# भारतीय मानक Indian Standard

IS 1364 (Part 3): 2025 ISO 4032: 2023

उत्पाद ग्रेड ए और बी के लिए षट्कोणीय शीर्ष वाले काबले, पेंच और ढ़िबरियाँ

भाग 3 षट्कोणीय ढ़िबरियाँ, शैली 1 (साइज रेंज एम 5 से एम 39 तक)

( छठा पुनरीक्षण )

Hexagon Head Bolts, Screws and Nuts of Product Grades A and B Part 3 Hexagon Nuts, Style 1 (Size Range M5 to M39)

(Sixth Revision)

ICS 21.060.20

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June 2025

**Price Group 7** 



#### NATIONAL FOREWORD

This Indian Standard (Part 3) (Sixth Revision), which is identical to ISO 4032: 2023 'Fasteners — Hexagon regular nuts (style 1)' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the General Engineering and Fasteners Standards Sectional Committee and approval of the Production and General Engineering Division Council.

This standard was originally published in 1960 and was first revised in 1967. Subsequent to the publication of 1967 edition, many changes had been agreed upon at international level which have been reflected in IS 1367 series of standards covering 'Technical supply conditions for threaded steel fasteners'. Accordingly, second revision was published in 1983 splitting the standard into 5 parts covering hexagon head bolts, hexagon head screws, hexagon nuts, hexagon thin nuts (chamfered) and hexagon thin nuts (unchamfered).

The third revision was published in 1992 as adoption of ISO 4032: 1986. The fourth revision was made by adoption of ISO 4032: 1999 in 2002. The fifth revision standard was identical with ISO 4032: 2012. This revision has been brought out to align it with the ISO 4032: 2023.

The following major modifications have been incorporated to the revision of the standard:

- a) Nuts with D < M5 and D > M39 (with  $m_{min} < 0.8D$  not conforming to IS 1367 (Part 6) nor to IS 1367 Part (14/Sec 2) have been shifted to informative Annex A; reference to ISO/TR 16224 for appropriate nut design has been added;
- b) M7 has been added;
- c) Values of  $c_{\text{max}}$  for sizes M1.6 to M2.5 have been amended in accordance with IS 1367 (Part 2);
- d) Dimensions of  $d_{a,max}$ ,  $d_{w,min}$  and  $m_{w,min}$  have been specified with two decimal places;
- e) Dimensions of  $d_{w,min}$  for sizes  $D \le M5$  has been changed from  $s_{min} IT16$  to  $s_{min} IT15$  in order to have a larger bearing surface area and thus less contact pressure;
- f) For steel nuts, quenching and tempering condition has been specified in accordance with IS 1367 (Part 6), and property Class 5 and Class 12 have been added;
- g) For stainless steel nuts, grades D4 and D6 and property Class 80 have been added;
- Non-ferrous metal nuts have been deleted (as a consequence of the withdrawal of ISO 8839);
   and
- i) Specifications for marking and labelling have been added as 6.

The text of ISO standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'; and
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, references appear to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

