



SLOVENSKI STANDARD
SIST EN 3746:2009

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SIST EN 3746:2004

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Aerospace series - O-rings, in fluorosilicone rubber (FVMQ) - Hardness 80 IRHD

Luft- und Raumfahrt - O-Ringe aus Fluorsilikon-Elastomer (FVMQ) - Härte 80 IRHD

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Ta slovenski standard je istoveten z: ~~SIST EN 3746:2007~~ EN 3746:2007

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ICS:

49.025.40 Guma in polimerni materiali Rubber and plastics

SIST EN 3746:2009

en,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3746

June 2007

ICS 49.025.40

Supersedes EN 3746:2003

English Version

Aerospace series - O-rings, in fluorosilicone rubber (FVMQ) - Hardness 80 IRHD

This European Standard was approved by CEN on 11 September 2003.

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 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 Management Centre has the same status as the official versions.

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

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Foreword

This document (EN 3746:2007) 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of an identical text or by endorsement, at the latest by December 2007, and conflicting national standards shall be withdrawn at the latest by December 2007.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 3746:2003.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 3746:2007 (E)**1 Scope**

This standard specifies the characteristics of O-rings in fluorosilicone rubber FVMQ, hardness 80 IRHD, for aerospace applications.

They are intended to be used in air, mineral/synthetic oil and fuel systems.

Operating conditions – Temperature:

- a) Continuous operation: – 55 °C to 150 °C;
- b) Intermittent service: – 55 °C to 200 °C.

Limitation:

not to be used with phosphoric ester type hydraulic fluids (permanent or temporary immersion).

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 3601-1, *Fluid power systems — O-rings — Part 1: Inside diameters, cross-sections, tolerances and size identification code.*

EN 2751, *Aerospace series — Storage conditions for rubber products — Requirements for storage, cleaning and maintenance.* ¹⁾

EN 3747, *Aerospace series — O-rings, in fluorosilicone rubber (FVMQ) — Technical specification.*

EN 3827, *Aerospace series — Fluorosilicone rubber (FVMQ) — Hardness 80 IRHD.* ²⁾

3 Required characteristics**3.1 Configuration – Dimensions – Tolerances – Masses**

See Figures 1 to 5 and Tables 1 to 5.

Dimensions and tolerances are in millimetres.

3.2 Material

EN 3827

1) In preparation at the date of publication of this standard.

2) Published as ASD Prestandard at the date of publication of this standard.

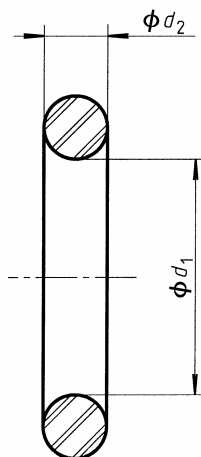


Figure 1

Table 1

Section diameter $d_2 = 1,8 \pm 0,08^a$ Code A											
d_1			Mass ^b	d_1			Mass ^b	d_1			Mass ^b
Code	nom.	Tol. \pm		Code	nom.	Tol. \pm		Code	nom.	Tol. \pm	
0018	1,8	0,13	0,04	0100	10,0	0,15	0,135	0365	36,5	0,31	0,45
0020	2,0			0106	10,6	0,14		0375	37,5	0,32	
0022	2,24		0,05	0112	11,2	0,16	0,15	0387	38,7		0,32
0025	2,5			0118	11,8	0,16	0,16	0400	40,0	0,33	0,49
0028	2,8		0,055	0125	12,5	0,17	0,165	0412	41,2	0,34	0,50
0031	3,15			0132	13,2	0,17	0,17	0425	42,5	0,35	0,51
0035	3,55		0,06	0140	14,0	0,18	0,18	0437	43,7		0,525
0037	3,75			0150	15,0		0,19	0,19	0450	45,0	0,36
0040	4,0		0,07	0160	16,0	0,19	0,20	0475	47,5	0,38	0,57
0045	4,5			0170	17,0	0,20	0,22	0500	50,0	0,39	0,60
0048	4,87		0,08	0180	18,0		0,20	0,23	0530	53,0	0,41
0050	5,0			0190	19,0	0,21	0,24	0560	56,0	0,42	0,67
0051	5,15		0,09	0200	20,0		0,21	0,25	0600	60,0	0,45
0053	5,3			0212	21,2	0,22	0,27	0630	63,0	0,46	0,75
0056	5,6		0,10	0224	22,4	0,23	0,28	0670	67,0	0,49	0,80
0060	6,0			0236	23,6	0,24	0,30	0710	71,0	0,51	0,85
0063	6,3		0,11	0250	25,0		0,24	0,31	0750	75,0	0,53
0067	6,7			0258	25,8	0,25	0,32	0800	80,0	0,56	0,95
0069	6,9		0,12	0265	26,5		0,25	0,33	0850	85,0	0,59
0071	7,1			0280	28,0	0,26	0,345	0900	90,0	0,62	1,07
0075	7,5	0,125	0300	30,0	0,27	0,37	0950	95,0	0,64	1,12	
0080	8,0		0315	31,5	0,28	0,38	1000	100,0	0,67	1,18	
0085	8,5	0,15	0325	32,5	0,29	0,40	1060	106,0	0,71	1,25	
0087	8,75		0335	33,5		0,29	0,41	1120	112,0	0,74	1,32
0090	9,0	0,13	0345	34,5	0,30	0,42	1180	118,0	0,77	1,39	
0095	9,5		0355	35,5	0,31	0,43	1250	125,0	0,81	1,47	

