

## SLOVENSKI STANDARD

SIST EN 4399:2008

01-julij-2008

5 YfcbUj H\_U!`CVfc \_]žbUj c'b]žgUa cnUd]fUb]ž]n`hcd`cHbccXdcfbY[ UY\_U: 9!  
D5 - & H'f5 &, \* tždcgfYVfYb]

Aerospace series - Rings, threaded, self-locking, in heat resisting steel FE-PA92HT  
(A286), silver plated

Luft- und Raumfahrt - Gewinderinge, selbstsichernd, aus hochwarmfestem Stahl FE-  
PA92HT (A286), versilbert

## Iteh STANDARD PREVIEW

(standards.iteh.ai)

Série aérospatiale - Bagues filetées, à freinage interne, en acier résistant à chaud FE-  
PA92HT (A286), argentées

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Ta slovenski standard je istoveten z: **EN 4399:2008**

**ICS:**

49.030.50	Podložke in drugi blokirni elementi	Washers and other locking elements
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**SIST EN 4399:2008****en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN 4399

April 2008

ICS 49.030.50

English Version

Aerospace series - Rings, threaded, self-locking, in heat  
resisting steel FE-PA92HT (A286), silver plated

Série aéronautique - Bagues filetées, à freinage interne, en  
acier résistant à chaud FE-PA92HT (A286), argentées

Luft- und Raumfahrt - Gewinderinge, selbstsichernd, aus  
hochwarmfestem Stahl FE-PA92HT (A286), versilbert

This European Standard was approved by CEN on 26 August 2006.

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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 CEN Management Centre has the same status as the official versions.

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CEN members are the national standards bodies of Austria, Belgium, Bulgaria, 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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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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## Foreword

This document (EN 4399:2008) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-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 ASD, 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 October 2008, and conflicting national standards shall be withdrawn at the latest by October 2008.

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, Bulgaria, 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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## 1 Scope

This standard specifies the characteristics of threaded, self-locking rings, in FE-PA2601, silver plated, metric, chiefly used for axial location of bearing outer rings.

Maximum test temperature of the parts: 450 °C.

NOTE These parts are designed to be used with 4H6H internal threads.

## 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 5855-1, *Aerospace — MJ threads — Part 1: General requirements*.

EN 2171<sup>1)</sup>, *Heat resisting steel FE-PA92-HT —  $R_m \geq 900 \text{ MPa}$  — Bars — Aerospace series*.<sup>2)</sup>

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

EN 2786, *Aerospace series — Electrolytic silver plating of fasteners*.

EN 3299, *Aerospace series — Shaft-nuts and threaded rings, self-locking, right- or left-hand MJ threads, in heat resisting steel FE-PA2601 (A286), silver plated — Technical specification*.

EN 4317, *Aerospace series — Heat resisting alloy FE-PA2601 (X6NiCrTiMoV26-15) — Non heat treated — Forging stock — a or D  $\leq 200 \text{ mm}$* .

EN 4318, *Aerospace series — Heat resisting alloy FE-PA2601 (X6NiCrTiMoV26-15) — Solution treated and precipitation treated — Bar and section —  $D_e \leq 100 \text{ mm}$  —  $R_m \geq 960 \text{ MPa}$*   
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<https://standards.techai.cat/d/standards/sist0/699905-3187-4825-8396-c45c44e02fb8/sist-en-4399-2008>

## 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.

### 3.2 Material

EN 2171

### 3.3 Surface treatment

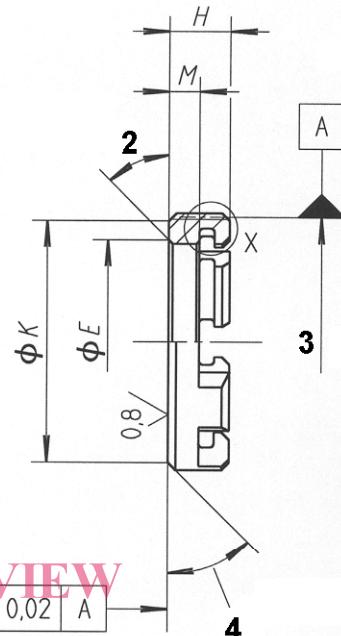
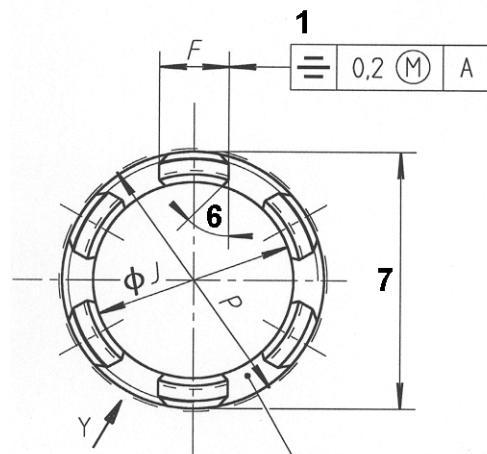
EN 2786, 5 µm min. shall be measured at the pitch diameter of threads and 5 µm to 15 µm for other surfaces.

