
Aeronavtika - Elastil' ni stebelni vijaki, giroka toleranca, srednja navojna dolhina, iz toplotno in korozijsko odpornega jekla, namazani z MoS2 - Klasifikacija: 1100 MPa (pri temperaturi okolice)/315 °C

Aerospace series - Studs, coarse tolerance reduced shank, medium length threads, in heat and corrosion resisting steel, MoS2 lubricated - Classification : 1 100 MPa (at ambient temperature) / 315 °C

Luft- und Raumfahrt - Stift-Dehnschrauben, mit mittlerer Gewindelänge, aus korrosionsbeständigem und hochwarmfestem Stahl, MoS2-geschmiert - Klasse : 1 100 MPa (bei Raumtemperatur) / 315 °C

Série aérospatiale - Goujons, tige réduite à tolérance large, filetage moyen, en acier résistant à chaud et à la corrosion, lubrifiés MoS2 - Classification : 1 100 MPa (à température ambiante) / 315 °C

Ta slovenski standard je istoveten z: EN 4311:2006

ICS:

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

SIST EN 4311:2009

en,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 4311

June 2006

ICS 49.030.20

English Version

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medium length threads, in heat and corrosion resisting steel,
MoS2 lubricated - Classification : 1 100 MPa (at ambient
temperature) / 315 °C

Série aérospatiale - Goujons, tige réduite à tolérance large,
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ambiante) / 315 °C

Luft- und Raumfahrt - Stift-Dehnschrauben, mit mittlerer
Gewindelänge, aus korrosionsbeständigem und
hochwarmfestem Stahl, MoS2-geschmiert - Klasse : 1 100
MPa (bei Raumtemperatur) / 315 °C

This European Standard was approved by CEN on 6 February 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.

[SIST EN 4311:2009](https://standards.iteh.ai/cen/doc/standards/sis/062fcd1d-79e4-42ab-b64d-11e15010000000000000)

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This European Standard (EN 4311:2006) 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 December 2006, and conflicting national standards shall be withdrawn at the latest by December 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.

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 4311:2006 (E)**1 Scope**

This standard specifies the characteristics of studs, coarse tolerance reduced shank, medium length threads, in heat and corrosion resisting steel, MoS₂ lubricated.

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

The shank is reduced for better tension fatigue strength life.

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 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 8168, *Aerospace — Corrosion- and heat-resisting steel bolts with strength classification 1 100 MPa and MJ threads — Procurement specification.*

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

EN 2491, *Aerospace series — Molybdenum disulphide dry lubricants — Coating methods.*

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).*

TR 3775, *Aerospace series — Bolts and pins — Materials.*³⁾

TR 4070, *Aerospace series — Molybdenum disulphide coatings — List of commercial products.*³⁾

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

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

3) 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 Tables 1 and 2.

Dimensions and tolerances are expressed in millimetres and apply before lubricating.

3.2 Tolerances of form and position

See ISO 7913.

3.3 Materials

See TR 3775 (heat and corrosion steel, 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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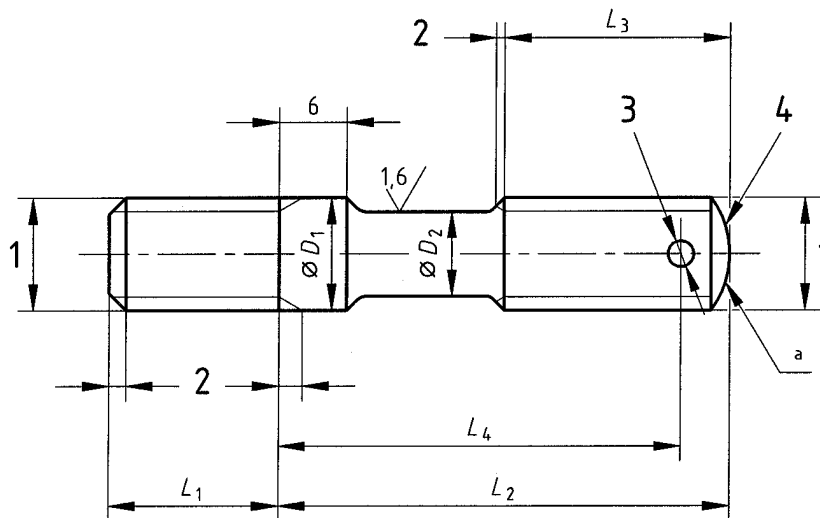
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EN 4311:2006 (E)

$\sqrt{3,2}$ $\left[\sqrt{1,6} \right]$ Values in micrometres apply prior to surface treatment.

Break sharp edges 0,1 to 0,4.



Key

- 1 Thread
- 2 Conforms to ISO 3353-1
- 3 One hole diameter D_3 (optional)
- 4 Marking
- ^a Shape in this area at manufacturer's option

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Figure 1

Table 1

Diameter code	Thread ^a	D_1 h12	D_2 ^b h12	D_3 H13	L_1	L_3 min.	L_4 + 0,3 0
050	MJ5×0,8 – 4h6h	5	–	1	7,5	12	$L_2 - 2,5$
060	MJ6×1 – 4h6h	6	4,6	1,4	9	14	$L_2 - 3$
080	MJ8×1 – 4h6h	8	6	1,8	12	18	$L_2 - 3,5$
100	MJ10×1,25 – 4h6h	10	7,5	2,3	15	20	$L_2 - 4$
120	MJ12×1,25 – 4h6h	12	9,2		18	22	$L_2 - 4,5$

^a In accordance with ISO 5855-2

^b For MJ5 and lengths above the bold line of Table 2: $D_2 = D_1$

Table 2

Diameter code		050	060	080	100	120
Length		Mass ^a	Mass ^a	Mass ^a	Mass ^a	Mass ^a
Code	L_2					
018	18	3,6	—	—	—	—
020	20	3,9	5,8	—	—	—
022	22	4,2	6,3	12,3	—	—
024	24	4,7	6,9	13,5	23	—
028	28	5,1	7,6	14,7	25	—
030	30	5,4	8,1	15,5	26	41
035	35	6,1	9,2	17,4	29	45
040	40	6,9	10,3	19	32	49
045	45	7,7	11,4	20	26	54
050	50	8,4	12,5	21	28	48
055	55	9,2	13,5	22	30	51
060	60	10	14,6	23	31	53
065	65	10,7	15,7	24	33	56
070	70	11,5	16,8	25	35	58
075	75	12,3	17,9	26	37	61
080	80	13,1	19	27	39	63
085	85	—	20,1	28	40	66
090	90	—	21,2	29	42	68
095	95	—	—	30	44	71
100	100	—	—	31	46	73
105	105	—	—	32	48	76
110	110	—	—	33	50	79

^a Approximate values (kg/1 000 pieces), calculated on the basis of 7,85 kg/dm³, given for information purposes only. They apply to studs without holes.