

BS EN 6090:2016



BSI Standards Publication

# Aerospace series — Washer, retaining

**National foreword**

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A list of organizations represented on this committee can be obtained on request to its secretary.

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EUROPEAN STANDARD

**EN 6090**

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2016

ICS 49.030.50

English Version

**Aerospace series - Washer, retaining**

Série aérospatiale - Rondelle frein

Luft- und Raumfahrt - Sicherungsscheibe

This European Standard was approved by CEN on 11 March 2016.

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

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## European foreword

This document (EN 6090:2016) 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of an identical text or by endorsement, at the latest by February 2017, and conflicting national standards shall be withdrawn at the latest by February 2017.

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## 1 Scope

This European Standard specifies the dimensions, tolerances, required characteristics and mass of a retaining washer for use in fuselage interior equipment and structural applications.

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

EN 2516, *Aerospace series — Passivation of corrosion resistant steels and decontamination of nickel base alloys*

EN 6095, *Aerospace series — Rotary fasteners — Structural and non-structural applications — Technical specification*<sup>1)</sup>

EN 10151, *Stainless steel strip for springs — Technical delivery conditions*

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

SAE AMS 2700, *Passivation of corrosion resistant steels*<sup>2)</sup>

## 3 Requirements

### 3.1 Configuration, dimensions, tolerances and mass

The configuration, dimensions, tolerances and mass shall conform with Figure 1 to 4 and Table 1.

Dimensions and tolerances are expressed in millimeters.

Tolerances not specified shall be in accordance with ISO 2768-1 (Tolerance class: ISO 2768-m).

All dimensions and tolerances apply after surface treatment.

All burrs to be removed / sharp edges to be broken.

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<sup>1)</sup> In preparation at the date of publication of this standard.

<sup>2)</sup> Published by: Society of Automotive Engineers (SAE), 400 Commonwealth Drive, Warrendale, PA 15096-0001, USA.

Table 1 — Dimensions and mass

Size code	Type	$\alpha_1$	$\alpha_2$	$\varnothing d_1$	$\varnothing d_2$	$\varnothing d_3$	$b$	$t$	Mass (Ref.) kg/1 000pcs
01	A	30°	15°	5,70 $\begin{smallmatrix} +0,20 \\ 0 \end{smallmatrix}$	8,9	11,8 $\begin{smallmatrix} 0 \\ -0,2 \end{smallmatrix}$	0,60	0,25	0,13
10	B			6,20 $\begin{smallmatrix} 0 \\ -0,10 \end{smallmatrix}$					
11				6,45 $\pm 0,05$					
20	C	18°	9°	14,20 $\begin{smallmatrix} 0 \\ -0,10 \end{smallmatrix}$	16,0	19,0 $\begin{smallmatrix} 0 \\ -0,2 \end{smallmatrix}$	—	0,30	0,24
21				D	13°	6,5°		19,75 $\begin{smallmatrix} +0,05 \\ 0 \end{smallmatrix}$	21,8
	20,52 $\begin{smallmatrix} +0,05 \\ 0 \end{smallmatrix}$	22,2							

