

SLOVENSKI STANDARD

SIST EN 4424:2009

01-julij-2009

5 YfcbUj h_U!`?cb b] žbUghUj`ŋj žYbcghUj b]žn`bUj c`b]a`ghYV`ca`b`[`cV]bc
j]U Yb`U%`bUj c`b]dfYa Yf`n`hUbcj]`n`h]b`!`A YfY`b`bcg]bcgh

Aerospace series - Rod-ends, adjustable, single fork and threaded shank with engagement: 1,5 x thread diameter in titanium alloys - Dimensions and loads

Luft- und Raumfahrt - Einstellbare Gabelköpfe, einfach, mit Gewindeschacht mit einer Einschraubtiefe von 1,5 x Gewindedurchmesser, aus Titanlegierungen - Maße und Belastungen

Série aérospatiale - Embouts réglables à chape simple et à tige filetée à implantation : 1,5 x diamètre filetage en alliages de titane - Dimensions et charges

Ta slovenski standard je istoveten z: **EN 4424:2006**

ICS:

49.035	Sestavni deli za letalsko in vesoljsko gradnjo	Components for aerospace construction
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 4424

June 2006

ICS 49.035

English Version

**Aerospace series - Rod-ends, adjustable, single fork and
threaded shank with engagement: 1,5 x thread diameter in
titanium alloys - Dimensions and loads**

Série aéronautique - Embouts réglables à chape simple et à
tige filetée à implantation : 1,5 x diamètre filetage en
alliages de titane - Dimensions et charges

Luft- und Raumfahrt - Einstellbare Gabelköpfe, einfach, mit
Gewindeschäft mit Einschraubtiefe 1,5 x
Gewindedurchmesser aus Titanlegierungen - Maße und
Belastungen

This European Standard was approved by CEN on 20 April 2006.

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 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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Foreword

This European Standard (EN 4424:2006) 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 December 2006, and conflicting national standards shall be withdrawn at the latest by December 2006.

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

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 4424:2006 (E)

1 Scope

This standard specifies the characteristics of rod-ends for flight control rods.

- a single fork;
- a threaded shank comprising;
- a circumferential groove to identify engagement;
- an optional longitudinal groove for locking purpose.

These rod-ends are intended for use with control rods or rods for aircraft structures.

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 3353-1, *Aerospace — Lead and runout threads — Part 1: Rolled external threads.*

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

EN 2601, *Aerospace series — Fork ends, adjustable — Technical specification.*

EN 3315, *Aerospace series — Titanium alloy TI-P64001 — Solution treated and aged — Forgings — $D_e \leq 75$ mm.* ¹⁾

EN 3353 ²⁾, *Aerospace series — Titanium alloy TI-P63 — Solution treated and aged — $R_m \geq 1100$ MPa — Bar and wire for fasteners machined — $D_e \leq 25$ mm.* ¹⁾

EN 3813, *Aerospace series — Titanium alloy TI-P64001 — Annealed — Bar and wire for forged fasteners — $D_e \leq 25$ mm.* ¹⁾

TR 3775, *Aerospace series — Bolts and pins — Materials.* ³⁾

3 Required characteristics

3.1 Dimensions – Masses

Configuration shall correspond with Figure 1.

The dimensions and masses shall conform with values quoted in Table 1.

3.2 Surface roughness

According to Figure 1.

