

Aerospace series - Screws 100° countersunk normal head, offset cruciform recess, coarse tolerance normal shank, medium length thread, in alloy steel, cadmium plated - Classification: 1 100 MPa (at ambient temperature) / 235 °C

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 4162:2016 sisaldab Euroopa standardi EN 4162:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 4162:2016 consists of the English text of the European standard EN 4162:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 23.03.2016.	Date of Availability of the European standard is 23.03.2016.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

**Aerospace series - Screws 100° countersunk normal head,
offset cruciform recess, coarse tolerance normal shank,
medium length thread, in alloy steel, cadmium plated -
Classification: 1 100 MPa (at ambient temperature) / 235 °C**

Série aérospatiale - Vis à tête fraisée 100° normale, à
empreinte cruciforme déportée, tige normale à
tolérance large, filetage moyen, en acier allié, cadmiées
- Classification: 1 100 MPa (à température ambiante) /
235 °C

Luft- und Raumfahrt - 100°-Senkschrauben mit
Flügelkreuzschlitz, mittlere Gewindelänge, aus legierten
Stahl, verkadmet - Klasse: 1 100 MPa (bei
Raumtemperatur) / 235 °C

This European Standard was approved by CEN on 27 September 2015.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

This document consolidates EN 4162:2016 and the corrigendum EN 4162:2016/AC:2017.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European Foreword

This document (EN 4162:2016) 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 September 2016 and conflicting national standards shall be withdrawn at the latest by September 2016.

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 document supersedes EN 4162:2009.

This document includes the corrigendum EN 4162:2016/AC:2017 which corrects Table 3 in Clause 4.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the characteristics of screws, 100° countersunk normal head, offset cruciform recess, coarse tolerance normal shank, medium length thread, in alloy steel, cadmium plated.

Classification: 1 100 MPa¹⁾ / 235 °C²⁾.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2133, *Aerospace series — Cadmium plating of steels with specified tensile strength $\leq 1\,450$ MPa, copper, copper alloys and nickel alloys*

EN 2137, *Steel FE-PL75 — $1100\text{ MPa} \leq R_m \leq 1250\text{ MPa}$ — Bars $D_e \leq 100\text{ mm}$ — Aerospace series*

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

EN 2442, *Steel FE-PL711 — $1100\text{ MPa} \leq R_m \leq 1300\text{ MPa}$ — Bars and wires — $D_e \leq 25\text{ mm}$ ³⁾*

EN 3514, *Steel FE-PL711 — Hardened and tempered — $1100\text{ MPa} \leq R_m \leq 1300\text{ MPa}$ — Bar and wire for bolts — $D_e \leq 25\text{ mm}$*

EN 9100, *Quality Management Systems — Requirements for Aviation, Space and Defense Organizations*

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts*

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 5856, *Aerospace — Screws, 100 degrees normal countersunk head, internal offset cruciform ribbed or unribbed drive, 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 7689, *Aerospace — Bolts, with MJ threads, made of alloy steel, strength class 1 100 MPa — Procurement specification*

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

ISO 14275, *Aerospace — Drives, internal, offset cruciform, ribbed — Metric series*

ISO 14276, *Aerospace — Drives, internal, offset cruciform — Metric series*

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) For new design, see EN 3514.

TR 3775, *Aerospace series — Bolts and pins — Materials*

3 Required characteristics

3.1 Configuration - Dimensions - Masses

See Figure 1 and Table 1.

Dimensions and tolerances are in conformity with ISO 5856, expressed in millimetres and apply after surface treatment.

3.2 Tolerances of form and position

ISO 7913.

3.3 Materials

EN 2137 and EN 2442

or

TR 3775: alloy steel, classification 1 100 MPa

3.4 Surface treatment

EN 2133, thickness 8 μm to 14 μm on all surfaces which can be contacted by a 20 mm diameter ball. On all other surfaces, a continuous cadmium plating shall be present, but no value is specified.

Black colour option: code B.