



SLOVENSKI STANDARD

SIST EN 2549:2009

01-marec-2009

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SIST EN 2549:2001

Aeronavtika - Sorniki, normalna šestroba glava, ozka toleranca, kratek navoj, iz titanove zlitine, anodizirani, namazani z MoS2, metrska serija - Klasifikacija: 1 100 MPa (pri temperaturi okolice) / 315 °C

Aerospace series - Bolts, normal hexagonal head, close tolerance normal shank, short thread, in titanium alloy, anodized, MoS2 lubricated, metric series - Classification: 1 100 MPa (at ambient temperature) / 315 °C

Luft- und Raumfahrt - Sechskant-Passschrauben, kurzes Gewinde, aus Titanlegierung, anodisiert, MoS2-geschmiert, metrische Reihe - Klasse: 1 100 MPa (bei Raumtemperatur) / 315 °C

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Série aérospatiale - Vis à tête hexagonale normale, fût normal à tolérance serrée, filetage court, en alliage de titane, anodisées, lubrifiées MoS2, série métrique - Classification : 1 100 MPa (à température ambiante) / 315 °C

Ta slovenski standard je istoveten z: EN 2549:2006

ICS:

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

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 2549

May 2006

ICS 49.030.20

Supersedes EN 2549:1995

English Version

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This European Standard was approved by CEN on 13 January 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.

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

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Foreword

This European Standard (EN 2549:2006) 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 November 2006, and conflicting national standards shall be withdrawn at the latest by November 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.

This European Standard supersedes EN 2549:1995.

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 2549:2006 (E)**1 Scope**

This standard specifies the characteristics of bolts, normal hexagonal head, close tolerance normal shank, short thread, in titanium alloy, anodized, MoS₂ lubricated, metric series.

Classification: 1 100 MPa ¹⁾ / 315 °C ²⁾

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 3193, *Aerospace – Bolts, normal hexagonal head, normal shank, short or medium length MJ threads, metallic material, coated or uncoated, strength classes less than or equal to 1 100 MPa – Dimensions.*

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.*

ISO 7913, *Aerospace – Bolts and screws, metric – Tolerances of form and position.*

ISO 9152, *Aerospace – Bolts with MJ threads, in titanium alloys, strength class 1 100 MPa – Procurement specification.*

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

EN 2491, *Aerospace series – Molybdenum disulphide dry lubricants – Coating methods.*
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EN 4016, *Aerospace series – Oversized bolts.* ³⁾

EN 9100, *Aerospace series – Quality management systems – Requirements (based on ISO 9001:2000) and Quality systems – Model for quality assurance in design, development, production, installation and servicing (based on ISO 9001:1994).*

EN 9133, *Aerospace series – Quality management systems – Qualification Procedure for aerospace standard parts.*

TR 3775, *Aerospace series – Bolts and pins – Materials.* ⁴⁾

TR 4070, *Aerospace series – Molybdenum disulphide coatings – List of commercial products.* ⁴⁾

1) Minimum tensile strength of the material at ambient temperature.

2) Maximum temperature that the bolt can withstand without continuous change in its original characteristics, after return to ambient temperature. The maximum temperature is determined by the surface treatment.

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

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

3 Required characteristics

3.1 Configuration – Dimensions – Masses

See Figure 1 and Table 1.

Dimensions and tolerances are: in conformity with ISO 3193, expressed in millimetres and apply after anodizing but before lubricating.

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

3.2 Tolerances of form and position

ISO 7913

3.3 Materials

TR 3775 (titanium alloy, strength class 1 100 MPa)

3.4 Surface treatment

Lubrication:

— lubricant: see TR 4070;

— application: EN 2491: 5 µm to 10 µm.

