



**SLOVENSKI STANDARD**  
**SIST EN 2327:2001**  
**01-januar-2001**

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**Aerospace series - Washers, lock with radial serrations in alloy steel - Dimensions**

Aerospace series - Washers, lock with radial serrations in alloy steel - Dimensions

Luft- und Raumfahrt - Sicherungen, radialverzahnt aus legiertem Stahl - Maße

Série aérospatiale - Freins a stries radiales en acier allié - Dimensions

**Ta slovenski standard je istoveten z: EN 2327:1987**

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**ICS:**

49.030.50	Podložke in drugi blokirni elementi	Washers and other locking elements
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**SIST EN 2327:2001**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 2327**

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UDC 629.7.05 : 621.827.1 : 621.882.3 - 59.004.1 : 669.15

Key words : Aircraft industry, flight control, rod ends,  
lock washers, steel, dimensions.

English version

Aerospace series  
Washers, lock with radial serrations  
in alloy steel  
Dimensions

Série aéronautique  
Freins à stries radiales  
en acier allié  
Dimensions

Luft-und Raumfahrt  
Sicherungen, Radialverzahnt  
aus legiertem Stahl  
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**CEN**

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

Central Secretariat : Rue Bréderode 2, B-1000 Brussels

Brief history

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

After enquiries and votes carried out in accordance with the rules of this Association it has successively received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to C.E.N.

According to the Common CEN/CENELEC Rules, following countries are bound to implement this European Standard:

Belgium, France, Germany, Italy, Netherlands, Spanien, United Kingdom.

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## 1 Scope and field of application

This standard specifies the characteristics of lock washers with radial serrations primarily intended for flight control rods.

These lock washers are intended to immobilise the end fitting in relation to the rod body, whilst allowing a precise positional adjustment.

## 2 References

- EN2133, Cadmium plating of steels with a maximum specified tensile strength equal to or less than 1450 MPa, and copper and copper alloys - Aerospace series
- EN2439, Steel FE-PL 62 - 900 MPa  $\leq$  R<sub>m</sub>  $\leq$  1100 MPa - Forgings D<sub>e</sub>  $\leq$  40 mm - Aerospace series

## 3 Required characteristics

### 3.1 Dimensions - Tolerances - Mass

Configuration shall correspond with figures 1, 2 and 3.

The dimensions and masses shall conform with values quoted in tables 1 and 2.

Dimensions apply after cadmium plating.

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### 3.2 Surface roughness

R<sub>a</sub> = 3,2 µm ; this value applies prior to cadmium plating.

### 3.3 Material

Steel EN2439.

### 3.4 Surface treatment

Cadmium EN2133, 10 to 20 µm.

