



SLOVENSKI STANDARD
SIST EN 2122:2001
01-januar-2001

Aerospace series - Washers, flat, in aluminium alloy, anodized or chromated

Aerospace series - Washers, flat, in aluminium alloy, anodized or chromated

Luft- und Raumfahrt - Scheiben, flach, aus Aluminiumlegierung, anodisiert oder chromatiert

Série aérospatiale - Rondelles plates en alliage d'aluminium, anodisées ou chromatées

STANDARD PREVIEW
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Ta slovenski standard je istoveten z: EN 2122:1996

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ICS:

49.025.20	Aluminij	Aluminium
49.030.50	Podložke in drugi blokirni elementi	Washers and other locking elements

SIST EN 2122:2001

en

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EUROPEAN STANDARD

EN 2122

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 1996

ICS 49.040.20

Supersedes EN 2122:1994

Descriptors: aircraft industry, washer, aluminium alloy, surface treatment, designation, characteristic, dimension

English version

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This European Standard was approved by CEN on 1995-08-31. 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.

The European Standards exist 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENEuropean Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries and votes carried out in accordance with the rules of this Association, this Standard has successively 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 replaces EN 2122:1994.

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 July 1996, and conflicting national standards shall be withdrawn at the latest by July 1996.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

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STANDARDIZATION BODY OF SLOVENIA



1 Scope

This standard specifies the characteristics of flat washers, in aluminium alloy, anodized or chromated, for maximum operating temperature 120 °C, for aerospace applications.

They are intended for use primarily underneath nuts ; for use underneath bolt heads the compatibility shall be checked.

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- EN 2000 Aerospace series - Quality assurance - EN aerospace products - Approval of the quality system of manufacturers
- EN 2090 Aerospace series - Aluminium alloy 2024-T3 - Clad sheet and strip - $0,4 \leq a \leq 6$ mm ¹⁾
- EN 2091 Aerospace series - Aluminium alloy 2024-T4 - Clad sheet and strip - $0,4 \leq a \leq 6$ mm ¹⁾
- EN 2101 Aerospace series - Chromic acid anodizing of aluminium and wrought aluminium alloys
- EN 2284 Aerospace series - Sulphuric acid anodizing of aluminium and wrought aluminium alloys
- EN 2319 Aerospace series - Aluminium alloy 2024-T3510 - Drawn bar $a \leq 75$ mm ¹⁾
- EN 2320 Aerospace series - Aluminium alloy 2024-T4 - Drawn bar $a \leq 75$ mm ¹⁾
- EN 2424 Aerospace series - Marking of aerospace products
- EN 2437 Aerospace series - Chromate conversion coatings (yellow) for aluminium and aluminium alloys ²⁾

1) Published as AECMA Standard at the date of publication of this standard

2) In preparation at the date of publication of this standard

3 Required characteristics

3.1 Configuration - Dimensions - Masses

See figure 1 and tables 2 and 3. Dimensions and tolerances are expressed in millimetres and apply after surface treatment.

3.2 Materials

EN 2090, EN 2091, EN 2319 or EN 2320

3.3 Surface treatment

See table 1.

Table 1

Nature	Code
EN 2284B	A
EN 2437A1	B
EN 2101B ¹⁾	None

¹⁾ Specified in EN 2122 : 1989.
Shall be replaced by EN 2284B.

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6,3 [3,2] Values in micrometres apply prior to surface treatment.

