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Fasteners - Prevailing torque hexagon nuts - Regular nuts (with non-metallic insert) (ISO 7040:2025)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/25

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN ISO 7040

June 2025

ICS 21.060.20

Supersedes EN ISO 7040:2012

English Version

Fasteners - Prevailing torque hexagon nuts - Regular nuts (with non-metallic insert) (ISO 7040:2025)

Fixations - Écrous hexagonaux autofreinés - Écrous normaux (à anneau non métallique) (ISO 7040:2025)

Verbindungselemente - Sechskantmuttern mit Klemmteil - Normalhohe Muttern (mit nichtmetallischem Einsatz) (ISO 7040:2025)

This European Standard was approved by CEN on 20 June 2025.

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

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Ref. No. EN ISO 7040:2025 E

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European foreword

This document (EN ISO 7040:2025) has been prepared by Technical Committee ISO/TC 2 " Fasteners " in collaboration with Technical Committee CEN/TC 185 “Fasteners” the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by December 2025, and conflicting national standards shall be withdrawn at the latest by December 2025.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 7040:2025 has been approved by CEN as EN ISO 7040:2025 without any modification.

International Standard

ISO 7040

Fasteners — Prevailing torque hexagon nuts — Regular nuts (with non-metallic insert)

Fixations — Écrous hexagonaux autofreinés — Écrous normaux (à anneau non métallique)

Fourth edition
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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see https://www.iso.org/directives-and-policies.html).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC 12, *Fasteners with metric internal thread,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 185, *Fasteners,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 7040:2012) which has been technically revised.

The main changes are as follows:

— the design principles of these nuts have been clarified in scope (see Note);

— for nuts with D < M5, appropriate nut design in accordance with ISO/TR 16224, style 1, has been added in Annex A (historical nuts not conforming to ISO 898-2 because of their heigth m_{min} less than 0,8D have been deleted);

— style, relevant property classes and related quenching and tempering conditions for steel nuts have been specified in Clause 5 in accordance with ISO 898-2 (see Table 3);

— stainless steel nuts have been added in accordance with ISO 3506-2;

— M7, M18, M22, M27, M33 and M39 have been added;

— $d_{a,max}$ has been specified with two decimal places;

— $d_{w,min}$ for sizes $D \leq$ 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;

— h_{max} for M5 and M20 has been increased so that regular, high and thin nuts have an identical room for the prevailing torque feature ($h_{max} - m_{min}$) to accommodate the non-metallic insert; h_{min} has therefore been increased in accordance with the specified tolerance (see Tables 1 and 2);

— specifications for marking and labelling have been added as Clause 6.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

International Standard **ISO 7040:2025(en)**

Fasteners — Prevailing torque hexagon nuts — Regular nuts (with non-metallic insert)

1 Scope

This document specifies the characteristics of prevailing torque hexagon regular nuts (with non-metallic insert), in steel and stainless steel, with metric coarse pitch thread M3 to M39, and with product grades A and B.

NOTE These nuts are designed with an overall height equal to m_{min} (as specified in ISO 898-2 and ISO 4032 for style 1) plus the prevailing torque feature. The height of the prevailing torque feature ($h_{max} - m_{min}$) for the non-metallic insert is identical for regular, high and thin nuts for a given diameter.

Nuts with sizes D < M5 and design principles in accordance with style 1 are specified in 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 2320, *Fasteners — Prevailing torque steel nuts — Functional properties*

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*