International Standard	Corresponding Indian Standard	Degree of Equivalence
ISO 225 Fasteners — Bolts, screws, studs and nuts — Symbols and descriptions of dimensions	IS 8536: 2021/ISO 225: 2010 Fasteners — Bolts, screws, studs and nuts — Symbols and descriptions of dimensions (second revision)	Identical
ISO 898-2 Fasteners — Mechanical properties of fasteners made of carbon steel and alloy steel — Part 2: Nuts with specified property classes	IS 1367 (Part 6): 2025/ISO 898-2: 2022 Technical supply conditions for threaded steel fasteners: Part 6 Mechanical properties of fasteners made of carbon steel and alloy steel — Nuts with specified property classes — Coarse thread and fine pitch thread (fifth revision)	Identical
ISO 965-1 ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data	IS 14962 (Part 1): 2018/ ISO 965-1: 2013 ISO general purpose metric screw threads — Tolerances: Part 1 Principles and basic data ( <i>first revision</i> )	Identical
ISO 3269 Fasteners — Acceptance inspection	IS 1367 (Part 17): 2023/ ISO 3269: 2019 Technical supply conditions for threaded steel fasteners: Part 17 Inspections, sampling and acceptance procedure (fifth revision)	Identical
ISO 3506-2 Fasteners — Mechanical properties of corrosion-resistant stainless steel fasteners — Part 2: Nuts with specified grades and property classes	IS 1367 (Part 14/Sec 2): 2023/ ISO 3506-2: 2020 Technical supply conditions for threaded steel fasteners: Part 14 Mechanical properties of corrosion-resistant stainless-steel fasteners, Section 2 Nuts with specified grades and property classes (fifth revision)	Identical
ISO 4042 Fasteners — Electroplated coating systems	IS 1367 (Part 11) : 2024/ ISO 4042 : 2022 Technical supply conditions for threaded steel fasteners: Part 11 Electroplated coating systems (fifth revision)	Identical
ISO 4759-1 Tolerances for fasteners — Part 1: Bolts, screws, studs and nuts — Product grades A, B and C	IS 1367 (Part 2): 2002/ ISO 4759-1: 2000 Technical supply conditions for threaded steel fasteners: Part 2 Tolerances for fasteners — Bolts, screws, studs and nuts — Product grades A, B and C (third revision)	Identical
ISO 6157-2 Fasteners — Surface discontinuities — Part 2: Nuts	IS 1367 (Part 10) : 2002/ ISO 6157-2 : 1995 Technical supply conditions for threaded steel fasteners: Part 10 Surface	Identical

International Standard	Corresponding Indian Standard	Degree of Equivalence
	discontinuities — Nuts (third revision)	
ISO 8991 Designation system for fasteners	IS 1367 (Part 16): 2002/ ISO 8991: 1986 Technical supply conditions for threaded steel fasteners: Part 16 Designation system for fasteners (third revision)	Identical
ISO 8992 Fasteners — General requirements for bolts, screws, studs and nuts	IS 1367 (Part 1): 2014/ ISO 8992: 2005 Technical supply conditions for threaded steel fasteners: Part 1 General requirements for bolts, screws, studs and nuts (fourth revision)	Identical
ISO 10683 Fasteners — Non- electrolytically applied zinc flake coating systems	IS/ISO 10683 : 2018 Fasteners — Non-electrolytically applied zinc flake coating systems	Identical
ISO 10684 Fasteners — Hot dip galvanized coatings	IS 1367 (Part 13) : 2020/ ISO 10684 : 2004 Technical supply conditions for threaded steel fasteners: Part 13 Hot dip galvanized coatings on threaded fasteners (third revision)	Identical

The Committee has reviewed the provisions of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

International Standard Title

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

The standard also makes a reference to the BIS Certification Marking and packaging of the product. details of which is given in National Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2: 2022 'Rules for rounding off numerical values (second revision)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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#### Indian Standard

# HEXAGON HEAD BOLTS, SCREWS AND NUTS OF PRODUCT GRADES A AND B

# PART 3 HEXAGON NUTS, STYLE 1 (SIZE RANGE M5 TO M39)

(Sixth Revision)

## 1 Scope

This document specifies the characteristics of hexagon regular nuts (style 1), in steel and stainless steel, with metric coarse pitch thread M5 to M39, and with product grades A and B.

NOTE For nuts with sizes D < M5 and D > M39, see Annex A.

If in certain cases other specifications are requested, property classes and stainless steel grades can be selected from ISO 898-2 or ISO 3506-2.

#### 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 225, Fasteners — Bolts, screws, studs and nuts — Symbols and descriptions of dimensions

ISO 898-2, Fasteners — Mechanical properties of fasteners made of carbon steel and alloy steel — Part 2: Nuts with specified property classes

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

ISO 3506-2, Fasteners — Mechanical properties of corrosion-resistant stainless steel fasteners — Part 2: Nuts with specified grades and property classes

ISO 4042, Fasteners — Electroplated coating systems

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

ISO 6157-2, Fasteners — Surface discontinuities — Part 2: Nuts

ISO 8991, Designation system for fasteners

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 galvanized coatings

#### 3 Terms and definitions

No terms and definitions are listed in this document.