Remove sharp edges 0,1 to 0,2

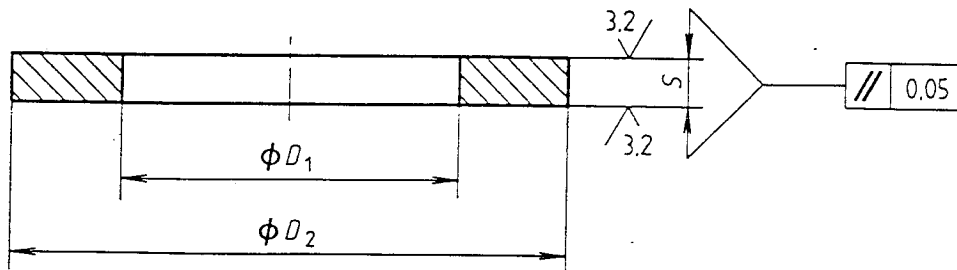


Figure 1

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Table 2

Diameter code	D_1		D_2 h14	$S \pm 10\% \text{ }^1)$									
	nom.	Tol.		1	2	3	4	5	6	7			
016	1,8	H13	3,2	0,4	—	—	—	—	—	—	—	—	—
020	2,2		4	0,4	—	—	—	—	—	—	—	—	—
025	2,7		5	0,5	—	—	—	—	—	—	—	—	—
030	3,2		6	0,5	1	—	—	—	—	—	—	—	—
035	3,7		7	0,5	1	—	—	—	—	—	—	—	—
040	4,3		8	0,5	1	1,6	—	—	—	—	—	—	—
050	5,5		10	0,5	1	1,6	—	—	—	—	—	—	—
060	6,5		12	0,5	1	1,6	2	—	—	—	—	—	—
070	7,5		14	0,5	1	1,6	2	—	—	—	—	—	—
080	8,5		16	0,5	1	1,6	2	—	—	—	—	—	—
100	10,5		20	—	1	1,6	2	2,5	—	—	—	—	—
120	12,5		24	—	1	1,6	2	2,5	—	—	—	—	—
140	14,5		26	—	1	1,6	2	2,5	3,2	—	—	—	—
160	16,5		28	—	1	1,6	2	2,5	3,2	—	—	—	—
180	18,5	31	—	1	1,6	2	2,5	3,2	—	—	—	—	
200	20,5	35	—	1	1,6	2	2,5	3,2	—	—	—	—	
220	22,5	37	—	—	1,6	2	2,5	3,2	—	—	—	—	
240	24,5	42	—	—	—	2	2,5	3,2	4	—	—	—	
270	27,5	47	—	—	—	2	2,5	3,2	4	—	—	—	
300	30,5	53	—	—	—	2	2,5	3,2	4	—	—	—	
330	33,5	57	—	—	—	2	2,5	3,2	4	—	—	—	
360	36,5	63	—	—	—	2	2,5	3,2	4	—	—	—	
390	39,5	69	—	—	—	2	2,5	3,2	4	—	—	—	

1) Includes also the flatness tolerance.

Table 3

Thickness	S	0,4	0,5	1	1,6	2	2,5	3,2	4
	Code	04	05	10	16	20	25	32	40
Diameter code		Mass ¹⁾							
016	0,006	—	—	—	—	—	—	—	—
020	0,010	—	—	—	—	—	—	—	—
025	—	0,017	—	—	—	—	—	—	—
030	—	0,03	0,06	—	—	—	—	—	—
035	—	0,04	0,08	—	—	—	—	—	—
040	—	0,05	0,10	0,16	—	—	—	—	—
050	—	0,08	0,15	0,24	—	—	—	—	—
060	—	0,11	0,22	0,36	0,45	—	—	—	—
070	—	0,15	0,31	0,49	0,61	—	—	—	—
080	—	0,20	0,40	0,65	0,80	—	—	—	—
100	—	—	0,64	1,08	1,27	1,60	—	—	—
120	—	—	0,92	1,48	1,85	2,30	—	—	—
140	—	—	1,02	1,64	2,04	2,55	3,28	—	—
160	—	—	1,12	1,80	2,25	2,80	3,60	—	—
180	—	—	1,36	2,18	2,72	3,40	4,35	—	—
200	—	—	1,77	2,83	3,54	4,42	5,66	—	—
220	—	—	—	3,03	3,79	4,74	6,06	—	—
240	—	—	—	—	5,11	6,38	8,18	10,2	—
270	—	—	—	—	6,39	7,98	10,20	12,8	—
300	—	—	—	—	8,26	10,32	13,20	16,5	—
330	—	—	—	—	9,35	11,69	14,90	18,7	—
360	—	—	—	—	11,60	14,50	18,50	23,2	—
390	—	—	—	—	14,10	17,62	22,50	28,1	—

1) Approximate values (kg/1 000 pieces), calculated on the basis of 2,8 kg/dm³, given for information purposes only