
**Aerospace series — Pipe coupling
8°30' in titanium alloy — Nut for
welded ferrule**

*Série aérospatiale - Système de raccordement 8°30' en alliage de
titane - Ecrou pour olive soudée*

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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 documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by the Aerospace and Defence Industries Association of Europe — Standardization (ASD-STAN) as EN 4031:2001 and was adopted by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 10, *Aerospace fluid systems and components*.

Aerospace series — Pipe coupling 8°30' in titanium alloy — Nut for welded ferrule

1 Scope

This document specifies the characteristics of nuts for welded ferrules, for pipe couplings 8°30', in titanium alloy, for aerospace applications.

Nominal pressure: up to 28 000 kPa

Temperature range: -55 °C to 135 °C

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

ISO 8788, *Aerospace — Nuts, metric — Tolerances of form and position*

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

EN 2497, *Aerospace series — Dry abrasive blasting of titanium and titanium alloys*

EN 3275, *Aerospace series — Pipe coupling 8°30' up to 28 000 kPa — Dynamic beam seal — Metric series — Technical specification*

EN 3311, *Aerospace series — Titanium alloy TI-P64001 — Annealed — Bar for machining — $D \leq 150$ mm¹⁾*

EN 3314, *Aerospace series — Titanium alloy TI-P64001 — Solution treated and aged — Bar for machining — $D \leq 75$ mm¹⁾*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

4 Required characteristics

4.1 Configuration — Dimensions

According to [Figure 1](#) and [Table 1](#). The values apply before lubricating.

1) Published as ASD-STAN Prestandard at the date of publication of this standard. <https://www.asd-stan.org>

4.2 Surface roughness

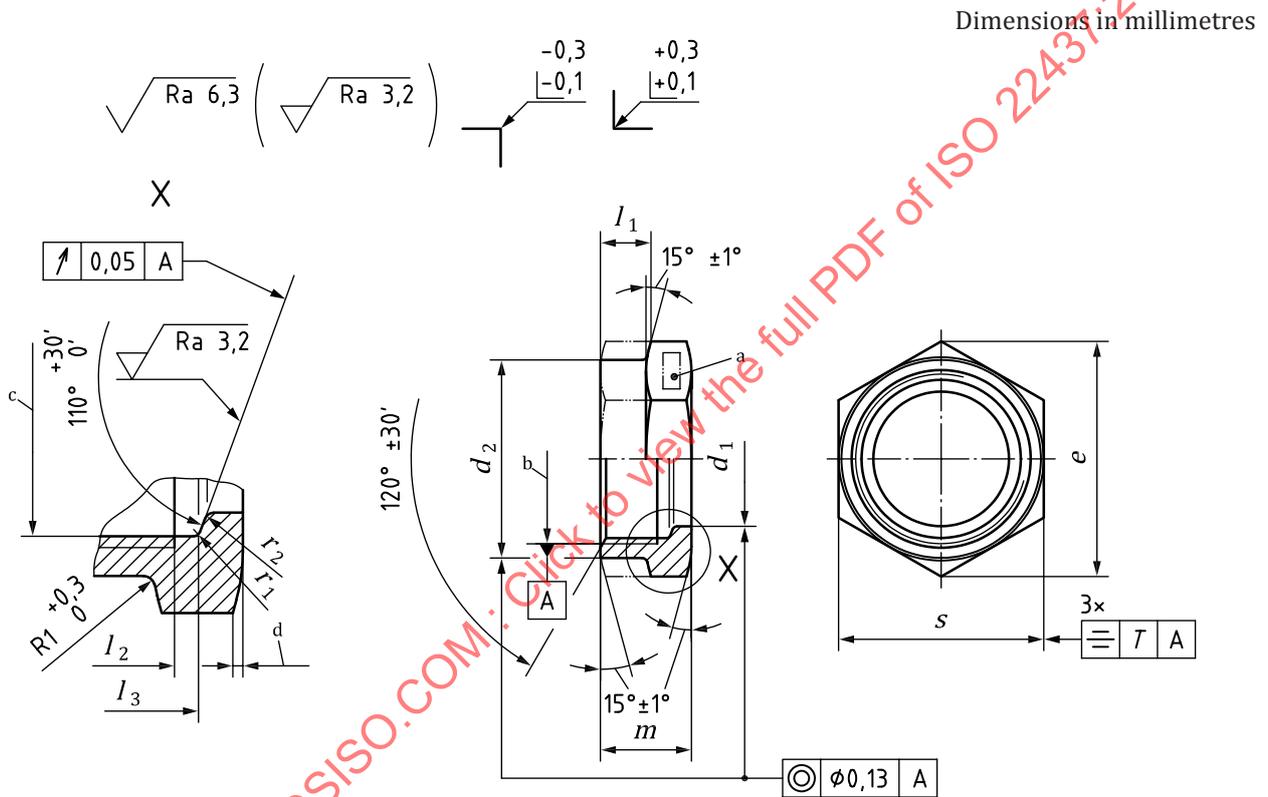
According to Figure 1.