1) Inactive for new design, see EN 4317 and EN 4318.

2) Published as ASD Standard at the date of publication of this standard.

6,3 / [ 0,8 ]

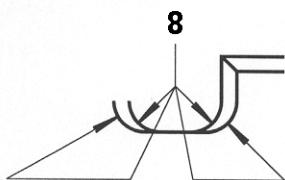
Remove sharp edges 0,1 to 0,4.



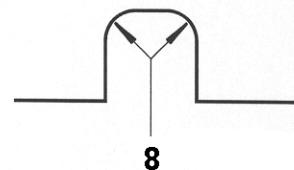
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Y (8:1)



X (8:1)

### Key

- 1  $N \times$  equally spaced scallops
- 2  $40^\circ$  to  $50^\circ$
- 3 Pitch diameter
- 4  $30^\circ$  to  $60^\circ$
- 5 Marking
- 6 Chamfer at the manufacturer's discretion
- 7 Thread
- 8  $R 0,5$  to  $0,7$

Details of form not stated and self-locking feature are left to the manufacturer's discretion.

Figure 1

Table 1

Thread <sup>a</sup>		<i>E</i>	<i>F</i>	<i>H</i>	<i>J</i>	<i>K</i>	<i>M</i>	<i>N</i>	<i>P</i> <sup>b</sup>	Mass	
Code	Designation	$\pm 0,2$	$0_{-0,2}$	$+0,2_{-0,1}$	$\pm 0,1$	$\pm 0,2$	$\pm 0,1$		max.	kg/1 000 parts ≈	
018	MJ18×1,5-4g6g	13	6	7	12	16	3,5		18,8	7	
019	MJS19×1,5-4g6g	14			13	17			19,8	7,3	
020	MJ20×1,5-4g6g	15	7		14	18			20,8	7,6	
021	MJS21×1,5-4g6g				15	19			21,8	8	
022	MJ22×1,5-4g6g	16		8	15	20			22,8	8,4	
023	MJS23×1,5-4g6g	17			16	21			23,8	8,8	
024	MJ24×1,5-4g6g	18		9	17	22			24,8	9,2	
025	MJ25×1,5-4g6g	19			18	23			25,8	9,6	
026	MJ26×1,5-4g6g	20		10	19	24			26,8	10	
027	MJ27×1,5-4g6g	21	10		20	25			27,8	10,4	
028	MJ28×1,5-4g6g				21	26			28,8	10,8	
029	MJS29×1,5-4g6g	22		12	21	27			29,8	11,2	
030	MJ30×1,5-4g6g	23			22	28			30,8	11,5	
031	MJS31×1,5-4g6g	24		12	23	29			31,8	12	
032	MJ32×1,5-4g6g	25			24	30			32,8	12,5	
033	MJ33×1,5-4g6g	26		9	25	31			33,8	13	
034	MJS34×1,5-4g6g	27			26	32			34,8	13,5	
035	MJ35×1,5-4g6g	28		8	27	33			35,8	14	
036	MJ36×1,5-4g6g	29			28	34			36,8	14,5	
037	MJS37×1,5-4g6g	30		10	29	35			37,8	15	
038	MJ38×1,5-4g6g	31			30	36			38,8	15,5	
039	MJ39×1,5-4g6g	32		10	31	37			39,8	16	
040	MJ40×1,5-4g6g	33			32	38			40,8	16,5	

<sup>a</sup> In conformity with ISO 5855-1 in none self-locking zone<sup>b</sup> Maximum diameter of outer envelope circle after realizing self-locking feature