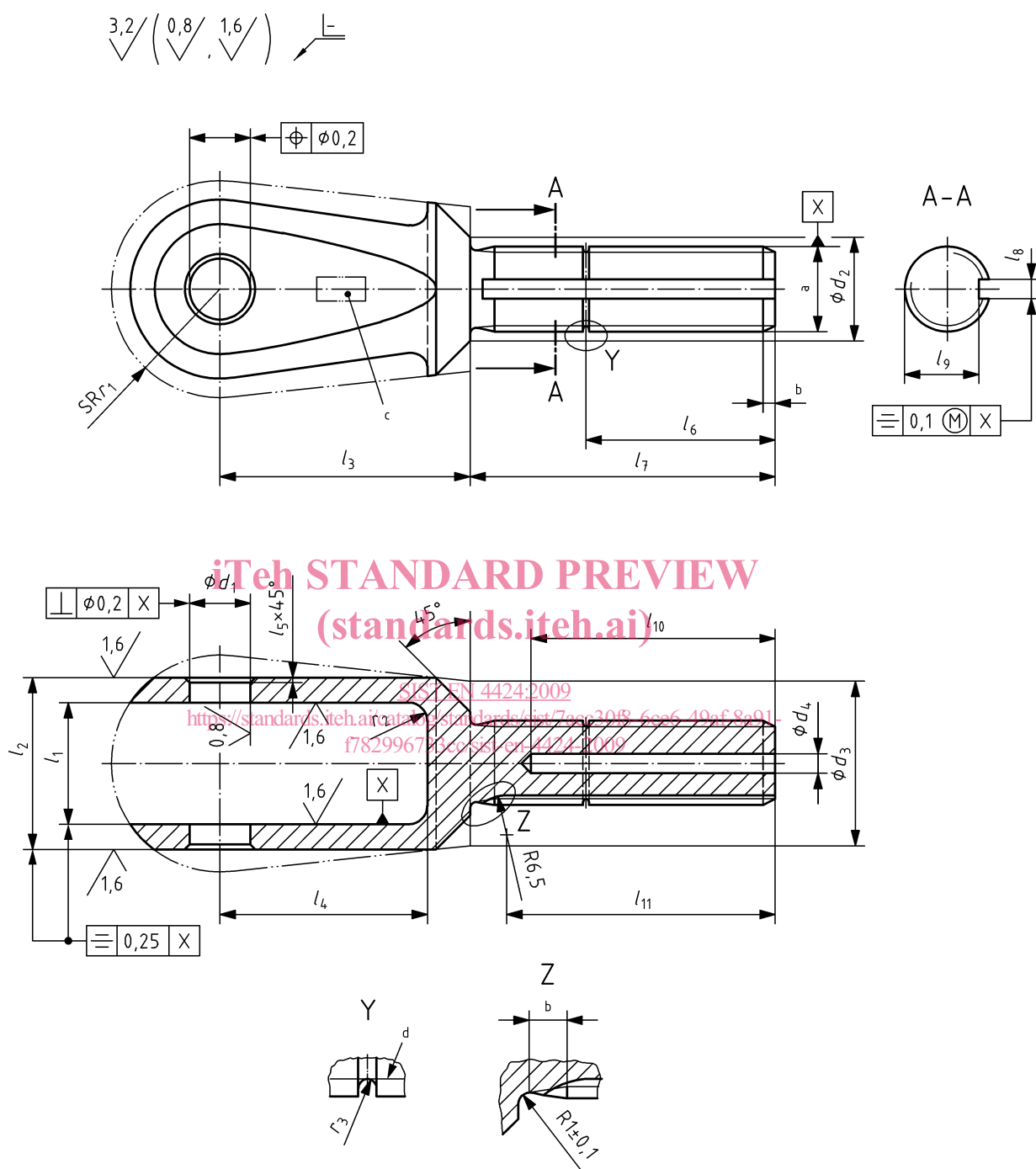
1) Published as AECMA Prestandard at the date of publication of this standard.

2) Inactive for new design, see EN 3813.

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

3.3 Material

Titanium alloy according to EN 3315 or EN 3353 or TR 3775 $R_m > 830$ MPa on the whole rod-end.



- a Thread
- b In complete thread according to ISO 3353
- c Marking
- d Groove diameter d_3 min according to ISO 5855-2

NOTE The circumferential groove and the longitudinal groove over distance F shall be painted red.

Figure 1

Table 1

Dimensions in millimetres

Fork										
Code	d_1 Nominal diameter J7	r_1 $+0,2$ 0	d_2 $\pm 0,25$	d_3 $\pm 0,25$	l_1 $+0,1$ 0	l_2 $+0,2$ 0	l_3	l_4 $\pm 0,25$	l_5 $\pm 0,1$	r_2 $+1$ 0
06	6	12,2	13	19,2	14	20,2	30	24	0,5	2
08	8	13,9	15	21,5	15	22,2	36	30	0,8	
10	10	17,8	17	27,0	20	28,2	41	34		3

Shank									Rod-end	
Thread ^a designation	d_3 0 $-0,25$	l_6 ^b min.	l_7 $+1$ 0	l_8 $+0,1$ 0	l_9 0 $-0,1$	l_{10} 0 -1	l_{11} max.	r_3	Ultimate load kN	Mass g ≈
MJ10×1,25–4h6h	–	23	39	2,4	8,0	–	33	0,8	40	31
MJ12×1,25–4h6h	–	27	44		10,2	–	38		58	46
MJ14×1,5 –4h6h	4	31	50	3,2	12,2	40	44	1,0	83	75

^a According to ISO 5855-2; manufacturing method: rolled.

^b l_6 is also the minimum length of engaged thread; it includes thickness of lock washers and height of nut.

4 Designation

Each tab washer shall only be designated as in the following example:

EXAMPLE

Description block	Identity block
ROD-END	EN4424L08K
Number of EN standard	
Code for thread direction (see Table 2)	
Diameter code (see Table 1)	
Code for longitudinal groove (see Table 2)	