



SLOVENSKI STANDARD

oSIST prEN 2944:2021

01-december-2021

Aeronavtika - Vložki s spiralnim navojem, samozapiralni, iz korozijsko odpornega jekla FE-PA3004

Aerospace series - Inserts, screw thread, helical coil, self-locking, in corrosion resisting steel FE-PA3004

Luft- und Raumfahrt - Draht-Gewindeinsatz, selbstsichernd aus korrosionsbeständigem Stahl FE-PA3004

Série aérospatiale - Filet rapporté, à freinage interne, en acier résistant à la corrosion FE-PA3004

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Ta slovenski standard je istoveten z: prEN 2944:2021

ICS:

49.030.20 Sorniki, vijaki, stebelni vijaki Bolts, screws, studs

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en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 2944

October 2021

ICS

Will supersede EN 2944:2018

English Version

Aerospace series - Inserts, screw thread, helical coil, self-locking, in corrosion resisting steel FE-PA3004

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee ASD-STAN.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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

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European foreword

This document (prEN 2944:2021) 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 document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, prior to its presentation to CEN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 2944:2018.

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Introduction

For design and assembly procedures see EN 3044 and EN 2945.

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1 Scope

This document specifies the characteristics of inserts, self-locking, helical coil, tanged insertion drive, MJ screw threads in corrosion resisting steel FE-PA3004, for aerospace applications.

Maximum test temperature: 350 °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.

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

EN 2943, *Aerospace series — Inserts, MJ and M screw threads, helical coil — Technical specification*

EN 2947, *Aerospace series — Steel FE-PA3004 (X10CrNi18-09) — Air melted — Non heat treated — Cold drawn wire — a or $D \leq 2,3$ mm*

EN 3044, *Aerospace series — Installation holes for inserts, screw thread, helical coil, self-locking — Design standard*

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

3 Terms and definitions (standards.iteh.ai)

No terms and definitions are listed in this document.

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

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

4 Required characteristics

4.1 Configuration — Dimensions — Tolerances — Masses

See Figure 1, Table 1 and Table 2. Dimensions and tolerances are in millimetres.

Details of form not stated are left to the manufacturer's discretion.

4.2 Material

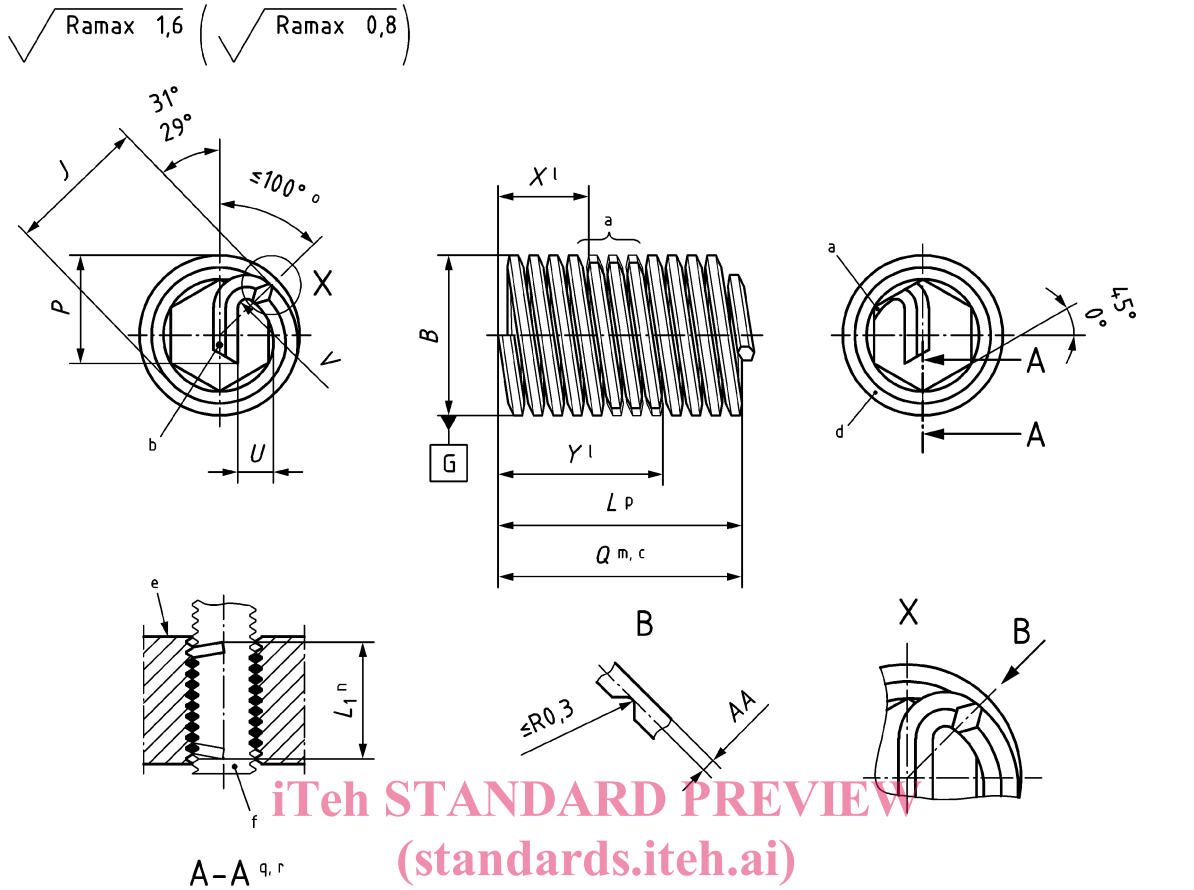
See EN 2947.

4.3 Material identification

Colour: blue.