^a Conforms to ISO 3601-1.

^b Mass \approx kg/1 000 pieces.

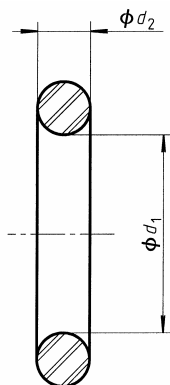


Figure 2

Table 2

Section diameter $d_2 = 2,65 \pm 0,09$ ^a											
Code B											
d_1			Mass ^b	d_1			Mass ^b	d_1			Mass ^b
Code	nom.	Tol. \pm		Code	nom.	Tol. \pm		Code	nom.	Tol. \pm	
0045	4,5	0,13	0,18	0315	31,5	0,28	0,85	0710	71,0	0,51	1,85
0053	5,3		0,20	0325	32,5	0,29	0,89	0730	73,0	0,52	1,90
0060	6,0		0,22	0335	33,5		0,91	0750	75,0	0,53	1,95
0069	6,9	0,14	0,24	0345	34,5	0,30	0,93	0800	80,0	0,56	2,07
0080	8,0		0,27	0355	35,5		0,31	0,96	0850	85,0	0,59
0090	9,0	0,15	0,29	0365	36,5	0,98		0900	90,0	0,62	2,32
0095	9,5		0,31	0375	37,5	0,32		1,01	0950	95,0	0,64
0100	10,0		0,32	0387	38,7		1,03	1000	100,0	0,67	2,58
0106	10,6	0,16	0,33	0400	40,0	0,33	1,07	1060	106,0	0,71	2,73
0112	11,2		0,345	0412	41,2	0,34	1,10	1120	112,0	0,74	2,80
0118	11,8		0,36	0425	42,5	0,35	1,14	1180	118,0	0,77	3,02
0125	12,5	0,39	0437	43,7	1,16		1250	125,0	0,81	3,21	
0132	13,2	0,17	0,40	0450	45,0	0,36	1,20	1320	132,0	0,85	3,38
0140	14,0		0,405	0462	46,2	0,37	1,22	1400	140,0	0,89	3,58
0150	15,0	0,18	0,45	0475	47,5	0,38	1,26	1500	150,0	0,95	3,83
0160	16,0		0,47	0487	48,7		1,28	1600	160,0	1,00	4,08
0170	17,0	0,19	0,49	0500	50,0	0,39	1,32	1700	170,0	1,06	4,33
0180	18,0	0,2	0,52	0515	51,5	0,40	1,36	1800	180,0	1,11	4,58
0190	19,0		0,54	0530	53,0	0,41	1,39	1900	190,0	1,17	4,83
0200	20,0	0,21	0,57	0545	54,5	0,42	1,43	2000	200,0	1,22	5,09
0212	21,2		0,60	0560	56,0		1,47	2120	212,0	1,29	5,38
0224	22,4	0,23	0,63	0580	58,0	0,44	1,53	2240	224,0	1,35	5,69
0236	23,6	0,24	0,66	0600	60,0	0,45	1,57	2300	230,0	1,39	5,84
0250	25,0		0,70	0615	61,5		1,61	2360	236,0	1,42	6,00
0258	25,8	0,25	0,71	0630	63,0	0,46	1,65	2430	243,0	1,46	6,17
0265	26,5		0,73	0650	65,0	0,48	1,70	2500	250,0	1,49	6,34
0280	28,0	0,26	0,77	0670	67,0	0,49	1,75				
0300	30,0	0,27	0,82	0690	69,0	0,50	1,80				

^a Conforms to ISO 3601-1.