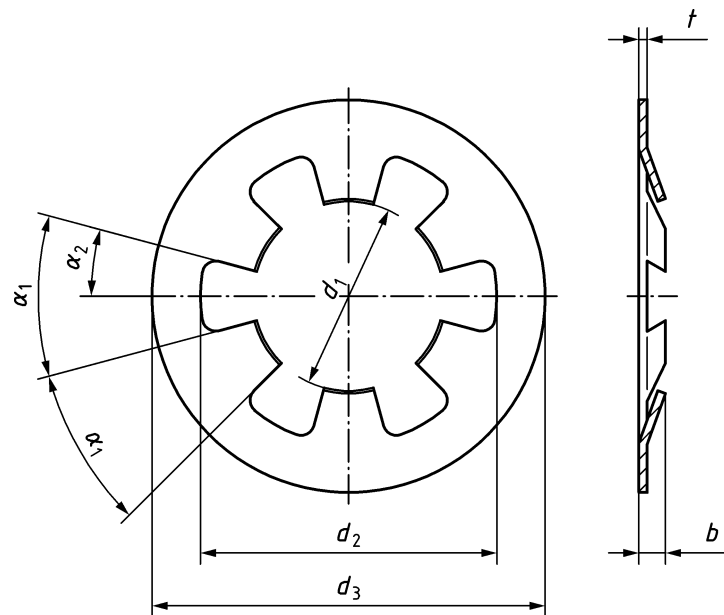


Figure 1 — Configuration type A

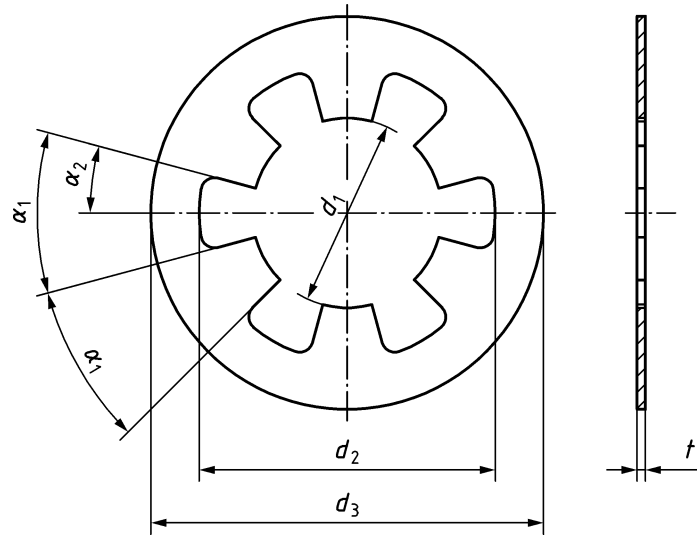


Figure 2 — Configuration type B

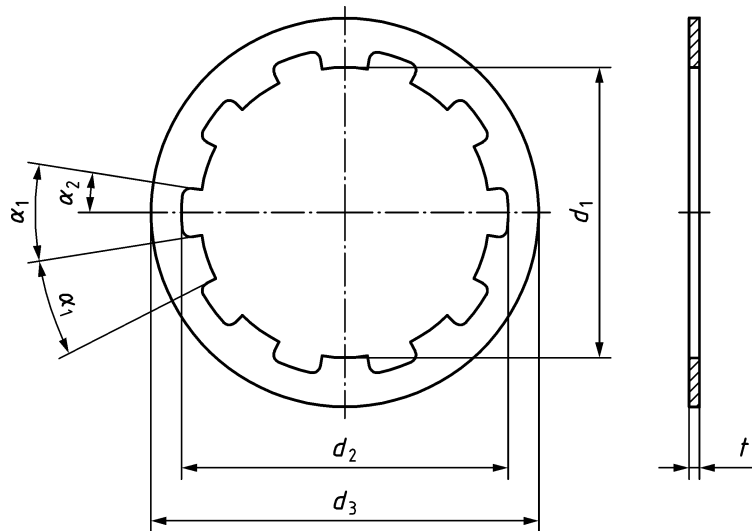


Figure 3 — Configuration type C



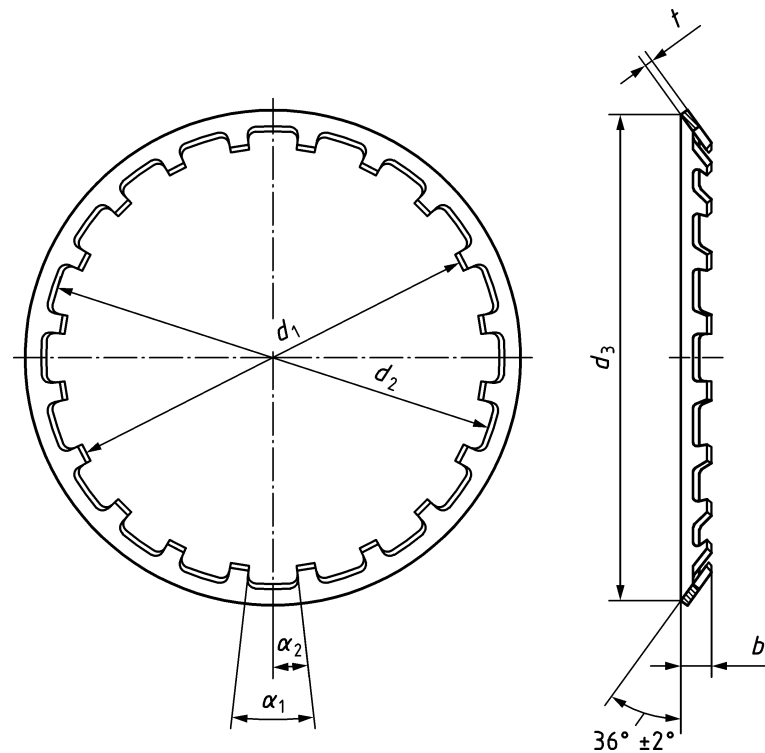


Figure 4 — Configuration type D

### 3.2 Material and surface treatment

See Table 2.

Table 2 — Material and surface treatment

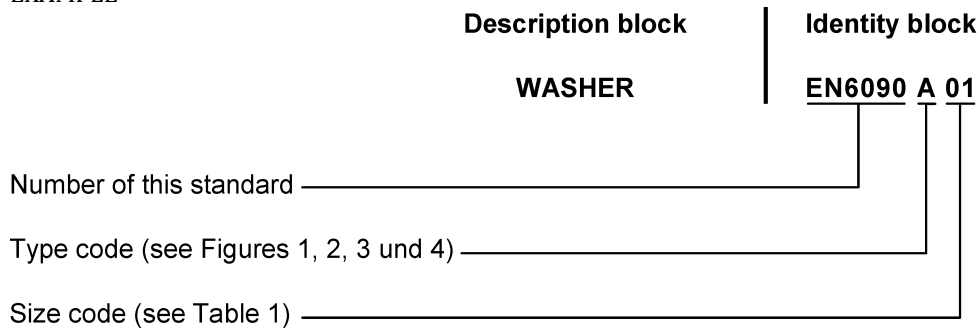
Type code	Material	Surface treatment
A	Corrosion resistant steel 1.4310 + C1500 + 2H per EN 10151	Passivated per AMS 2700 or EN2516
B		
C		
D		

### 3.3 Operating temperature

This washer shall be used in the temperature range of  $-55\text{ }^{\circ}\text{C}$  to  $150\text{ }^{\circ}\text{C}$ .

## 4 Designation

EXAMPLE



NOTE If necessary, the code I9005 shall be placed between the description block and the identity block.

## 5 Marking

EN 2424, style G.

## 6 Technical specification

EN 6095.

## Bibliography

- [1] EN 6088, *Aerospace series — Stud*<sup>1)</sup>
- [2] EN 6089, *Aerospace series — Washer, retaining, for usage with stud EN 6088*<sup>3)</sup>
- [3] EN 6091, *Aerospace series — Circlip*<sup>3)</sup>
- [4] EN 6092, *Aerospace series — Receptacle, floating, double lug*<sup>3)</sup>
- [5] EN 6093, *Aerospace series — Receptacle, floating, single lug*<sup>3)</sup>
- [6] EN 6094, *Aerospace series — Washer, spring, countersunk*<sup>3)</sup>
- [7] EN 6105, *Aerospace series — Stud with shoulder*<sup>1)</sup>

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<sup>3)</sup> Published as ASD Prestandard at the date of publication of this standard.





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