# SLOVENSKI STANDARD
# SIST EN 3851:2004

**01-maj-2004**

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**Aerospace series - Pipe couplings, 60°, spherical, in titanium alloy TI-P64001 - Swivel nuts, straight**

Aerospace series - Pipe couplings, 60°, spherical, in titanium alloy TI-P64001 - Swivel nuts, straight

Luft- und Raumfahrt - Rohrverschraubungen 60° mit Kugelbuchse, aus Titanlegierung TI -P64001 - Gerade Überwurfmuttern



Série aérospatiale - Raccords sphériques, 60°, en alliage de titane TI-P64001 - Ecrous prisonniers, droits



**Ta slovenski standard je istoveten z:** **EN 3851:2003**

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**ICS:**

| | | |
|---|---|---|
| 49.080 | Letalski in vesoljski hidravliļ ni sistemi in deli | Aerospace fluid systems and components |

**SIST EN 3851:2004** **en**

EUROPEAN STANDARD

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**EN 3851**

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# Aerospace series - Pipe couplings, 60°, spherical, in titanium alloy TI-P64001 - Swivel nuts, straight

Série aérospatiale - Raccords sphériques, 60°, en alliage de titane TI-P64001 - Ecrous prisonniers, droits

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

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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.



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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**



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# Contents

# Foreword

This document EN 3851:2003 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of an identical text or by endorsement, at the latest by August 2003, and conflicting national standards shall be withdrawn at the latest by August 2003.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 straight swivel nuts for pipe couplings, 60°, spherical, in TI-P64001, for aerospace applications.



NOTE Assembly in accordance with TR 4052.

## 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 286-2, *ISO system of limits and fits - Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts.*

ISO 4156, *Straight cylindrical involute splines - Metric module, side fit - Generalities, dimensions and inspection.*

ISO 5855-3, *Aerospace - MJ threads - Part 3: Limit dimensions for fittings for fluid systems*.

EN 2000, *Aerospace series - Quality assurance - EN aerospace products - Approval of the quality system of manufacturers.*

EN 2424, *Aerospace series - Marking of aerospace products*.

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

EN 2530, *Aerospace series - Titanium alloy TI-P63 - Annealed - 900 MPa ≤ $R_m$ ≤ 1160 MPa - Bars $D_e$ ≤ 150 mm* [1)].

TR 4052, *Aerospace series - Pipe couplings, 60°, spherical, in titanium alloy - Assembly recommendations* [2)].

## 3 Required characteristics

### 3.1 Configuration – Dimensions – Tolerances – Masses

See Figure 1 and Table 1. Dimensions and tolerances are in millimetres. They apply before lubrication.

### 3.2 Material

EN 2530.

