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AS5729™

RATIONALE

FEDERAL SUPPLY CLASS
5331

REVISION B OF THIS DOCUMENT REFLECTS VARIOUS TECHNICAL AND EDITORIAL CORRECTIONS AND IMPROVEMENTS IDENTIFIED DURING ITS FIVE-YEAR REVIEW.

1. SCOPE

THIS STANDARD ESTABLISHES THE DIMENSIONAL AND VISUAL QUALITY REQUIREMENTS, LOT REQUIREMENTS AND PACKAGING AND LABELING REQUIREMENTS FOR O-RINGS MOLDED FROM AMS7379 FLUOROCARBON (FKM) RUBBER. IT SHALL BE USED FOR PROCUREMENT PURPOSES.

1.1 APPLICATION

THIS MATERIAL HAS EXHIBITED EXCELLENT LOW TEMPERATURE FUNCTIONALITY ALONG WITH RESISTANCE TO A VARIETY OF GAS TURBINE ENGINE OILS, INCLUDING HIGH THERMAL STABILITY (HTS) OILS, FUELS, AND HYDRAULIC FLUIDS, BUT USAGE IS NOT LIMITED TO SUCH APPLICATIONS. THIS MATERIAL HAS A TYPICAL SERVICE TEMPERATURE RANGE OF -50 TO +400 °F (-45 TO +204 °C). THE SERVICE TEMPERATURE RANGE OF THE MATERIAL IS A GENERAL TEMPERATURE RANGE, BUT THE PRESENCE OF PARTICULAR FLUIDS AND DESIGN PARAMETERS MAY MODIFY THIS RANGE. EACH APPLICATION SHOULD BE CONSIDERED SEPARATELY. IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THAT THIS SPECIFICATION IS APPROPRIATE FOR THE ENVIRONMENTS (TEMPERATURE RANGE, FLUIDS EXPOSURE, ETC.) IN WHICH IT IS SOUGHT TO BE USED.

2. APPLICABLE REFERENCES

THE FOLLOWING PUBLICATIONS FORM A PART OF THIS DOCUMENT TO THE EXTENT SPECIFIED HEREIN. THE LATEST ISSUE OF SAE PUBLICATIONS SHALL APPLY. THE APPLICABLE ISSUE OF OTHER PUBLICATIONS SHALL BE THE ISSUE IN EFFECT ON THE DATE OF THE PURCHASE ORDER. IN THE EVENT OF CONFLICT BETWEEN THE TEXT OF THIS DOCUMENT AND REFERENCES CITED HEREIN, THE TEXT OF THIS DOCUMENT TAKES PRECEDENCE. NOTHING IN THIS DOCUMENT, HOWEVER, SUPERSEDES APPLICABLE LAWS AND REGULATIONS UNLESS A SPECIFIC EXEMPTION HAS BEEN OBTAINED.

2.1 SAE PUBLICATIONS

AVAILABLE FROM SAE, 400 COMMONWEALTH DRIVE, WARRENDALE, PA 15096-0001, TEL: 877-606-7323 (INSIDE U.S. AND CANADA) OR +1 724-776-4970 (OUTSIDE U.S.), [WWW.SAE.ORG](http://www.sae.org)

AMS2817 PACKAGING AND IDENTIFICATION OF MOLDED ELASTOMERIC SEALS AND SEALING COMPONENTS

AMS7379 RUBBER, FLUROCARBON ELASTOMER (FKM) LOW TEMPERATURE SEALING TG -40 °F (-40 °C) 70 TO 80 TYPE "A" HARDNESS FOR ELASTOMER SEALS IN AIRCRAFT ENGINE OIL, FUEL AND HYDRAULICS SYSTEMS

AS5316 STORAGE OF ELASTOMERS AND SEAL ASSEMBLIES WHICH INCLUDE AN ELASTOMER ELEMENT BEFORE THE HARDWARE ASSEMBLY

AS5798 AEROSPACE SIZE STANDARD FOR OVERSIZE O-RINGS

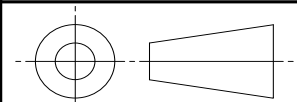
2.2 ASQ PUBLICATIONS

AVAILABLE FROM AMERICAN SOCIETY FOR QUALITY, 600 NORTH PLANKINTON AVENUE, MILWAUKEE, WI 53203 OR [WWW.ASQ.ORG](http://www.asq.org).