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

- ISO Online browsing platform: available at <a href="https://www.iso.org/obp">https://www.iso.org/obp</a>
- IEC Electropedia: available at <a href="https://www.electropedia.org/">https://www.electropedia.org/</a>

# 4 Dimensions

Dimensions for nuts M5 to M39 shall be in accordance with <u>Figures 1</u> and <u>2</u>, and with <u>Tables 1</u> and <u>2</u>. Unless otherwise specified at the time of the order, the nuts are delivered without washer-face.

NOTE For nuts with sizes D < M5 and D > M39, see Annex A.

Symbols and descriptions of dimensions are specified in ISO 225.

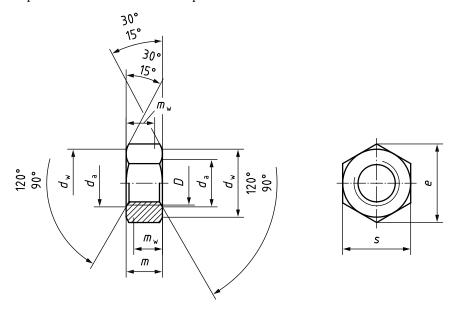


Figure 1 — Nut without washer-face

Figure 2 — Nut with optional washer-face

Reference datum for  $d_w$ .

Table 1 — Dimensions for nuts M5 to M16 (product grade A)

Dimensions in millimetres

Thread	, D	M5	М6	(M7)	M8	M10	M12	(M14)	M16
P a	'	0,8	1	1	1,25	1,5	1,75	2	2
c b	max.	0,50	0,50	0,60	0,60	0,60	0,60	0,60	0,80
[C 5	min.	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,20
۵	max.	5,75	6,75	7,75	8,75	10,80	12,96	15,12	17,28
$d_{\rm a}$	min.	5,00	6,00	7,00	8,00	10,00	12,00	14,00	16,00
$d_{\mathrm{w}}$	min.	7,20	8,88	9,63	11,63	14,63	16,63	19,64	22,49
e	min.	8,79	11,05	12,12	14,38	17,77	20,03	23,36	26,75
	max.	4,70	5,20	6,50	6,80	8,40	10,80	12,80	14,80
m	min.	4,40	4,90	6,14	6,44	8,04	10,37	12,10	14,10
$m_{\mathrm{w}}$	min.	3,52	3,92	4,91	5,15	6,43	8,30	9,68	11,28
C	nom. = max.	8,00	10,00	11,00	13,00	16,00	18,00	21,00	24,00
S	min.	7,78	9,78	10,73	12,73	15,73	17,73	20,67	23,67

NOTE Sizes shown in brackets are non-preferred.

Table 2 — Dimensions for nuts M18 to M39 (product grade B)

Dimensions in millimetres

Thread	<b>l</b> , D	(M18)	M20	(M22)	M24	(M27)	M30	(M33)	M36	(M39)
P a		2,5	2,5	2,5	3	3	3,5	3,5	4	4
<i>c</i> b	max.	0,80	0,80	0,80	0,80	0,80	0,80	0,80	0,80	1,00
6.0	min.	0,20	0,20	0,20	0,20	0,20	0,20	0,20	0,20	0,30
۵	max.	19,44	21,60	23,76	25,92	29,16	32,40	35,64	38,88	42,12
$d_{\rm a}$	min.	18,00	20,00	22,00	24,00	27,00	30,00	33,00	36,00	39,00
$d_{\mathrm{w}}$	min.	24,85	27,70	31,35	33,25	38,00	42,75	46,55	51,11	55,86
e	min.	29,56	32,95	37,29	39,55	45,20	50,85	55,37	60,79	66,44
	max.	15,80	18,00	19,40	21,50	23,80	25,60	28,70	31,00	33,40
m	min.	15,10	16,90	18,10	20,20	22,50	24,30	27,40	29,40	31,80
$m_{\mathrm{w}}$	min.	12,08	13,52	14,48	16,16	18,00	19,44	21,92	23,52	25,44
	nom. = max.	27,00	30,00	34,00	36,00	41,00	46,00	50,00	55,00	60,00
	min.	26,16	29,16	33,00	35,00	40,00	45,00	49,00	53,80	58,80

NOTE Sizes shown in brackets are non-preferred.