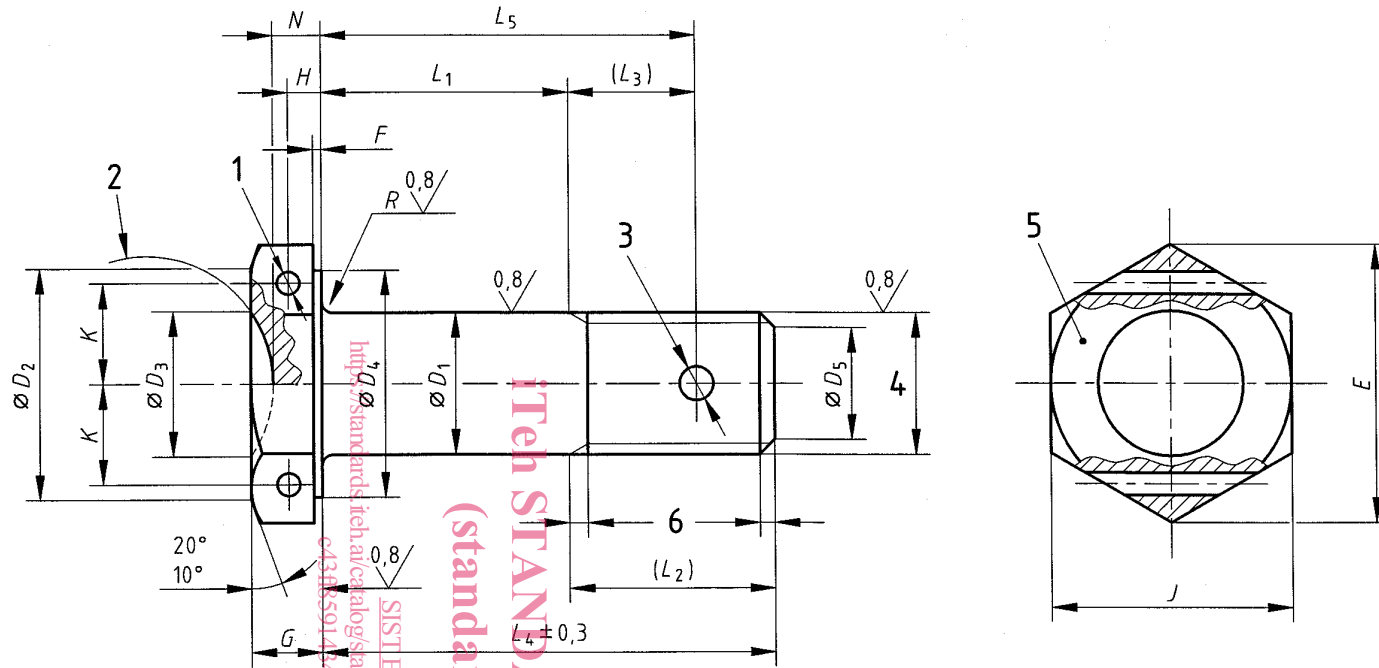
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EN 2549:2006 (E)



Values in micrometres apply prior to surface treatment.

Break sharp edges 0,1 to 0,4.



Key

- 1 Two holes diameter D_6 (optional)
- 2 Continuous surface
- 3 One hole diameter D_7 (optional)
- 4 Thread
- 5 Marking
- 6 Conforms to ISO 3353-1

Figure 1

Table 1

Diameter code	Thread ^a	D_1	D_2	D_3	D_4^b	D_5		D_6	D_7	E	F		G	H
		f7	min.	$\begin{matrix} 0 \\ -0,5 \end{matrix}$	min.	nom.	Tol.	H13	H13	min.	max.	min.	$\begin{matrix} 0 \\ -0,3 \end{matrix}$	
030	MJ3x0,5 - 4h6h	3	5,5	-	5,4	2,3	$\begin{matrix} 0 \\ -0,5 \end{matrix}$	-	-	6,5	0,4	0,2	2	-
040	MJ4x0,7 - 4h6h	4	6,4	-	6,4	3		-	1,1	7,6			2,5	-
050	MJ5x0,8 - 4h6h	5	7,4	5,25	7,4	3,4	$\pm 0,5$	1	1,5	8,7	0,5	0,2	3	1,35
060	MJ6x1 - 4h6h	6	9,4	6,25	9,3	4,2		1,4		10,9			12	3,5
070	MJ7x1 - 4h6h	7	10,3	7,25	10,2	5,2			1,9	14,3	18,9	4	1,85	
080	MJ8x1 - 4h6h	8	12,3	8,25	12,2	6,2		2,4		21,1	24,5	4,5	2,1	
100	MJ10x1,25 - 4h6h	10	16,3	10,25	16	7,9			3	26,8	30,2	5	2,35	
120	MJ12x1,25 - 4h6h	12	18,3	12,25	18	9,8		3,8		33,6	18,9	6	2,85	
140	MJ14x1,5 - 4h6h	14	21,3	14,25	21	11,5			0,6	0,3	24,5	7	3,35	
160	MJ16x1,5 - 4h6h	16	23,3	16,25	23	13,5		26,8			8	3,85		
180	MJ18x1,5 - 4h6h	18	26,3	18,25	26	15,5		30,2	9	4,35				
200	MJ20x1,5 - 4h6h	20	29,3	20,25	29	17,5		33,6	10	4,85				

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