No chlorine-based constituents are permitted in the colour identification product.

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Key

- a form out-of-round in this area to achieve the self-locking requirements (tool marks permissible)
- b tang
- c number of coils
- d marking
- e lead-in face of installation hole
- f installation

- g see detail Y
- h min. profile
- i max. profile
- j R_1 min, tangential to flanks
- k straight portion of flank
- l locking feature shall be in the zone Y max. – X min. number of gripcoils and number of sides per gripcoil are in accordance to the manufacturer's design.
- m the number of coils is counted from the notch
- n length of installed thread L1 up to the notch
- p length of fitted insert to notch
- q dimensions after coiling, corresponding to an insert fitted in an installation hole to EN 3044
- r section A-A is perpendicular to the helical axis

Figure 1 — Layout drawing, dimensions destined for design departments

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Table 1 — Dimensions

| Thread code | Thread ^a (Associated screw) | A _{min.} | B _{min.} | B _{max.} | C _{max.} | C _{min.} | E _{max.} | E _{min.} | F max. | H _{max.} | H _{min.} | J | | P | | R ₁ min. | S min. | U max. | U min. | V max. | AA | |
|-------------|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------|-------------------|-------------------|------|------|------|------|------------------------|-----------|-----------|-----------|-----------|------|------|
| | | | | | | | | | | | | max. | min. | max. | min. | | | | | | max. | min. |
| 040 | MJ4 × 0,7 | 0,163 | 5,05 | 5,60 | 0,758 | 0,683 | 0,612 | 0,51 | 0,35 | 0,455 | 0,444 5 | 5,6 | 4,9 | 3,55 | 2,5 | 0,126 | 0,219 | 1,67 | 1,02 | 0,45 | 0,34 | 0,31 |
| 050 | MJ5 × 0,8 | 0,209 | 6,25 | 6,80 | 0,866 | 0,775 | 0,7 | 0,598 | 0,4 | 0,52 | 0,508 5 | 6,8 | 6,1 | 4,55 | 3,15 | 0,144 | 0,25 | 2,09 | 1,41 | 0,6 | 0,37 | 0,34 |
| 060 | MJ6 × 1 | 0,267 | 7,40 | 7,95 | 1,083 | 0,975 | 0,875 | 0,748 | 0,5 | 0,65 | 0,637 | 7,95 | 7,25 | 4,85 | 3,7 | 0,18 | 0,312 | 2,55 | 1,65 | | 0,75 | 0,5 |
| 070 | MJ7 × 1 | | 8,65 | 9,20 | | | | | | | | 9,2 | 8,4 | 5,5 | 4,3 | | | 3,88 | 2,27 | | | |
| 080 | MJ8 × 1 | | 9,70 | 10,25 | | | | | | | | 10 | 9,2 | 6,5 | 4,75 | | | | | | | |
| 100 | MJ10 × 1,25 | 0,415 | 12,10 | 12,65 | 1,353 | 1,251 | 1,094 | 0,967 | 0,625 | 0,812 | 0,799 | 12,3 | 11,5 | 8 | 5,5 | 0,226 | 0,391 | 4,77 | 2,86 | 0,6 | 0,55 | |

^a In accordance with ISO 5855-2.

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Table 2 — Dimensions, number of turns, mass

| Thread code | Thread ^a (Associated screw) | L | | | Number of turns | | | x ^b min. | | | y ^b | | | Mass ≈ kg/1 000 pieces | | | | | |
|-------------|---|-------|-----|-------|-----------------|-------|-------|---------------------|------|-------|----------------|-----|-------|---------------------------|-----|-------|-------|------|-------|
| | | 1,5 D | 2 D | 2,5 D | L ₁ | | | Q ± 0,25 | | | 1,5 D | 2 D | 2,5 D | 1,5 D | 2 D | 2,5 D | 1,5 D | 2 D | 2,5 D |
| | | | | | +0,25 | 0 | -0,25 | 1,5 D | 2 D | 2,5 D | | | | | | | | | |
| 040 | MJ4 × 0,7 | 6 | 8 | 10 | 5,47 | 7,47 | 9,47 | 6,1 | 8,6 | 11,1 | 0,8 | 2,5 | — | 3,1 | 4,8 | — | 0,22 | 0,31 | 0,39 |
| 050 | MJ5 × 0,8 | 7,5 | 10 | 12,5 | 6,90 | 9,40 | 11,90 | 6,9 | 9,6 | 12,4 | 1,3 | 3,8 | 3,7 | 3,9 | 6,3 | 6,3 | 0,4 | 0,55 | 0,7 |
| 060 | MJ6 × 1 | 9 | 12 | 15 | 8,25 | 11,25 | 14,25 | 6,8 | 9,5 | 12,1 | 2,2 | 5,1 | — | — | — | — | 0,72 | 0,99 | 1,26 |
| 070 | MJ7 × 1 | 10,5 | 14 | 17,5 | 9,75 | 13,25 | 16,75 | 8 | 11,1 | 14,1 | 2,2 | 5,9 | 5,5 | — | — | — | 0,99 | 1,36 | 1,73 |
| 080 | MJ8 × 1 | 12 | 16 | 20 | 11,25 | 15,25 | 19,25 | 9,4 | 13 | 16,5 | 2,5 | 6,8 | — | — | — | — | 1,32 | 1,8 | 2,28 |
| 100 | MJ10 × 1,25 | 15 | 20 | 25 | 14,25 | 19,25 | 24,25 | 9,5 | 13,1 | 16,8 | 3,7 | — | — | — | — | — | 2,57 | 3,52 | 4,46 |

^a In accordance with ISO 5855-2.

^b X and Y dimensions apply after installation of the thread insert.