<sup>&</sup>lt;sup>a</sup> *P* is the pitch of the thread.

b c only applies if a washer-face is present.

a P is the pitch of the thread.

b c only applies if a washer-face is present.

# 5 Requirements and reference International Standards

The requirements specified in the International Standards referenced in <u>Table 3</u> shall apply for nuts M5 to M39 only.

NOTE For nuts with sizes D < M5 and D > M39, see Annex A.

Table 3 — Requirements and reference International Standards

Material			Steel	Stair	nless steel				
General requirements	International Standard	ISO 8992							
	Tolerance class		6H <sup>a</sup>						
Thread	International Standard		ISO 965-1						
	Style		1	L					
	Property class	$M5 \le D \le M16$	5 <sup>b</sup> , 6 <sup>b</sup> , 8 <sup>c</sup> , 10 <sup>d</sup> , 12 <sup>d</sup>		_				
	Symbol	$M16 < D \le M39$	5 b, 6 b, 8 d, 10 d						
Mechanical properties	Grade <sup>e</sup> and property class		N		A2-70, A4-70, A4-80, D4-80, D6-80				
	Symbol		_	$M24 < D \le M39$	A2-50, A2-70, A4-50, A4-70, D4-70, D6-70				
	International Standard	ISO	O 898-2	ISO	3506-2				
	Product grade	$D \le M16$ : A (except for M5 where $d_{w,min} = s_{min} - IT15$ ) $D > M16$ : B							
Tolerances	International Standard	ISO 4759-1							
		As process	sed (no coating)						
		Electroplated coatings as specified in ISO 4042 Clean and bright			and bright				
Surface conditi	ion		Non-electrolytically applied zinc flake coatings as specified in ISO 10683		and/or ssivated <sup>f</sup>				
		Hot dip galvanized coatings as specified in ISO 10684							
		Other finishes, coatings and/or additional requirements shall be agreed between the purchaser and the supplier							
Surface integrity		Limits for surface discontinuities as specified in ISO 6157-2		As agreed <sup>g</sup>					
Acceptability		Acceptance inspection as specified in ISO 3269							

<sup>&</sup>lt;sup>a</sup> Depending on the type of coating to be applied, another tolerance position of the thread may be specified for the uncoated nuts in accordance with the relevant coating standard.

b Shall not be guenched and tempered in accordance with ISO 898-2 (NQT nuts).

<sup>&</sup>lt;sup>c</sup> May be quenched and tempered at the manufacturer's discretion, in accordance with ISO 898-2 (NQT or QT nuts).

 $<sup>^{</sup>m d}$  Shall be quenched and tempered in accordance with ISO 898-2 (QT nuts).

 $<sup>^{\</sup>rm e}$  The most common stainless steel grades are A2 and A4; however, depending on the application, it can be necessary to select other grades in ISO 3506-2 suitable for the service corrosive environment. For use at high temperatures (up to 800  $^{\circ}$ C), mechanical properties are specified in ISO 3506-5. See also ISO 3506-6 for the selection of suitable stainless steel grades.

f See e.g. ISO 16048.

See e.g. ISO 6157-2.

# 6 Marking and labelling

### 6.1 Marking on product

Marking shall be:

- for steel nuts, as specified in ISO 898-2,
- for stainless steel nuts, as specified in ISO 3506-2.

#### 6.2 Labelling on package

Labelling on the package shall be in accordance with ISO 898-2 or ISO 3506-2, and shall include at least:

- the reference to this document, i.e. ISO 4032,
- the thread size *D*,
- for steel nuts with sizes  $M5 \le D \le M39$ , the symbol of the property class,
- for stainless steel nuts with sizes  $M5 \le D \le M39$ , the grade and symbol of the property class,
- the type of surface condition (finish and/or coating),
- the manufacturer's and/or distributor's identification and/or name,
- the manufacturing lot number as specified in ISO 1891-4,
- the quantity of pieces in the package.

### 7 Designation

The designation requirements as specified in ISO 8991 shall apply with:

- for steel nuts with sizes  $M5 \le D \le M39$ , the symbol of the property class as specified in ISO 898-2,
- for stainless steel nuts with sizes  $M5 \le D \le M39$ , the grade and symbol of the property class as specified in ISO 3506-2.