^b Mass \approx kg/1 000 pieces.

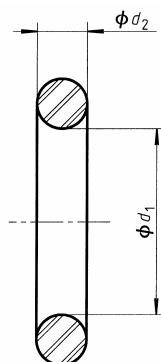


Figure 3

Table 3

Section diameter $d_2 = 3,55 \pm 0,10^a$															
Code C															
d_1			Mass ^b	d_1			Mass ^b	d_1			Mass ^b	d_1			Mass ^b
Code	nom.	Tol. \pm		Code	nom.	Tol. \pm		Code	nom.	Tol. \pm		Code	nom.	Tol. \pm	
0140	14,0	0,18	0,79	0400	40,0	0,33	1,97	0775	77,5	0,55	3,67	1650	165,0	1,03	7,62
0150	15,0		0,84	0412	41,2	0,34	2,02	0800	80,0	0,56	3,78	1700	170,0	1,06	7,85
0160	16,0	0,19	0,88	0425	42,5	0,35	2,08	0825	82,5	0,57	3,89	1750	175,0	1,09	8,07
0170	17,0	0,20	0,93	0437	43,7		2,14	0,59	4,00	1800	180,0	1,11	8,30		
0180	18,0		0,97	0450	45,0	0,36	2,19	0875	87,5	0,60	4,11	1850	185,0	1,14	8,53
0190	19,0	0,21	1,02	0462	46,2	0,37	2,25	0900	90,0	0,62	4,23	1900	190,0	1,17	8,75
0200	20,0		1,06	0475	47,5	0,38	2,30	0925	92,5	0,63	4,34	1950	195,0	1,20	8,97
0212	21,2	0,22	1,12	0487	48,7	0,39	2,36	0950	95,0	0,64	4,45	2000	200,0	1,22	9,20
0224	22,4	0,23	1,18	0500	50,0	0,39	2,42	0975	97,5	0,66	4,57	2120	212,0	1,29	9,74
0236	23,6	0,24	1,23	0515	51,5	0,40	2,48	1000	100,0	0,67	4,68	2240	224,0	1,35	10,29
0250	25,0		1,29	0530	53,0	0,41	2,55	1030	103,0	0,69	4,82	2300	230,0	1,39	10,56
0258	25,8	0,25	1,32	0545	54,5	0,42	2,62	1060	106,0	0,71	4,95	2360	236,0	1,42	10,83
0265	26,5		1,36	0560	56,0		2,69	1090	109,0	0,72	5,09	2500	250,0	1,49	11,47
0280	28,0	0,26	1,43	0580	58,0	0,44	2,78	1120	112,0	0,74	5,23	2580	258,0	1,54	11,81
0300	30,0	0,27	1,52	0600	60,0	0,45	2,88	1150	115,0	0,76	5,36	2660	266,0	1,57	12,14
0315	31,5	0,28	1,58	0615	61,5		2,94	1180	118,0	0,77	5,50	2800	280,0	1,65	12,82
0325	32,5	0,29	1,63	0630	63,0	0,46	3,00	1220	122,0	0,80	5,67	2900	290,0	1,71	13,28
0335	33,5		1,68	0650	65,0	0,48	3,10	1250	125,0	0,81	5,82	3000	300,0	1,76	13,72
0345	34,5	0,30	1,72	0670	67,0	0,49	3,19	1280	128,0	0,83	5,95	3150	315,0	1,84	14,40
0355	35,5	0,31	1,76	0690	69,0	0,50	3,28	1320	132,0	0,85	6,13	3350	335,0	1,95	15,30
0365	36,5		1,81	0710	71,0	0,51	3,37	1360	136,0	0,87	6,31	3550	355,0	2,06	16,21
0375	37,5	0,32	1,86	0730	73,0	0,52	3,46	1400	140,0	0,89	6,49				
0387	38,7		1,91	0750	75,0	0,53	3,55	1450	145,0	0,92	6,72				

^a Conforms to ISO 3601-1.

^b Mass \approx kg/1 000 pieces.