SLOVENSKI STANDARD
SIST EN 4702-05:2018

01-januar-2018

Aeronavtika - Sponční sistemi za hitro sprostitev za nestrukturno uporabo in notranje obloge - 05. del: Zadrževalna podložka

Aerospace series - Quick release fastening systems for non-structural and lining applications - Part 05: Retaining washer

Luft- und Raumfahrt - Schnellverschlusssysteme für nicht-strukturelle und Innenausstattungsanwendungen - Teil 05: Haltescheibe

Série aérospatiale - Fixations rapides filetées pour applications non-structurales et revêtements intérieurs - Partie 05: Rondelle de maintiene

Ta slovenski standard je istoveten z: **EN 4702-05:2017**

ICS:

49.030.50	Podložke in drugi blokirni elementi	Washers and other locking elements

SIST EN 4702-05:2018 **en,fr,de**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 4702-05

October 2017

ICS 49.035

English Version

Aerospace series - Quick release fastening systems for non-structural and lining applications - Part 05: Retaining washer

Série aérospatiale - Fixations rapides filetées pour applications non-structurales et revêtements intérieurs - Partie 05 : Rondelle de maintiene

Luft- und Raumfahrt - Schnellverschlusssysteme für nicht-strukturelle und Innenausstattungsanwendungen - Teil 05: Haltescheibe

This European Standard was approved by CEN on 23 July 2017.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

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

Ref. No. EN 4702-05:2017 E

Contents

Page

European foreword ... **3**

1 Scope ... **4**

2 Normative references ... **4**

3 Requirements ... **5**
3.1 Configuration, dimensions, tolerances and mass ... **5**
3.2 Material and surface treatment ... **6**
3.3 Colour ... **7**

4 Designation ... **7**

5 Marking ... **7**

6 Quality assurance ... **7**
6.1 Supplier certification ... **7**
6.2 Product qualification ... **7**

7 Technical Specification ... **8**

Annex A (normative) **Material** ... **9**

Bibliography ... **11**

European foreword

This document (EN 4702-05:2017) 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 European 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 April 2018, and conflicting national standards shall be withdrawn at the latest by April 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN 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, 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

The standard specifies the dimensions, mass tolerances of quick-release and locking – washers for use in fuselage interior equipment and non-structural or secondary structural area.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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

EN 4710-01, *Aerospace series — Quick release fastening systems for non-structural applications — Part 01: Technical specification*

EN 10088-2, *Stainless steels — Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes*

EN 22768-1:1993, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768-1:1989)*

EN 22768-2:1993, *General tolerances — Part 2: Geometrical tolerances for features without individual tolerance indications (ISO 2768-2:1989)*

EN 62631-3-2, *Dielectric and resistive properties of solid insulating materials — Part 3-2: Determination of resistive properties (DC Methods) — Surface resistance and surface resistivity (IEC 62631-3-2)*

EN ISO 62, *Plastics — Determination of water absorption (ISO 62)*

EN ISO 75-1, *Plastics — Determination of temperature of deflection under load — Part 1: General test method (ISO 75-1)*

EN ISO 75-2, *Plastics — Determination of temperature of deflection under load — Part 2: Plastics and ebonite (ISO 75-2)*

EN ISO 178, *Plastics — Determination of flexural properties (ISO 178)*

EN ISO 179-1, *Plastics — Determination of Charpy impact properties — Part 1: Non-instrumented impact test (ISO 179-1)*

EN ISO 180, *Plastics — Determination of Izod impact strength (ISO 180)*

EN ISO 307, *Plastics — Polyamides — Determination of viscosity number (ISO 307)*

EN ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles (ISO 527-1)*

EN ISO 527-2, *Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2)*

EN ISO 899-1, *Plastics — Determination of creep behaviour — Part 1: Tensile creep (ISO 899-1)*

EN ISO 1043-1, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics (ISO 1043-1)*

EN ISO 1133-1, *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics — Part 1: Standard method (ISO 1133-1)*

EN ISO 1183-1, *Plastics — Methods for determining the density of non-cellular plastics — Part 1: Immersion method, liquid pyknometer method and titration method (ISO 1183-1)*

EN ISO 8497, *Thermal insulation — Determination of steady-state thermal transmission properties of thermal insulation for circular pipes (ISO 8497)*

EN ISO 11357-2, *Plastics — Differential scanning calorimetry (DSC) — Part 2: Determination of glass transition temperature and glass transition step height (ISO 11357-2)*

ISO 11359-1, *Plastics — Thermomechanical analysis (TMA) — Part 1: General principles*

ISO 11359-2, *Plastics — Thermomechanical analysis (TMA) — Part 2: Determination of coefficient of linear thermal expansion and glass transition temperature*

