

Aerospace series - O-ring grooves - Dimensions

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 3748:2002 sisaldab Euroopa standardi EN 3748:2001 ingliskeelset teksti.	This Estonian standard EVS-EN 3748:2002 consists of the English text of the European standard EN 3748:2001.
Käesolev dokument on jõustatud 16.05.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 16.05.2002 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 standard specifies the dimensions of grooves for use with o-rings according to EN-standards for aerospace applications: - radial sealing: rod or bore mounted o-rings; - axial sealing: internal or external pressure source.	Scope: This standard specifies the dimensions of grooves for use with o-rings according to EN-standards for aerospace applications: - radial sealing: rod or bore mounted o-rings; - axial sealing: internal or external pressure source.
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Võtmesõnad: aeros, air transport, dimensional tolerances, dimensions, keyways, limit deviations, materials, measurement, multilingual, o-rings, plastics, sealing rings, seals, seals : stoppers, space transport, tolerances, tolerances (measurement), toroidal sealing rings

ICS 49.080

English version

Aerospace series - O-ring grooves - Dimensions

Série aéronautique - Gorges pour joints toriques -
Dimensions

Luft- und Raumfahrt - Nuten für O-Ringe - Maße

This European Standard was approved by CEN on 11 August 2001.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

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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 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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2002, and conflicting national standards shall be withdrawn at the latest by May 2002.

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

Contents

	Page
1 Scope.....	3
2 Normative references	3
3 Symbols	3
4 Required characteristics	3
4.1 Configuration - Dimensions - Tolerances.....	3
4.1.1 Radial sealing – Rod housing: Configuration code A	4
4.1.2 Radial sealing – Bore housing: Configuration code B	10
4.1.3 Axial sealing for internal pressure: Configuration code C.....	16
4.1.4 Axial sealing for external pressure: Configuration code D.....	22
5 Designation.....	28
6 Drawing presentation	28
6.1 Configuration code A.....	28
6.2 Configuration code B.....	28
6.3 Configuration code C.....	29
6.4 Configuration code D.....	29

1 Scope

This standard specifies the dimensions of grooves for use with o-rings according to EN-standards for aerospace applications:

- radial sealing: rod or bore mounted o-rings;
- axial sealing: internal or external pressure source.

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 (including amendments).

ISO 286-2	ISO system of limits and fits – Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts
EN 3049	Aerospace series – O-rings, in fluorocarbon rubber (FKM), low compression set – Hardness 80 IRHD
EN 3746	Aerospace series – O-rings, in fluorosilicone rubber (FVMQ) – Hardness 80 IRHD ¹⁾
TR 4271	Aerospace series – O-rings grooves – Design criteria for o-ring grooves – Basic calculations ²⁾

3 Symbols

b	: o-ring groove width
d_1	: o-ring inside diameter
d_2	: o-ring section diameter
d_3	: o-ring groove diameter, rod mounted
d_4	: bore diameter, rod mounted
d_5	: rod outside diameter, bore mounted
d_6	: o-ring groove diameter, bore mounted
d_7	: o-ring groove outside diameter, internal pressure
d_8	: o-ring groove inside diameter, external pressure
d_9	: rod outside diameter, rod mounted
d_{10}	: bore diameter, bore mounted
h	: groove height
R	: edge radius on groove
r_1	: corner radius on groove
t	: housing depth
Z	: lead-in chamfer length

4 Required characteristics

4.1 Configuration - Dimensions - Tolerances

Only recommended sizes are given in the tables. They are applicable to EN 3049 and EN 3746. For other groove or o-ring, refer to TR 4271.

Dimensions and tolerances are in millimetres. Surface roughness values are in micrometres.

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

2) Published as AECMA Technical Report at the date of publication of this standard