ANSI/ASQ Z1.4 SAMPLING PROCEDURES AND TABLES FOR INSPECTION BY ATTRIBUTES

For more information on this standard, visit
<https://www.sae.org/standards/content/AS5729B/>

THIRD ANGLE PROJECTION



CUSTODIAN: A-6/A-6C2

PROCUREMENT SPECIFICATION: NONE



AEROSPACE STANDARD

O-RING MOLDED FROM AMS7379
FLUOROCARBON (FKM) MATERIAL

AS5729™
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2.3 ASME PUBLICATIONS

AVAILABLE FROM ASME, TWO PARK AVENUE, NEW YORK, NY 10016-5990, TEL: +1 800-843-2763,
WWW.CUSTOMERCARE@ASME.ORG.

ASME Y14.5-1994 DIMENSIONING AND TOLERANCING REQUIREMENTS

2.4 ASTM PUBLICATIONS

AVAILABLE FROM ASTM INTERNATIONAL, 100 BARR HARBOR DRIVE, P.O. BOX C700, WEST CONSHOHOCKEN, PA 19428-2959, TEL: 610-832-9585, WWW.ASTM.ORG.

ASTM D910 STANDARD SPECIFICATION FOR LEADED AVIATION GASOLINES

ASTM D1655 STANDARD SPECIFICATION FOR AVIATION TURBINE FUELS

2.5 ISO PUBLICATIONS

COPIES OF THESE DOCUMENTS ARE AVAILABLE ONLINE AT [HTTPS://WEBSTORE.ANSI.ORG](https://webstore.ansi.org).

ISO 3601-1 FLUID POWER SYSTEMS - O-RINGS - PART 1: INSIDE DIAMETERS, CROSS-SECTIONS, TOLERANCES AND DESIGNATION CODES

ISO 3601-3 FLUID POWER SYSTEMS - O-RINGS - PART 3: QUALITY ACCEPTANCE CRITERIA

2.6 U.S. GOVERNMENT PUBLICATIONS

COPIES OF THESE DOCUMENTS ARE AVAILABLE ONLINE AT [HTTPS://QUICKSEARCH.DLA.MIL](https://quicksearch.dla.mil).

MIL-DTL-5624 TURBINE FUEL, AVIATION, GRADES JP-4 AND JP-5

MIL-DTL-83133 TURBINE FUEL, AVIATION, KEROSENE TYPE, JP-8 (NATO F-34), NATO F-35, AND JP-8+100 (NATO F-37)

MIL-PRF-5606 HYDRAULIC FLUID, PETROLEUM BASE; AIRCRAFT, MISSILE, AND ORDNANCE

MIL-PRF-7808 LUBRICATING OIL, AIRCRAFT TURBINE ENGINE, SYNTHETIC BASE

MIL-PRF-23699 LUBRICATING OIL, AIRCRAFT TURBINE ENGINE, SYNTHETIC BASE, NATO CODE NUMBERS: O-152, O-154, O-156, AND O-167

MIL-PRF-83282 HYDRAULIC FLUID, FIRE RESISTANT, SYNTHETIC HYDROCARBON BASE, METRIC, NATO CODE NUMBER H-537

MIL-PRF-87257 HYDRAULIC FLUID, FIRE RESISTANT, LOW TEMPERATURE, SYNTHETIC HYDROCARBON BASE, AIRCRAFT AND MISSILE

2.7 UK MINISTRY OF DEFENCE STANDARDS

AVAILABLE FROM UK DEFENCE STANDARDIZATION, KENSINGTON HOUSE, ROOM 1138, 65 BROWN STREET, GLASGOW G2 8EX, UNITED KINGDOM WWW.GOV.UK.

DEF STAN 91-91 TURBINE FUEL, KEROSENE TYPE, JET A-1 NATO CODE: F-35

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	O-RING MOLDED FROM AMS7379 FLUOROCARBON (FKM) MATERIAL	SHEET 2 OF 13	Documents

