SLOVENSKI STANDARD
SIST EN 4117:2004

01-maj-2004

Aerospace series - Nuts, bihexagonal, self-locking, in heat resisting nickel base alloy NI-PH 2601 (Inconel 718), silver plated on thread - Classification: 1550 MPa (at ambient temperature)/600°C

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Luft- und Raumfahrt - Zwölfkantmuttern, selbstsichernd, - Aus hochwarmfester Nickelbasislegierung NI-P100HT (Inconel 718), Gewinde versilbert - - Klasse: 1 550 MPa (bei Raumtemperatur)/600 °C

Série aérospatiale - Ecrous bihexagonaux, a freinage interne, en alliage résistant a chaud a base de nickel NI-P100HT (Inconel 718), argentés sur filetages - Classification:1 550 MPa (a température ambiante)/600°C

Ta slovenski standard je istoveten z: **EN 4117:2003**

ICS:

49.030.30	Matice	Nuts

SIST EN 4117:2004 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4117

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ICS 49.030.30

English version

Aerospace series - Nuts, bihexagonal, self-locking, in heat resisting nickel base alloy NI-PH 2601 (Inconel 718), silver plated on thread - Classification: 1550 MPa (at ambient temperature)/600°C

This European Standard was approved by CEN on 19 August 2002.

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, Slovak Republic, Spain, Sweden, Switzerland and United Kingdom.

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

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

Ref. No. EN 4117:2003 E

Contents

Foreword

This document EN 4117:2003 has been prepared by the European Association of Aerospace Manufacturers (AECMA).

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 August 2003, and conflicting national standards shall be withdrawn at the latest by August 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This standard specifies the characteristics of self-locking bihexagonal nuts in NI-PH2601, silver plated on thread, for aerospace applications.

Classification: 1 550 MPa [1] /600 °C [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).

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 2786, *Aerospace series -Electrolytic silver plating of fasteners* [3].

EN 2952, *Aerospace series -Heat resisting nickel base alloy (NI-P100HT) -solution treated and cold worked -Bar for hot upset forging fasteners -3 ≤ D ≤ 30 mm* [4].

EN 4047, *Aerospace series - Nuts, self-locking, MJ threads, in heat resisting nickel base alloy NI-PH2601 (Inconel 718), silver plated – Classification: 1 550 MPa (at ambient temperature)/600 °C -Technical specification.*

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1) The strength class of the bolt concerned which can withstand the load at ambient temperature when tested at 100 % load without cracking or breaking of the nut.

2) Maximum test temperature of the parts

3) In preparation at the date of publication of this standard

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

3 Required characteristics

3.1 Configuration - Dimensions - Tolerances - Masses

See Figure 1 and Table 1 .Dimensions and tolerances are in millimetres. They apply after silver plating for thread surface.

3.2 Material

EN 2952.

3.3 Surface treatment

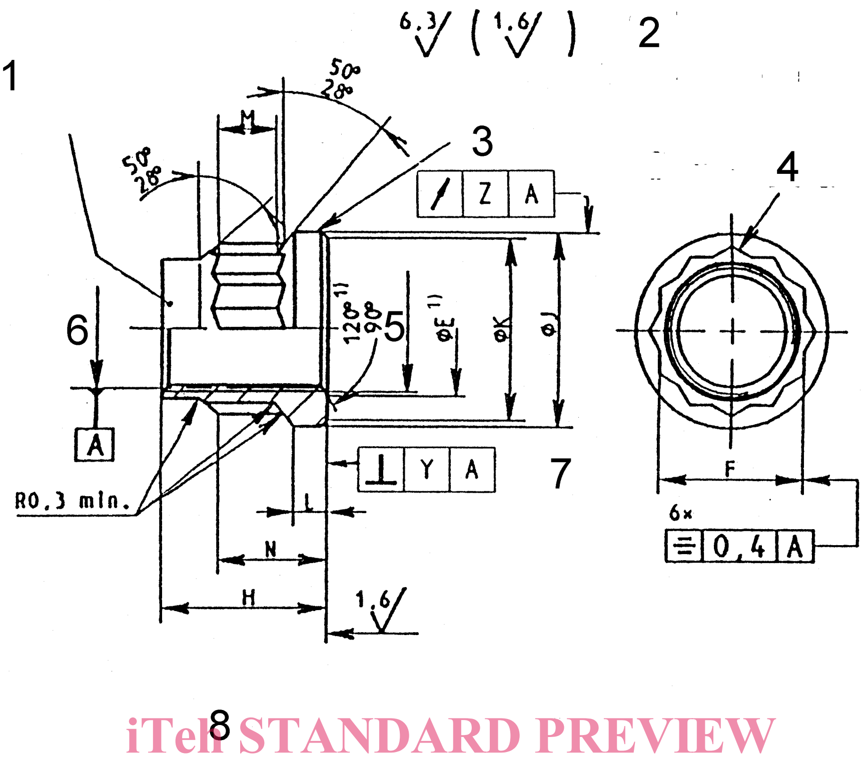
EN 2786 on thread and chamfers

Thickness :

-Thread ≥ MJ6: 5 µm min. on thread flanks ;

-Thread MJ5: shall show complete coverage, without thickness requirement

-Chamfers: shall show complete coverage, without thickness requirement.



Key

1 Form out-of-round in this area to achieve the self-locking requirement (tooling marks permissible)
2 Thread surface will be as achieved by normal methods of manufacture (value applicable before silver plating)
3 Marking
4 Bihexagonal configuration in accordance with ISO 4095 over length M
5 Thread
6 Pitch-diameter
7 Not convex
8 Remove sharp edges 0,1 to 0,4

Details of forms not stated are left to the manufacturer's discretion

[a] All forms of entry (radius or chamfer) are permissible within these limiting dimensions

Figure 1

Table 1

Thread [a]		E		F	H	J	K	L	M	N	Y	Z	Mass kg/1000 parts ≈
Code	Designation	max.	min.		max.	max.	min.	min.	min.	max.			
050	MJ5×0,8-4H6H	5,8	5,2	7	7	9,1	8,3	1,2	2	4,9	0,1	0,2	1,68
060	MJ6×1-4H5H	7,1	6,3	8	8,1	10,6	9,8		2,3	5,5			2,4
070	MJ7×1-4H5H	8,1	7,3	9	9,1	12,1	11,3		2,6	6,1			3,29
080	MJ8×1-4H5H	9,1	8,3	10	10,4	13,6	12,8		2,8	6,9			4,47
100	MJ10×1,25-4H5H	11,1	10,3	12	13	16,8	15,8		3,1	8,8	0,13	0,3	7,92
120	MJ12×1,25-4H5H	13,1	12,3	14	15	19,9	18,8	1,4	3,5	10,1			15,02
140	MJ14×1,5-4H5H	15,2	14,4	17	17,5	23	21,9	1,7	4	12,6	0,15		20,38

[a] In accordance with ISO 5855-2. In the self-locking zone, the tolerances apply before forming out-of-round.

4 Designation

EXAMPLE:

Description block	Identity block
NUT	EN 4117 -050

Number of this standard

Thread code (see Table 1)

NOTE If necessary, the code I9005 shall be placed between the description block and the identity block.

5 Marking

EN 2424, style A, as indicated on Figure 1.

6 Technical specification

EN 4047.