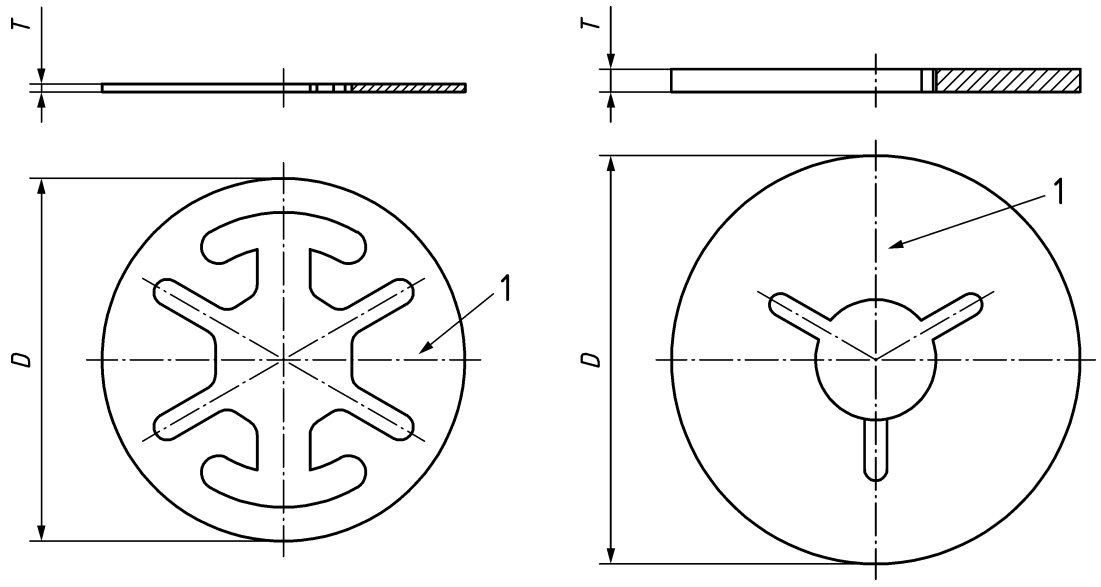
IEC 60250, *Recommended methods for the determination of the permittivity and dielectric dissipation factor of electrical insulating materials at power, audio and radio frequencies including metre wavelengths*

3 Requirements

3.1 Configuration, dimensions, tolerances and mass

The configuration, dimensions, tolerances and mass shall confirm with Figure 1 and Table 1. Tolerances not specified, shall be in accordance with ISO 2768-mK (EN 22768-1:1993 and EN 22768-2:1993). Missing dimensions are left to manufacturer's option.

The applicable temperature range is −55 °C to 85 °C.



A) Type A **B) Type B**

Key

T thickness
D diameter
1 marking

Figure 1 — Retaining washer

Table 1 — Dimension and mass

Type code	Size code	*T* mm	*D* mm	Mass g
A	14	0,35	14	0,34
B	18	1 ± 0,15	18	0,22
B	20		20	0,31
B	25		25	0,50

3.2 Material and surface treatment

Materials shall be in accordance with Table 2.

Table 2 — Material

Type code	Material	Colour
A	Corrosion resistant steel (1.4310, according to EN 10088-2)	blank
B	PA 66	See Table 3

3.3 Colour

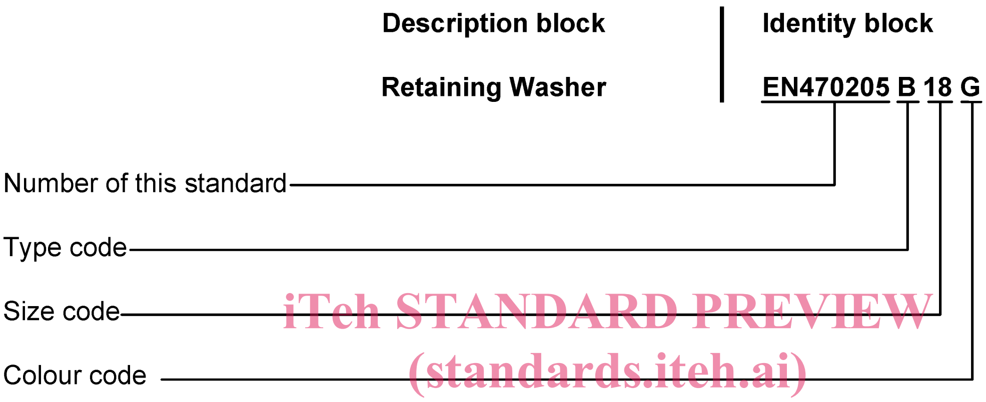
Colour codes are shown in Table 3.

Table 3 — Colour

Colour code	Colour	RAL
G	Clean white	9010
H	Deep black	9005

4 Designation

EXAMPLE



5 Marking

Marking shall be in accordance with EN 2424, Style F.

6 Quality assurance

6.1 Supplier certification

The manufacturer's operations shall be an approved production organization for aerospace products and shall demonstrate that it has implemented and is able to maintain a quality system (e.g. according to EN 9100 or another in aerospace accepted and established quality management system).

6.2 Product qualification

The technical requirements for the product standard qualification are listed in EN 4710-01.

The product qualification shall be performed to the process as defined in e.g. EN 9133 to achieve a qualification approval from the controlling Certification Authority (CA).