision of ISO 3269:1988)

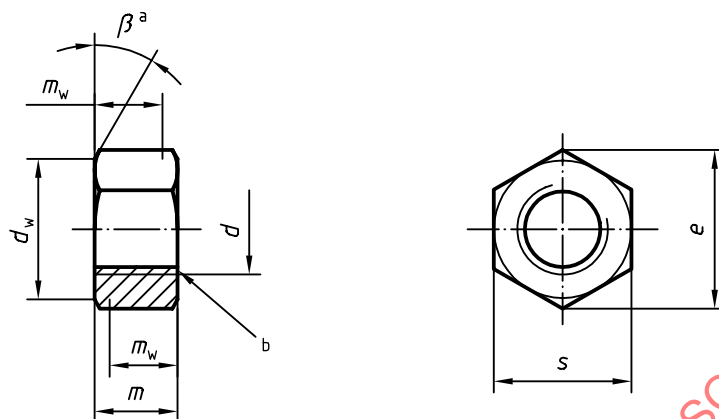
²⁾ To be published. (Revision of ISO 4759-1:1978)

³⁾ To be published.

3 Dimensions

See Figure 1 and Tables 1 and 2.

Symbols and descriptions of dimensions are defined in ISO 225.



^a $\beta = 15^\circ$ to 30°

^b Countersink at start of thread permissible

Figure 1

Table 1 — Preferred threads

Dimensions in millimetres

Thread (d)		M5	M6	M8	M10	M12	M16	M20
p^a		0,8	1	1,25	1,5	1,75	2	2,5
d_w	min.	6,7	8,7	11,5	14,5	16,5	22	27,7
e	min.	8,63	10,89	14,2	17,59	19,85	26,17	32,95
m	max.	5,6	6,4	7,9	9,5	12,2	15,9	19,0
	min.	4,4	4,9	6,4	8,0	10,4	14,1	16,9
m_w	min.	3,5	3,7	5,1	6,4	8,3	11,3	13,5
s	nom. = max.	8,00	10,00	13,00	16,00	18,00	24,00	30,00
	min.	7,64	9,64	12,57	15,57	17,57	23,16	29,16

Thread (d)		M24	M30	M36	M42	M48	M56	M64
p^a		3	3,5	4	4,5	5	5,5	6
d_w	min.	33,3	42,8	51,1	60	69,5	78,7	88,2
e	min.	39,55	50,85	60,79	71,3	82,6	93,56	104,86
m	max.	22,3	26,4	31,9	34,9	38,9	45,9	52,4
	min.	20,2	24,3	29,4	32,4	36,4	43,4	49,4
m_w	min.	16,2	19,4	23,2	25,9	29,1	34,7	39,5
s	nom. = max.	36	46	55,0	65,0	75,0	85,0	95,0
	min.	35	45	53,8	63,1	73,1	82,8	92,8

^a P is the pitch of the thread.

Table 2 — Non-preferred threads

Dimensions in millimetres

Thread (<i>d</i>)		M14	M18	M22	M27	M33	M39	M45	M52	M60
p^a		2	2,5	2,5	3	3,5	4	4,5	5	5,5
d_w	min.	19,2	24,9	31,4	38	46,6	55,9	64,7	74,2	83,4
e	min.	22,78	29,56	37,29	45,2	55,37	66,44	76,95	88,25	99,21
m	max.	13,9	16,9	20,2	24,7	29,5	34,3	36,9	42,9	48,9
	min.	12,1	15,1	18,1	22,6	27,4	31,8	34,4	40,4	46,4
m_w	min.	9,7	12,1	14,5	18,1	21,9	25,4	27,5	32,3	37,1
s	nom. = max.	21,00	27,00	34	41	50	60,0	70,0	80,0	90,0
	min.	20,16	26,16	33	40	49	58,8	68,1	78,1	87,8

^a P is the pitch of the thread.

4 Specifications and reference standards

See Table 3.

Table 3 — Specification and reference standards

Material		Steel
General requirements	International Standard	ISO 8992
Thread	Tolerance	7H
	International Standards	ISO 724, ISO 965-1
Mechanical properties	Property class ^a	$d \leq M16$: 5 $M16 < d \leq M39$: 4, 5 $d > M39$: as agreed
	International Standard	$d \leq M39$: ISO 898-2 $d > M39$: as agreed
Tolerances	Product grade	C
	International Standard	ISO 4759-1
Finish and/or coating		As processed Requirements for electroplating are covered in ISO 4042. Requirements for non-electrolytically applied zinc flake coatings are covered in ISO 10683. If different electroplating requirements are desired or if requirements are needed for other finishes, they should be agreed between customer and supplier.
Acceptability		For acceptance procedure, see ISO 3269.

^a For other property classes see ISO 898-2.

5 Designation

EXAMPLE

A hexagon nut with thread M12 and property class 5 is designated as follows:

Hexagon nut ISO 4034 - M12 - 5

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