



SLOVENSKI STANDARD

SIST EN 4109:2010

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Aerospace series - Wrenches, face spanner

Luft- und Raumfahrt - Ringeinsteckwerkzeuge, offen, verzahnt, lange Form

Série aérospatiale - Embouts cannelés à tuyauter, entraînement mixte

Ta slovenski standard je istoveten z: **EN 4109:2006**

[SIST EN 4109:2010](https://standards.iteh.ai/catalog/standards/sist/97798e0c-4266-46fa-ae1d-3bdef05cb34b/sist-en-4109-2010)

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ICS:

49.030.99 Drugi vezni elementi Other fasteners

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en,de

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ICS 49.030.99

English Version

Aerospace series - Wrenches, face spanner

Série aérospatiale - Embouts cannelés à tuyauter,
entraînement mixteLuft- und Raumfahrt - Ringeinsteckwerkzeuge, offen,
verzahnt, lange Form

This European Standard was approved by CEN on 28 August 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.

CEN members are the national standards bodies of 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 United Kingdom.

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

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Foreword

This document (EN 4109:2006) 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 June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

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 4109:2006 (E)**1 Scope**

This standard specifies the characteristics of spanner face wrenches for splined nuts for aerospace applications.

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 1174 (all parts), *Assembly tools for screws and nuts — Driving squares*.

ISO 4156 (all parts), *Straight cylindrical involute splines — Metric module, side fit*.

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

EN 4111, *Aerospace series — Wrenches, splined, socket for pipe fittings — Technical specification*.

3 Required characteristics**3.1 Configuration – Dimensions – Tolerances**

See Figures 1 and 2 and Tables 1 and 2. Dimensions and tolerances are in millimetres.

3.2 Material

Material shall be corrosion resistant. The actual material specification shall be the choice of the manufacturer, provided that the spanner meets the requirements of the technical specification, EN 4111.

3.3 Hardness

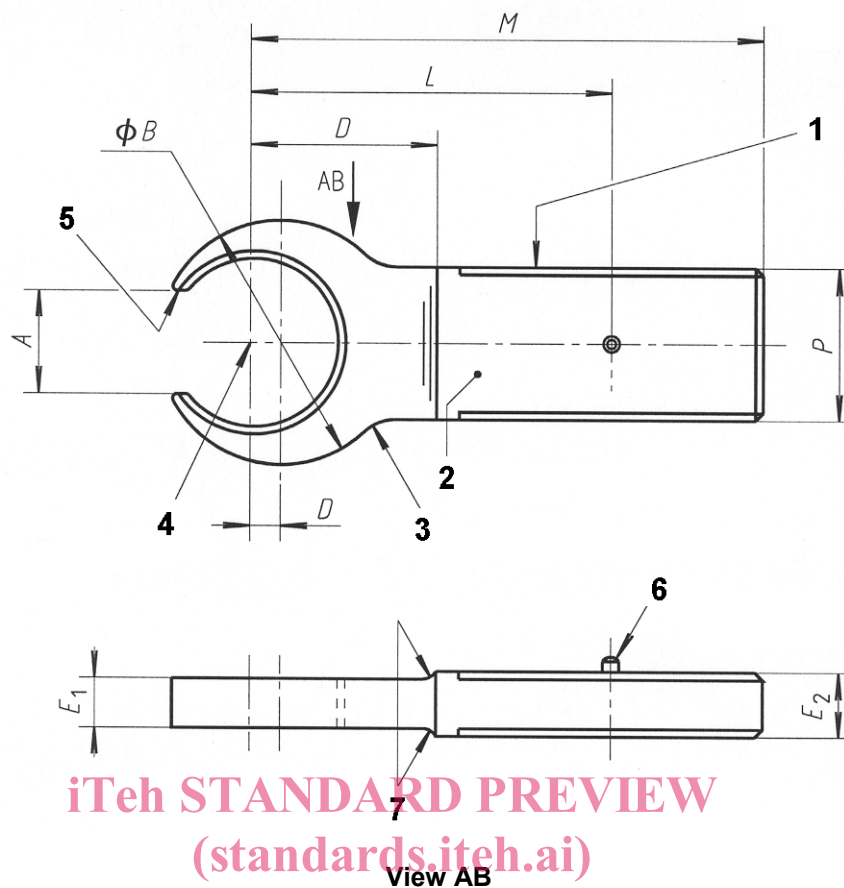
$42 < \text{HRC} < 54$

3.4 Surface treatment

Nickel-chromium coating

Nickel thickness: 5 μm

Chromium thickness: 0,25 μm



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Key

- 1 Profile at manufacturer's discretion but must blend smoothly
- 2 Marking
- 3 Rad. (Both sides)
- 4 Centre of origin of spline drive. For spline dimensions, see Table 2.
- 5 Rad. (2 positions)
- 6 Lug $\phi 4,3$ in accordance with ISO 1174 (Type B)
- 7 Profile optional, but must blend smoothly

Drawing not to scale

Dimensions not quoted are at manufacturer's discretion.

Dimension "A" to be equidistant about slot centre line.

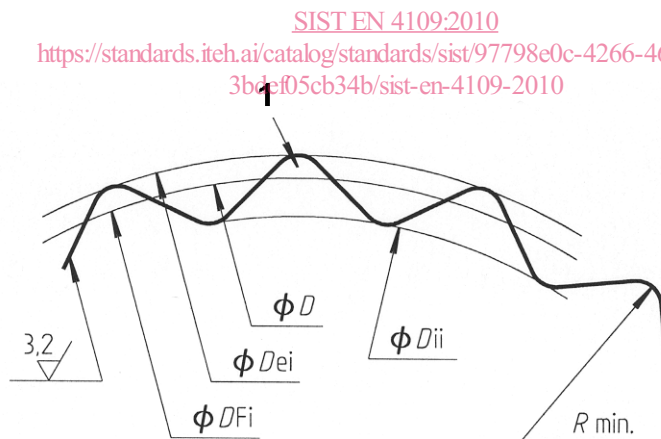
Surface texture to be $R_a 3,2$ unless otherwise specified.

Figure 1

Table 1

DN ^a	A min.	B max.	C ± 0,2	D max.	E ₁ ± 0,2	E ₂ ± 0,2	L max.	M max.	P - 0,05 - 0,15
04	6,5	22	2	17	5	9	39	44	12
06	8,5	27			6				
08	10,5	31	3	24	7	14	46	51	18
10	13	33							
12	15	35							
13	16	36							
14	17,5	37							
16	19,5	39							
18	21,5	44	5	35	8	16	57	62	25
20	23,5	50	6						
22	25,5	55,5	8	43	8	16	65	70	25
25	28,5	63	9						
32	35,5	70	9	43	8	16	65	70	25

^a DN: Diameter Nominal (outside diameter of the corresponding pipe).



Key

- 1 Circular space width $\frac{E}{EV}$

Figure 2