Plain washers Normal series - Product grade A

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# **EESTI STANDARDI EESSÕNA**

#### **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 7089:2000 sisaldab Euroopa standardi EN ISO 7089:2000 ingliskeelset teksti.

This Estonian standard EVS-EN ISO 7089:2000 consists of the English text of the European standard EN ISO 7089:2000.

Käesolev dokument on jõustatud 15.11.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. This document is endorsed on 15.11.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.

Standard on kättesaadav Eesti standardiorganisatsioonist.

The standard is available from Estonian standardisation organisation.

#### Käsitlusala:

This International Standard specifies the characteristics of plain washers, normal series, of product grade A, with hardness classes 200 HV and 300 HV and with nominal sizes (nominal thread diameter) from 1,6 mm up to and including 64 mm

#### Scope:

This International Standard specifies the characteristics of plain washers, normal series, of product grade A, with hardness classes 200 HV and 300 HV and with nominal sizes (nominal thread diameter) from 1,6 mm up to and including 64 mm.

ICS 21.060.30

Võtmesõnad:

# **EUROPEAN STANDARD** NORME EUROPÉENNE EUROPÄISCHE NORM

**EN ISO 7089** 

June 2000

21.060.30

## **English version**

## Plain washers - Normal series

Product grade A (ISO 7089: 2000)

Série normale -Grade A (ISO 7089 2000)

Flache Scheiben - Normale Reihe -Produktklasse A (ISO 7089: 2000)

This European Standard was approved by CEN on 2000-06-01.

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, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

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

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

Page 2

EN ISO 7089: 2000

#### **Foreword**

International Standard

ISO 7089: 2000 Plain washers - Normal series - Product grade A,

which was prepared by ISO/TC 2 'Fasteners' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 185 'Threaded and non-threaded mechanical fasteners and accessories', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by December 2000 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

#### **Endorsement notice**

The text of the International Standard ISO 7089 : 2000 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

#### 1 Scope

This International Standard specifies the characteristics of normal-series, product-grade-A plain washers in the 200 HV and 300 HV hardness classes and of nominal sizes (nominal thread diameters) ranging from 1,6 mm to 64 mm inclusive.

Washers of hardness class 200 HV are suitable for

- hexagon bolts and screws of product grades A and B in property classes up to and including 8.8;
- hexagon nuts of product grades A and B in property classes up to and including 8;
- hexagon bolts, screws and nuts of stainless steel of similar chemical composition;
- case-hardened thread rolling screws.

Washers of hardness class 300 HV are suitable for

- hexagon bolts and screws of product grades A and B in property classes up to and including 10.9;
- hexagon nuts of product grades A and B in property classes up to and including to

If dimensions other than those listed in this International Standard are required, they should be selected from those given in ISO 887.

When soft material pieces are clamped, or large clearance holes in the workpiece are used, the user should check the technical suitability of this type of washer.

#### Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 887:2000. Plain washers for metric bolts, screws and nuts for general purposes — General plan.

ISO 3269:2000, Fasteners — Acceptance inspection.

echanical properties of corrosion-resistant stainless-steel fasteners — Part 1: Bolts, screws ISO 3506-1:1997 and studs.

ISO 4042:1999, Fasteners - Electroplated coatings.

for fasteners — Part 3: Plain washers for bolts, screws and nuts — Product grades A ISO 4759-3:2000, Tolerances and C.

ISO 6507-1:1997, Metallic materials — Vickers hardness test — Part 1: Test method.

ISO 10683—1), Fasteners — Non-electrolytically applied zinc flake coatings.

#### **Dimensions** 3

See Figure 1 and Tables 1 and 2.

Dimensions in millimetres, surface roughness values in micrometres for  $h \le 3$ Ra 3,2 for  $3 < h \le 6$ Ø d  $\phi d_2$ 

Figure 1 — Dimensions

<sup>1)</sup> To be published.