

<b>STN</b>	<b>Letectvo a kozmonautika Hriadel'ové matice a krúžky so závitom, samosvorné, s pravotočivým alebo ľavotočivým závitom MJ, zo žiaruvzdornej ocele FE-PA2601 (A286), postriebrené Technická špecifikácia</b>	<b>STN EN 3299</b>  31 3312
------------	--	---------------------------------------

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

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/19

Obsahuje: EN 3299:2019

Oznámením tejto normy sa ruší  
STN EN 3299 (31 3312) z decembra 2007

**130141**

EUROPEAN STANDARD

EN 3299

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2019

ICS 49.030.30; 49.030.50

Supersedes EN 3299:2007

English Version

## 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

Série aérospatiale - Écrous d'arbres et bagues filetés, à freinage interne, filetage MJ à droite ou à gauche, en acier résistant à chaud FE-PA2601 (A286), argentés - Spécification technique

Luft- und Raumfahrt - Wellenmuttern und Gewinderinge, selbstsichernd, Rechts- oder Links-MJ-Gewinde, aus hochwarmfestem Stahl FE-PA2601 (A286), versilbert - Technische Lieferbedingungen

This European Standard was approved by CEN on 1 March 2019.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 18 September 2019.

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

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## Contents

	Page
<b>European foreword.....</b>	<b>3</b>
<b>1 Scope.....</b>	<b>4</b>
<b>2 Normative references.....</b>	<b>4</b>
<b>3 Terms and definitions .....</b>	<b>4</b>
<b>4 Quality assurance.....</b>	<b>6</b>
<b>5 Requirements.....</b>	<b>7</b>
<b>Annex A (normative) Checking bearing surface perpendicularity .....</b>	<b>15</b>
<b>Annex B (normative) Method of checking locking torque.....</b>	<b>18</b>
<b>Annex C (normative) Hardness test.....</b>	<b>21</b>

## **European foreword**

This document (EN 3299:2019) 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 January 2020, and conflicting national standards shall be withdrawn at the latest by January 2020.

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

This document supersedes EN 3299:2007.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**EN 3299:2019 (E)****1 Scope**

This European standard specifies the characteristics, qualification and acceptance requirements for self-locking shaft-nuts and threaded rings, with right- or left-hand MJ threads, in FE-PA2601, silver-plated, for aerospace applications.

Temperature class: 450 °C<sup>1</sup>.

It is applicable whenever referenced.

**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.

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

EN ISO 4288, *Geometrical product specifications (GPS) — Surface texture: Profile method — Rules and procedures for the assessment of surface texture*

EN ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

EN ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 3452-1, *Non-destructive testing — Penetrant testing — Part 1: General principles*

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

ASTM E112-13, *Standard Test Methods for Determining Average Grain Size*<sup>2</sup>

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**

---

1 Maximum test temperature of the parts.

2 Published by: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, USA.