



SLOVENSKI STANDARD

SIST EN 14218:2004

01-januar-2004

Šestrobe matice s krajcem - Fini navoj (ISO 10663:1999, dopolnjen)

Hexagon nuts with flange - Fine pitch thread (ISO 10663:1999, modified)

Sechskantmuttern mit Flansch - Feingewinde (ISO 10663:1999, modifiziert)

Ecrous hexagonaux a embase cylindro-tronconique - Filetage a pas fin (ISO 10663:1999, modifiée)

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Ta slovenski standard je istoveten z: **EN 14218:2003**

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ICS:

21.060.20 Matice Nuts

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14218

April 2003

ICS 21.060.20

English version

Hexagon nuts with flange - Fine pitch thread (ISO 10663:1999, modified)

Ecrous hexagonaux à embase cylindro-tronçonnée -
Filetage à pas fin (ISO 10663:1999, modifiée)

Sechskantmuttern mit Flansch - Feingewinde (ISO
10663:1999, modifiziert)

This European Standard was approved by CEN on 14 February 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN 14218:2003 (E)**Foreword**

This document (EN 14218:2003) has been prepared by Technical Committee CEN/TC 185 "Threaded and non-threaded mechanical fasteners and accessories", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

Annex A is normative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 10663:1999 was approved by CEN as a European Standard with agreed common modifications as given below.

Nuts in accordance with this European Standard correspond to those specified in the International Standard ISO 10663:1999 with the exception that the width across flats for M10 is 16 mm (instead of 15 mm) and that the property class 9 was deleted. Moreover, the option for surface coatings according to EN ISO 10683 was added.

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1 Scope

This European Standard specifies the characteristics of hexagon nuts with flange, with metric fine pitch thread, with nominal thread diameters from 8 mm up to and including 20 mm, in product grade A for $d \leq 16$ mm and product grade B for $d > 16$ mm and with property classes 8, 10, 12 and A2-70.

If, in special cases, specifications other than those listed in this European Standard are required, they should be selected from existing European and International Standards, for example ~~ISO 261~~ ISO 724, EN ISO 898-6, ISO 965-2, EN ISO 3506-2.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 493, Fasteners — Surface discontinuities — Nuts.

EN 20225, Fasteners — Bolts, screws, studs and nuts — Symbols and designations of dimensions (ISO 225:1983).

EN ISO 898-6, Mechanical properties of fasteners — Part 6: Nuts with specified proof load values — Fine pitch thread (ISO 898-6:1994).

EN ISO 3269, Fasteners — Acceptance inspection (ISO 3269:2000).

EN ISO 3506-2, Mechanical properties of corrosion-resistant stainless-steel fasteners — Part 2: Nuts (ISO 3506-2:1997).

EN ISO 4042, Fasteners — Electroplated coatings (ISO 4042:1999).

EN ISO 4759-1, Tolerances for fasteners — Part 1: Bolts, screws, studs and nuts — Product grades A, B and C (ISO 4759-1:2000).

EN ISO 10683, Fasteners — Non-electrolytically applied zinc flake coatings (ISO 10683:2000).

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

ISO 724, ISO general purpose metric screw threads — Basic dimensions.

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

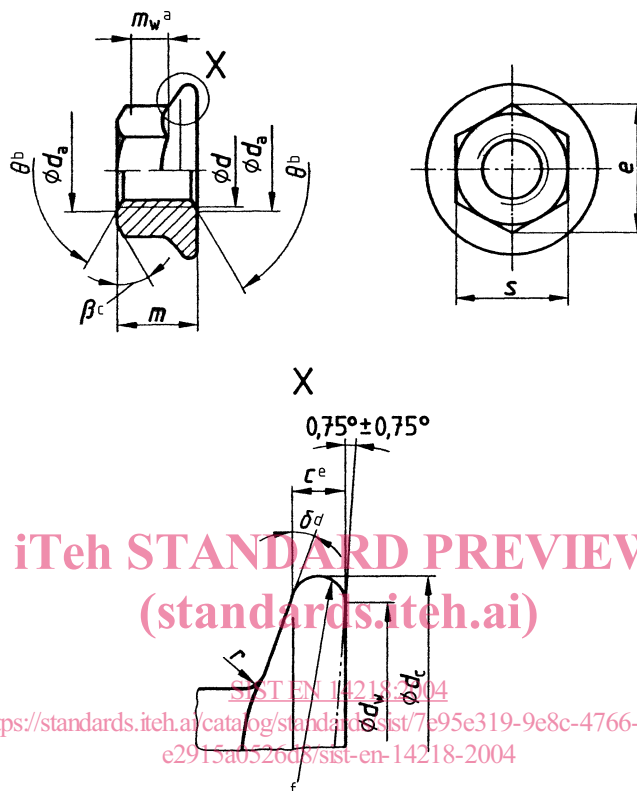
ISO 8992, Fasteners — General requirements for bolts, screws, studs and nuts.

EN 14218:2003 (E)

3 Dimensions

See Figure 1 and Table 1.

NOTE — Symbols and designations of dimensions are specified in EN 20225.