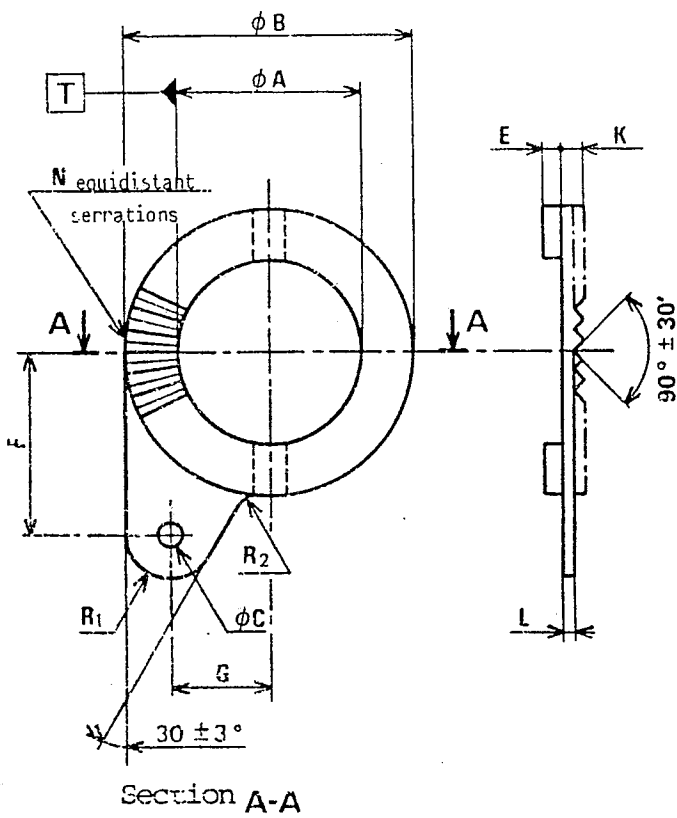


Figure 1  
Element for rod side - Code A

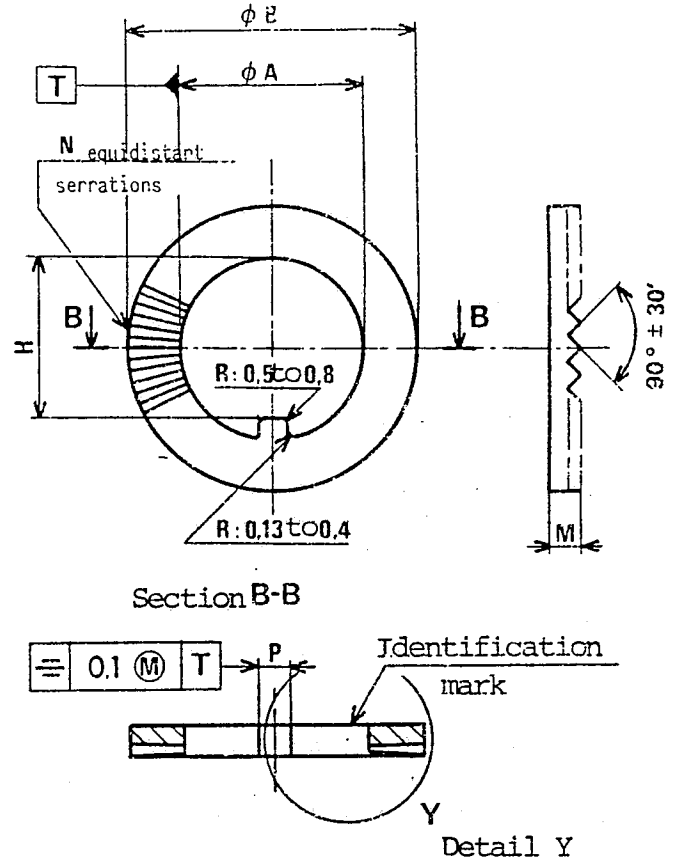


Figure 2  
Element for end fitting side - code B

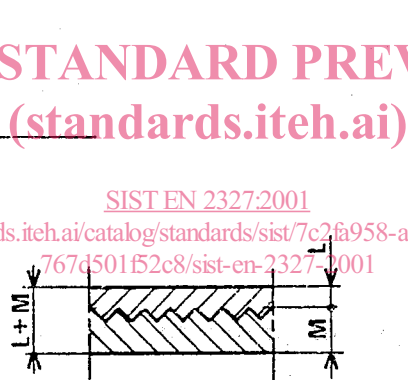


Figure 3

Thickness of lock washer assembly

Table 1

Dimensions in millimetres

Diameter code	A	B	C	D	E	F	G	H	J	K	L	M	P	R1	R2
	+0,1	+0,5 0	+0,25	+0,15	+0,15 -0,25	+0,25	+0,25	-0,15		+0,15	+0,15	+0,15	+0,15	+0,15	+0,15
08	8,2	12,7	1,6	1,3	1,0	8,4	4,0	6,8	0,5	1,1	0,58	-1,8	1,3	2,4	0,70
10	10,2	19,0	1,6	2,0	1,0	12,0	6,5	8,3	0,6	1,4	0,80	2,0	2,0	2,4	2,00
12	12,2	19,0	1,6	2,0	1,2	12,0	6,5	10,5	0,6	1,4	0,80	2,0	2,0	2,4	2,00
14	14,2	22,0	1,8	3,0	1,5	13,0	8,8	12,5	0,6	1,4	0,80	2,3	3,0	2,4	2,00
16	16,3	25,4	1,8	3,0	1,5	14,7	10,0	14,0	0,7	1,6	0,86	2,3	3,0	2,7	1,45

Table 2

Diameter code	N Number of serrations	$\alpha^\circ$		L+M $\pm 0,3$ mm.	Mass lock-washer assembly $\cong$ g
		min.	max.		
08	42	87°21'	88°21'	2,38	1,8
10	50	87°42'	88°42'	2,80	6,0
12	50	87°42'	88°42'	2,80	4,5
14	56	89°20'	90°	3,10	5,8
16	56	89°20'	90°	3,16	9,6

#### 4 Designation

Each lock washer with radial serrations shall only be designated as in the following example :

Description block

WASHER LOCK

Identity block

EN2327A08

Number of EN Standard

A = Code of the element for rod side

08 = Diameter code - See table 1

Meaning of codes used :

A = Lock washer element for rod side

B = Lock washer element for end fitting side

C = Lock washer assembly

NOTE : If necessary, the originator code S9005 may be introduced between the description block and the identity block.

#### 5 Marking

In addition to the manufacturer's mark or symbol, each lock washer element shall be marked by using the identity block shown in clause 4 of this standard.

These markings shall be indelible and shall not impair the characteristics of the lock washer.