4.3 Material

According to EN 3311 or EN 3314.

4.4 Surface treatment

Lubrication: PTFE (e.g. Tegliss 31™) coating shall be in accordance with Annex A on the 110° contact area. Only prior to application of the lubricant the surface shall be abrasive blasted using non-metallic grit according to EN 2497.



Key

- a Area for marking.
- b Thread.
- c Thread minor diameter.
- d 0,3 to 0,6 applicable to both faces.

Figure 1

2) Tegliss 31™ is an example of a suitable product available commercially. This information is only given for the convenience of users of this document and does not constitute an endorsement by ISO of this product.

Table 1

Code ^{a)}	Thread ^{b)}	d	d 0 0,2	e min.	l $\pm 0,4$	l ^{c)}	l $+0,2$ 0	m $\pm 0,2$	r $\pm 0,1$	r $\pm 0,1$	s h13	T ^{d)}	Mass g/piece max.	
05	MJ10 × 1	6,2	—	15,51	—	7,1	8,8	12,0	0,4	0,6	14	0,36	5,59	
06	MJ12 × 1,25	7,2	—	17,77	—	8,3	10,1	13,0	0,5	0,7	16	0,43	7,65	
08	MJ14 × 1,5	9,2	17	20,03	8,5	9,7	11,5	14,5			18		7,89	
10	MJ16 × 1,5	11,5	19	23,36	7,5		11,6				10,09			
12	MJ18 × 1,5	13,5	21	24,49	8,0	9,8	11,7	15,0			22	10,26		
14	MJ20 × 1,5	15,4	23	26,75			9,9				11,8	11,30		
16	MJ22 × 1,5	17,6	26	30,14	10,0	12,1	16,0	0,6			0,8	24	0,52	11,30
18	MJ24 × 1,5	19,7	28	33,53								27		14,40
20	MJ27 × 1,5	21,8	31	35,72								30	21,61	
22	MJ30 × 1,5	23,8	35	39,98								32	24,18	
25	MJ33 × 1,5	26,9	38	45,63	7,0	10,1	12,3	17,0			0,6	0,8	41	0,62
28	MJ36 × 1,5	29,9	41	51,28	7,0				46	41,35				
32	MJ39 × 1,5	34,0	45	55,80	8,0				50	51,82				

a) Corresponds to the pipe nominal outside diameter.

b) According to ISO 5855-3.

c) Minimum useable thread length.

d) According to ISO 8788.

5 Designation

EXAMPLE

Description block	Identity block
NUT, FERRULE, WELDED	ISO22437 05
Number of this document	<div style="border: 1px solid black; width: 100%; height: 100%;"></div>
Code (see Table 1)	

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

6 Marking

According to EN 2424, style A and [Figure 1](#).

7 Technical specification

According to EN 3275, type II.

Annex A (normative)

PTFE-coating

A.1 Formulation

PTFE resin binders are permitted.

A.2 Application/processing

Coating shall be applied by brush or spray.

Chloridic solvents shall not be used for surface preparation. The temperature shall not exceed 400 °C.

A.3 Final coating thickness

5 µm to 13 µm.

A.4 Coefficient of friction

$\mu \leq 0,12$.

A.5 Adhesion/wear resistance

25 repeated assemblies (minimum) without increase of the coefficient of friction to [A.4](#).

A.6 Hydraulic fluid resistance

Shall meet requirements of [A.5](#) after 30 day immersion in hydraulic fluids at ambient temperature.

A.7 Solvent resistance

Shall meet requirements of [A.5](#) after 30 day immersion at ambient temperature in industrial methylated spirit (IMS), methylethylketone (MEK), White Spirit.