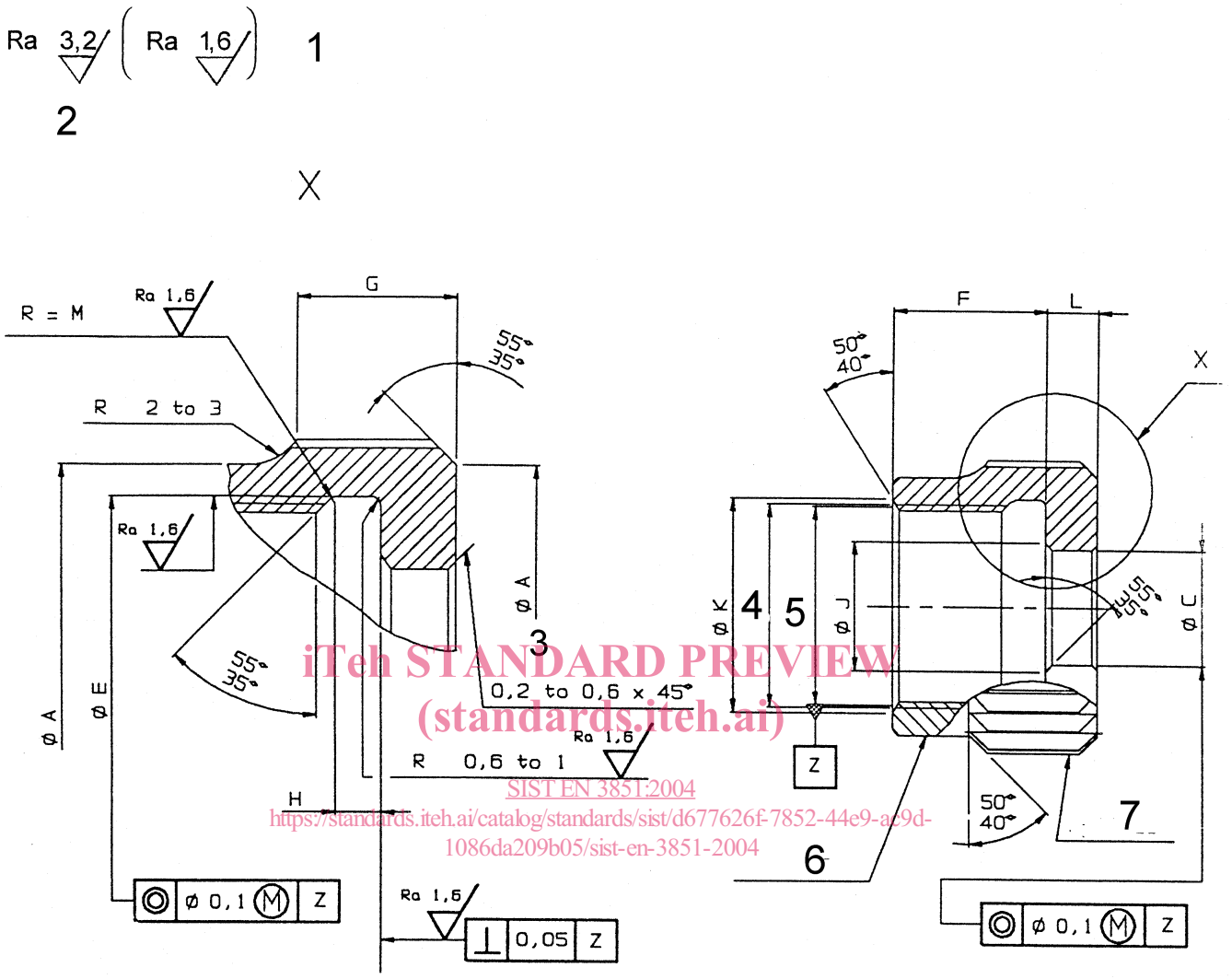
### 3.3 Surface coating

EN 2491.



1) Published as AECMA Standard at the date of publication of this standard

2) Published as AECMA Technical Report at the date of publication of this standard






**Key**

1 Values apply before coating
Thread's surface will be achieved by normal methods of manufacture
2 Remove sharp edges 0,1 to 0,4
3 Chamfer 0,2 to 0,6 × 45°
4 Thread
5 Pitch diameter
6 Marking
7 Splines

**Figure 1**

## Table 1

| Diameter code | Tube nominal diameter | Thread [a] | Splines [b] | *A* H13 [c] | *C* +0,30 | *E* H13 [c] | *F* +0,20 | *G* +0,30 | *H* H13 [c] | *J* +0,20 | *K* +0,50 | *L* +0,30 | *M* | Mass [d] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 040 | 4 | MJ10x1-4H5h | Ext 18Zx0,75mx45Rx6h | 12,4 | 5,5 | 10,3 | 7,5 | 5,5 | 1,6 | 6 | 10,3 | | 0,6 to 1 | 4,1 |
| 060 | 6 | MJ14x1,5-4H5H | Ext 24Zx0,75mx45Rx6h | 16,9 | 7,5 | 14,4 | | | | 8 | 14,4 | | | 7,1 |
| 080 | 8 | MJ16x1,5-4H5H | Ext 27Zx0,75mx45Rx6h | 19,2 | 9,5 | 16,4 | 10 | 6,5 | 2,4 | 10 | 16,4 | 2,5 | | 8,7 |
| 100 | 10 | MJ18x1,5-4H5H | Ext 30Zx0,75mx45Rx6h | 21,4 | 12 | 18,4 | | | | 12,5 | 18,4 | | 1,1 | 10,3 |
| 120 | 12 | MJ20x1,5-4H5H | Ext 32Zx0,75mx45Rx6h | 22,9 | 14 | 20,4 | | | | 14,5 | 20,4 | | | 11,3 |
| 140 | 14 | MJ22x1,5-4H5H | Ext 35Zx0,75mx45Rx6h | 25,15 | 16,5 | 22,4 | | | | 17 | 22,4 | 3 | to | 14 |
| 160 | 16 | MJ24x1,5-4H5H | Ext 38Zx0,75mx45Rx6h | 27,4 | 18,5 | 24,4 | | | | 19 | 24,4 | | | 16,2 |
| 180 | 18 | MJ27x1,5-4H5H | Ext 32Zx1 mx45Rx6h | 30,6 | 20,5 | 27,4 | 11,5 | 7,5 | 3,75 | 21 | 27,4 | | 1,5 | 20,8 |
| 200 | 20 | MJ30x1,5-4H5H | Ext 35Zx1mx45Rx6h | 33,6 | 22,5 | 30,4 | | | | 23 | 30,4 | 3,5 | | 21,8 |
| 250 | 25 | MJ36x1,5-4H5H | Ext 41Zx1mx45Rx6h | 39,6 | 27,5 | 36,4 | | | | 28 | 36,4 | | | 25,1 |

[a] In accordance with ISO 5855-3

[b] In accordance with ISO 4156

[c] Tolerance in accordance with ISO 286-2

[d] Mass ≈ quoted in kg/1 000 parts