When no specific surface condition (finish and/or coating) is specified in the designation, steel nuts are delivered in the as processed condition and stainless steel nuts in the clean and bright condition.

EXAMPLE 1 A hexagon regular nut (style 1) in accordance with this document, with thread size M12, product grade A, in steel, property class 8, as processed, is designated as follows:

#### Hexagon regular nut ISO 4032 - M12 - 8

EXAMPLE 2 A hexagon regular nut (style 1) in accordance with this document, with thread size M20, product grade B, in stainless steel grade A2 and property class 70, clean and bright, is designated as follows:

Hexagon regular nut ISO 4032 - M20 - A2-70

# Annex A

(informative)

# Historical nuts with D < M5 and D > M39, not conforming to ISO 898-2 nor to ISO 3506-2

WARNING — These historical nuts should not be used for new or critical applications (e.g. tightening near or above the yield limit, dynamic loading); they are only included for referral to existing documents.

Hexagon nuts have been designed by using the Alexander theory for sizes M5 to M39 only, and therefore:

- nuts included in this Annex with sizes D < M5 and D > M39 have a minimum height  $m_{\min}$  less than  $0.8D^{-1}$ , they have not been resized (see Tables A.1 and A.2);
- mechanical properties are not specified in ISO 898-2 and ISO 3506-2 for nuts with sizes D < M5 and D > M39 (see Table A.3);
- property classes specified in ISO 898-2 and ISO 3506-2 cannot be used for these nuts which are not conforming to the requirements of ISO 898-2 and ISO 3506-2.

This means that such nuts would need a higher hardness and/or a greater minimum height to meet the requirements specified for property classes in ISO 898-2 or ISO 3506-2; however, increased hardness alone may not compensate insufficient height to avoid the thread stripping failure mode at unexpected low loads in bolt and nut assemblies.

For adequate nut design, see ISO/TR 16224.

Nevertheless, if the use of such nuts is considered, the mechanical properties and related tests to be performed as well as the relevant marking and labelling are to be defined by agreement between the purchaser and the supplier at the time of the order.

<sup>1)</sup> Nut heights *m* of this Annex come from former DIN 934 which was withdrawn in 1994.

Table A.1 — Nuts with D < M5 (not conforming to ISO 898-2 nor to ISO 3506-2)

Dimensions in millimetres

Thread	l, D	M1,6	M2	M2,5	М3	(M3,5)	M4
P a		0,35	0,4	0,45	0,5	0,6	0,7
<i>c</i> b	max.	0,25	0,25	0,25	0,40	0,40	0,40
[6.5]	min.	0,10	0,10	0,10	0,15	0,15	0,15
a	max.	1,84	2,30	2,88	3,45	4,03	4,60
$d_{\rm a}$	min.	1,60	2,00	2,50	3,00	3,50	4,00
$d_{\rm w}$	min.	2,54	3,34	4,34	4,84	5,34	6,20
е	min.	3,41	4,32	5,45	6,01	6,58	7,66
	max.	1,30	1,60	2,00	2,40	2,80	3,20
m	min. <sup>c</sup>	1,05	1,35	1,75	2,15	2,55	2,90
$m_{\mathrm{w}}$	min.	0,84	1,08	1,40	1,72	2,04	2,32
	nom. = max.	3,20	4,00	5,00	5,50	6,00	7,00
	min.	3,02	3,82	4,82	5,32	5,82	6,78

NOTE Size shown in brackets is non-preferred.

Table A.2 — Nuts with D > M39 (not conforming to ISO 898-2 nor to ISO 3506-2)

Dimensions in millimetres

Threa	nd, D	M42	(M45)	M48	(M52)	M56	(M60)	M64
P a		4,5	4,5	5	5	5,5	5,5	6
c b	max.	1,00	1,00	1,00	1,00	1,00	1,00	1,00
( )	min.	0,30	0,30	0,30	0,30	0,30	0,30	0,30
۵	max.	45,36	48,60	51,84	56,16	60,48	64,80	69,12
$d_{\rm a}$	min.	42,00	45,00	48,00	52,00	56,00	60,00	64,00
$d_{\mathrm{w}}$	min.	59,95	64,70	69,45	74,20	78,66	83,41	88,16
e	min.	71,30	76,95	82,60	88,25	93,56	99,21	104,86
122	max.	34,00	36,00	38,00	42,00	45,00	48,00	51,00
m	min. <sup>c</sup>	32,40	34,40	36,40	40,40	43,40	46,40	49,10
$m_{\mathrm{w}}$	min.	25,92	27,52	29,12	32,32	34,72	37,12	39,28
C	nom. = max.	65,00	70,00	75,00	80,00	85,00	90,00	95,00
s —	min.	63,10	68,10	73,10	78,10	82,80	87,80	92,80

