



SLOVENSKI STANDARD SIST EN 3905:2008

01-julij-2008

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Aerospace series - Six lobe recesses for bolts - Technical specification

Luft- und Raumfahrt - Sechs-Bogenzahn-Innenantrieb für Schrauben - Technische Lieferbedingungen

Série aéronautique - Empreinte six lobes pour vis - Spécification technique

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Ta slovenski standard je istoveten z: **EN 3905:2008**

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ICS:

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

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en

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English Version

Aerospace series - Six lobe recesses for bolts - Technical specification

Série aérospatiale - Empreinte six lobes pour vis -
Spécification technique

Luft- und Raumfahrt - Sechs-Bogenzahn-Innenantrieb für
Schrauben - Technische Lieferbedingungen

This European Standard was approved by CEN on 29 February 2008.

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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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Foreword

This document (EN 3905:2008) 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of an identical text or by endorsement, at the latest by October 2008, and conflicting national standards shall be withdrawn at the latest by October 2008.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.

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1 Scope

This standard specifies the characteristics and qualification requirements for six lobe recesses defined by EN 3911 for bolts. The requirements of this specification are additional to the requirements of the relevant bolt technical specification.

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.

EN 3911, *Aerospace series — Six lobe recess — Geometrical definition*. ¹⁾

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

3 Qualification

See Table 1.

4 Requirements

See Table 1.

5 Apparatus

See Figure 1.

5.1 Test block

Material: steel HRC ≥ 40

5.2 Nut

- thread to ISO 5855-2;
- tensile strength class: no requirement;
- material: no requirement.

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

Table 1 — Technical requirements and test methods

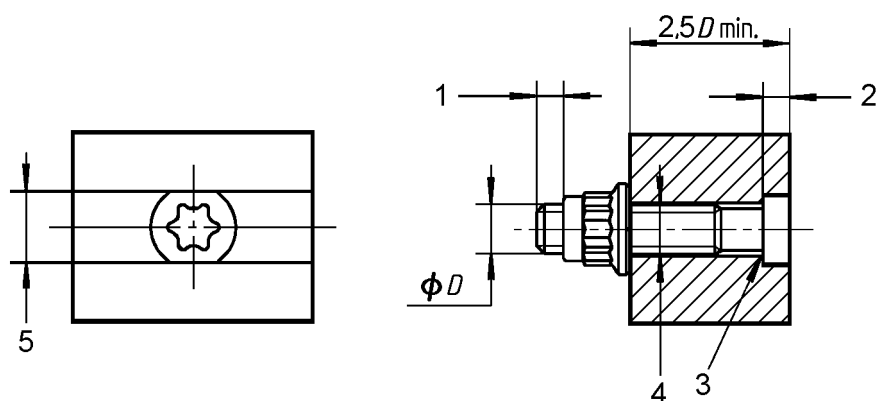
Characteristic	Requirement	Inspection and test method	Sample size
Wrench feature test at ambient temperature	<p>The wrench torque specified in Table 2 shall be applied to all bolts with internal drive recesses in accordance with EN 3911 (six lobe recess).</p> <p>Number of cycles: 15.</p> <p>The driving recess shall not display any permanent damage.</p>	<p>The bolt head shall have two flats machined in it, to give a clearance of between 0,05 mm and 0,1 mm from the test block (see Figure 1).</p> <p>Lubricate both the bolt and nut threads with clean engine oil.</p> <p>Insert bolt (with flats) into test block.</p> <p>Torque tighten nut and bolt assembly in the test block in accordance with Table 2.</p> <p>The test block shall then be suitably held (e.g. bench vice).</p> <p>Apply the torque load with a driver according to EN aerospace series using a suitably calibrated torque wrench (taking care not to apply any bending moment to the recess), alternating clockwise and counterclockwise (one cycle).</p>	5

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Table 2 — Wrench torque values

Nominal diameter mm	Wrench torque ^a Nm	Recess code
5	13,8	27
6	24	30
7	40	40
8	60	45
10	115	50

^a Based on two and half times the torque required to induce 75 % of the 0,2 % proof stress in a bolt of class 900 MPa ($R_{0,2} \% = 590$ MPa)



Key

- 1 2 pitch min.
- 2 Slot depth = Bolt head height – 1 mm
- 3 Chamfer according to the bolt head radius
- 4 Bolt diameter ($+ 0,25$ $+ 0,10$) mm
- 5 Slot width = Bolt head diameter – 1 mm

D: Nominal diameter of the bolt

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Figure 1 — Test block

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