**Key**

- a m_w is the wrenching height; see note to Table 1.
- b $\theta = 90^\circ$ to 120°
- c $\beta = 15^\circ$ to 30°
- d $\delta = 15^\circ$ to 25°
- e c is measured at d_w min.
- f Edge contour optional

Figure 1

Table 1 - Dimensions

Dimensions in millimetres

| Thread $d \times P^a$ | M8×1 | M10×1,25 M10×1 | M12×1,25 M12×1,5 | (M14×1,5) ^b | M16×1,5 | M20×1,5 | |
|-----------------------|-------|-------------------|---------------------|------------------------|---------|---------|-------|
| c min. | 1,2 | 1,5 | 1,8 | 2,1 | 2,4 | 3 | |
| d_a | min. | 8,00 | 10,00 | 12 | 14,0 | 16,0 | 20,0 |
| | max. | 8,75 | 10,80 | 13 | 15,1 | 17,3 | 21,6 |
| d_c max. | 17,9 | 21,8 | 26,0 | 29,9 | 34,5 | 42,8 | |
| d_w min. | 15,8 | 19,6 | 23,8 | 27,6 | 31,9 | 39,9 | |
| e min. | 14,38 | 17,77 16,64 | 20,03 | 23,36 | 26,75 | 32,95 | |
| m | max. | 8,00 | 10,00 | 12,00 | 14,0 | 16,0 | 20,0 |
| | min. | 7,64 | 9,64 | 11,57 | 13,3 | 15,3 | 18,7 |
| m_w min. | 4,6 | 5,6 | 6,8 | 7,7 | 8,9 | 10,7 | |
| s | max. | 13,00 | 16,00 15,00 | 18,00 | 21,00 | 24,00 | 30,00 |
| | min. | 12,73 | 15,73 14,73 | 17,73 | 20,67 | 23,67 | 29,16 |
| r^c max. | 0,5 | 0,6 | 0,7 | 0,9 | 1 | 1,2 | |

NOTE If the product passes the gauging given in annex A, the requirements for dimensions e , c and m_w are satisfied.

^a P is the pitch of the thread.

^b The size in brackets should be avoided if possible.

^c Radius r applies both at the corners and at the flats of the hexagon.

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4 Specifications and reference European or International Standards

See Table 2.

Table 2 — Specifications and reference European or International Standards

| Material | | Steel | | | | Stainless steel |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------|---------|-------------------------------------|-----------------|
| General requirements | International Standard | ISO 8992 | | | | |
| | Tolerance | 6H | | | | |
| Thread | International Standards | ISO 264-ISO 724, ISO 965-2 | | | | |
| | Property class | 8 | | 10 | 12 | A2-70 |
| Mechanical properties | Style decisive for mechanical properties ^a | $d \leq 16$ mm style 2 | $d > 16$ mm style 1 | style 2 | $d \leq 16$ mm ^b style 2 | |
| | <u>European Standards</u> | EN ISO 898-6 | | | | EN ISO 3506-2 |
| Tolerances | Product grade | $d \leq 16$ mm: A $d > 16$ mm: B | | | | |
| | <u>European Standard</u> | EN ISO 4759-1 | | | | |
| Finish | As processed | | | | | Plain |
| | Requirements for electroplating are covered in EN ISO 4042. If different electroplating requirements are desired or if requirements are needed for other finishes, they shall be agreed between supplier and customer. Requirements for non-electrolytically applied zinc flake coatings are covered in EN ISO 10683. | | | | | |
| Surface discontinuities | | Limits for surface discontinuities are covered in EN 493. | | | | |
| Acceptability | | For acceptance procedure, see EN ISO 3269. | | | | |
| ^a Based on the nut height (dimension m_{min}) nuts to this standard are of style 2. However, since for style 2, EN ISO 898-6 does not specify mechanical properties for all property classes and sizes as specified in this standard, in some cases nuts have to be tested according to style 1. | | | | | | |
| ^b For $d > 16$ mm property class 12 is not specified. | | | | | | |

5 Designation

EXAMPLE A hexagon nut with flange, with thread M12 x 1,25 and property class 10 is designated as follows:

Hexagon nut with flange EN 14218 — M12 x 1,25 — 10

Annex A (normative)

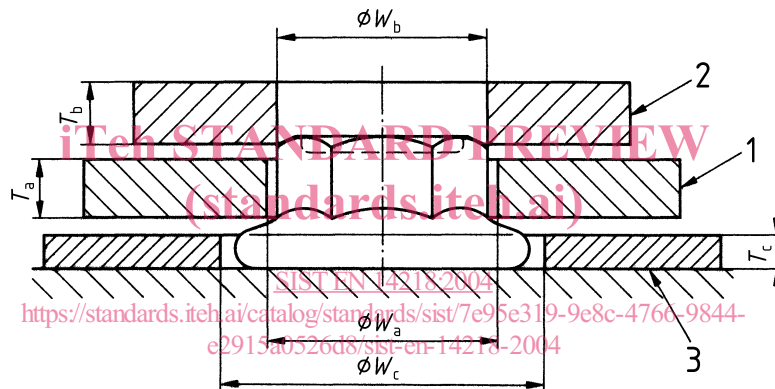
Gauging of hexagon flange nuts

A.1 Recommended method for gauging of hexagon (see Figure A.1 and Table A.1)

The nut shall be gauged using two plain ring gauges, A and B, to demonstrate the coincidental acceptability of hexagon height, corner fill and width across corners. Gauge A shall be placed over the nut and shall be seated on the flange. Gauge B shall be placed on the top of the nut normal to the nut axis. The two gauges shall not be in contact.

A.2 Recommended method for gauging of flange thickness (see Figure A.1 and Table A.1)

Gauge C is a flat feeler or ring gauge. It is used to prove that the flange thickness at the junction of the gauge with the hexagon portion is equal to or greater than specified values. The acceptance criterion is that gauge C ~~will~~ shall fit under gauge A without contact when the nut is seated on a flat plate.



Key

- 1 Gauge A
- 2 Gauge B
- 3 Gauge C

NOTE

| | |
|-------------------|--------------------------------------|
| $W_a \text{ min}$ | = $e^{\text{theoretical}}$ |
| $W_b \text{ max}$ | = $e_{\text{min}} - 0,01 \text{ mm}$ |
| $T_a \text{ max}$ | = $m_w \text{ min}$ |

Figure A.1