NOTE Sizes shown in brackets are non-preferred.

a P is the pitch of the thread.

b c only applies if a washer-face is present.

 $m_{\min}$  is less than 0,8D which is too low to fulfil the minimum requirements of ISO 898-2 or ISO 3506-2 (see Warning).

a *P* is the pitch of the thread.

b c only applies if a washer-face is present.

 $m_{\min}$  is less than 0,8D which is too low to fulfil the minimum requirements of ISO 898-2 or ISO 3506-2 (see Warning).

Table A.3 — Specifications and reference International Standards

Material		Stee	l	Stainless steel		
General requirements	International Standard		ISO 8992			
Thread	Tolerance class		61	Н a		
Tineau	International Standard		ISO 9	965-1		
	Style		No	ne <sup>b</sup>		
	Grade	_		See ISC	3506-2	
Mechanical	Property class	<i>D</i> < M5	None <sup>c</sup>	D < M5	- None <sup>c</sup>	
properties	Troperty class	D > M39	None	D > M39	None	
	Properties and test methods	To be agreed (see e.g. ISO 898-2)		To be agreed (se	e e.g. ISO 3506-2)	
Tolerances	Product grade	<i>D</i> < M5: A (exce	<sub>min</sub> – IT15)	<i>D</i> > M39: B		
Tolerances	International Standard	ISO 4759-1				
		As processed (no coating)				
		Electroplated of specified in I		Clean a	nd bright	
			Non-electrolytically applied zinc flake coatings as specified in ISO 10683		d/or	
Surface condit	ion				vated <sup>d</sup>	
		Hot dip galvanized coatings as specified in ISO 10684				
		Other finishes, coatings and/or additional requirements shall be agreed between the purchaser and the supplier				
Surface integri	ity	As agreed <sup>e</sup>				
Acceptability		Acceptance inspection as specified in ISO 3269				

Depending on the type of coating to be applied, another tolerance position of the thread may be specified for the uncoated nuts in accordance with the relevant coating standard.

b No style can be specified in accordance with ISO 898-2 or ISO 3506-2.

<sup>&</sup>lt;sup>c</sup> No property class can be specified in accordance with ISO 898-2 or ISO 3506-2.

d See e.g. ISO 16048.

e See e.g. ISO 6157-2.

# **Bibliography**

- [1] ISO 3506-5, Fasteners Mechanical properties of corrosion-resistant stainless steel fasteners Part 5: Special fasteners (also including fasteners from nickel alloys) for high temperature applications
- [2] ISO 3506-6, Fasteners Mechanical properties of corrosion-resistant stainless steel fasteners Part 6: General rules for the selection of stainless steels and nickel alloys for fasteners
- [3] ISO 16048, Passivation of corrosion-resistant stainless-steel fasteners
- [4] ISO/TR 16224, Fasteners Technical aspects of nut design
- [5] ALEXANDER E.M. Analysis and design of threaded assemblies. 1977 SAE Transactions, Paper No. 770420

IS 1364 (Part 3): 2025

ISO 4032: 2023

#### **NATIONAL ANNEX A**

(National Foreword)

#### **A-1 PACKAGING**

The packaging of hexagon head nuts shall be in accordance with IS 1367 (Part 18): 1996 'Industrial fasteners — Threaded steel fasteners — Technical supply conditions: Part 18 Packaging'.

#### **A-2 BIS CERTIFICATION MARKING**

The product(s) confirming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations frames thereunder, and the products may be marked with the Standard Mark.

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This Indian Standard has been developed from Doc No.: PGD 37 (22813).

#### **Amendments Issued Since Publication**

Amend No.	Date of Issue	Text Affected	

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