



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 4012:2005

ICS 49.030.30

**AEROSPACE SERIES - NUTS, BIHEXAGONAL,  
SELF-LOCKING, IN HEAT RESISTING NICKEL  
BASE ALLOY NI-PH2601 (INCONEL 718),  
MOS2 COATED - CLASSIFICATION: 1 550 MPA  
(AT AMBIENT TEMPERATURE) / 425° C**

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EUROPEAN STANDARD

**EN 4012**

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2004

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Supersedes EN 4012:2003

English version

**Aerospace series - Nuts, bihexagonal, self-locking, in heat  
resisting nickel base alloy NI-PH2601 (Inconel 718), MoS2  
coated - Classification: 1 550 MPa (at ambient temperature) /  
425° C**

Série aérospatiale - Écrous bihexagonaux, à freinage interne, en alliage résistant à chaud à base de nickel NI-PH2601 (Inconel 718), revêtus MoS2 - Classification : 1 550 MPa (à température ambiante) / 425° C

Luft- und Raumfahrt - Zwölfkantmuttern, selbstsichernd, aus hochwarmfester Nickelbasislegierung NI-PH2601 (Inconel 718), MoS2-beschichtet - Klasse: 1 550 MPa (bei Raumtemperatur) / 425° C

This European Standard was approved by CEN on 11 September 2003.

CEN members are bound to comply with the CEN/GENELEC 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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



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## **Foreword**

This document (EN 4012:2004) has been prepared by the European Association of Aerospace Manufacturers - Standardization (AECMA-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to CEN.

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 May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

This document supersedes EN 4012:2003.

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

## EN 4012:2004 (E)

### 1 Scope

This standard specifies the characteristics of self-locking bihexagonal nuts in NI-PH2601, MoS<sub>2</sub> coated, for aerospace applications.

Classification: 1 550 MPa<sup>1)</sup> / 425 °C<sup>2)</sup>

### 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 4095, *Aerospace – Bihexagonal drives – Wrenching configuration – Metric series*

ISO 5855-2, *Aerospace – MJ threads – Part 2: Limit dimensions for bolts and nuts*

EN 2424, *Aerospace series – Marking of aerospace products*

EN 2491, *Aerospace series – Molybdenum disulphide dry lubricants – Coating methods*

EN 2952, *Aerospace series – Heat resisting alloy NI-PH2601 – Solution treated and cold worked – Bar for forged fasteners –  $D \leq 50 \text{ mm} - 1\ 270 \text{ MPa} \leq R_m \leq 1\ 550 \text{ MPa}$ <sup>3)</sup>*

EN 4048, *Aerospace series – Nuts, self-locking, MJ threads, in heat resisting nickel base alloy NI-PH2601 (Inconel 718), MoS<sub>2</sub> coated – Classification: 1 550 MPa (at ambient temperature) / 425 °C – Technical specification*

### 3 Required characteristics

#### 3.1 Configuration – Dimensions – Tolerances – Masses

See Figure 1 and Table 1.

Dimensions and tolerances are in millimetres. They apply before surface coating.

#### 3.2 Material

EN 2952

#### 3.3 Surface treatment

EN 2491

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1) Correspond to the minimum tensile stress which the nut is able to withstand at ambient temperature without breaking or cracking when tested with a bolt of a higher strength class.

2) Maximum test temperature of the parts

3) Published as AECMA Prestandard at the date of publication of this standard

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