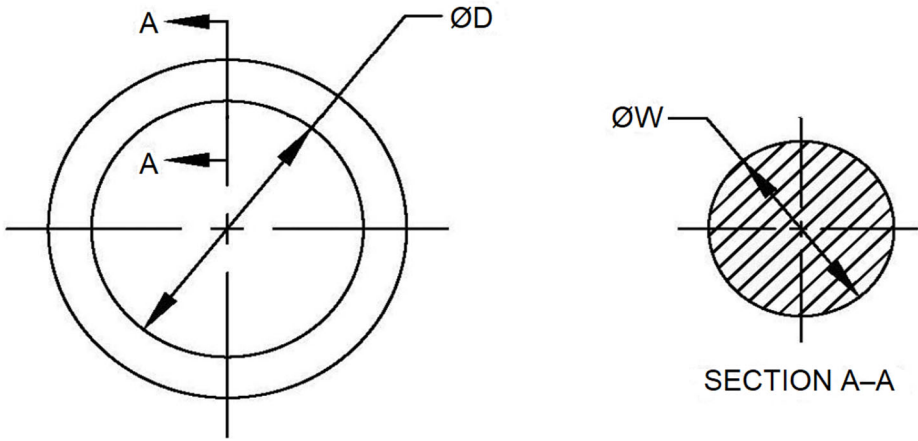


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3. O-RING PART NUMBERS, DIMENSIONS, AND MASSES

FIGURE 1 ILLUSTRATES THE O-RING DIMENSIONS THAT ARE USED IN THIS STANDARD.

TABLE 1 PROVIDES THE PART NUMBERS, DIMENSIONS AND APPROXIMATE MASSES FOR AEROSPACE STANDARD SIZE O-RINGS.



NOTE: DIMENSIONS AND TOLERANCES AS PER ASME Y14.5-1994

FIGURE 1 - O-RING DIMENSIONS: WIDTH (ØW) AND INSIDE DIAMETER (ØD)

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TABLE 1 - AEROSPACE SIZE STANDARDS FOR O-RINGS

BASIC NO. AS5729 11/12/ SIZE CODE	ØD INCH MIN	ØD INCH MAX	ØD (mm) MIN	ØD (mm) MAX	ØW INCH MIN	ØW INCH MAX	ØW (mm) MIN	ØW (mm) MAX	APPROX MASS LB/100	APPROX MASS (KG/100)
001	.025	.033	0.64	0.84	.037	.043	0.94	1.09	0.002	0.001
002	.038	.046	0.97	1.17	.047	.053	1.19	1.35	0.003	0.001
003	.052	.060	1.32	1.52	.057	.063	1.45	1.60	0.005	0.002
004	.065	.075	1.65	1.91	.067	.073	1.70	1.85	0.007	0.003
005	.096	.106	2.44	2.69	.067	.073	1.70	1.85	0.008	0.004
006	.109	.119	2.77	3.02	.067	.073	1.70	1.85	0.009	0.004
007	.140	.150	3.56	3.81	.067	.073	1.70	1.85	0.009	0.004
008	.171	.181	4.34	4.60	.067	.073	1.70	1.85	0.010	0.005
009	.203	.213	5.16	5.41	.067	.073	1.70	1.85	0.011	0.005
010	.234	.244	5.94	6.20	.067	.073	1.70	1.85	0.012	0.005
011	.296	.306	7.52	7.77	.067	.073	1.70	1.85	0.013	0.006
012	.359	.369	9.12	9.37	.067	.073	1.70	1.85	0.015	0.007
013	.421	.431	10.69	10.95	.067	.073	1.70	1.85	0.017	0.008
014	.484	.494	12.29	12.55	.067	.073	1.70	1.85	0.018	0.008
015	.544	.558	13.82	14.17	.067	.073	1.70	1.85	0.020	0.009
016	.605	.623	15.37	15.82	.067	.073	1.70	1.85	0.021	0.010
017	.667	.685	16.94	17.40	.067	.073	1.70	1.85	0.023	0.010
018	.730	.748	18.54	19.00	.067	.073	1.70	1.85	0.025	0.011
019	.792	.810	20.12	20.57	.067	.073	1.70	1.85	0.026	0.012
020	.855	.873	21.72	22.17	.067	.073	1.70	1.85	0.028	0.013
021	.917	.935	23.29	23.75	.067	.073	1.70	1.85	0.029	0.013
022	.979	.999	24.87	25.37	.067	.073	1.70	1.85	0.031	0.014
023	1.041	1.061	26.44	26.95	.067	.073	1.70	1.85	0.033	0.015
024	1.104	1.124	28.04	28.55	.067	.073	1.70	1.85	0.034	0.016
025	1.165	1.187	29.59	30.15	.067	.073	1.70	1.85	0.036	0.016
026	1.228	1.250	31.19	31.75	.067	.073	1.70	1.85	0.037	0.017
027	1.290	1.312	32.77	33.32	.067	.073	1.70	1.85	0.039	0.018
028	1.351	1.377	34.32	34.98	.067	.073	1.70	1.85	0.041	0.018
029	1.476	1.502	37.49	38.15	.067	.073	1.70	1.85	0.044	0.020
030	1.601	1.627	40.67	41.33	.067	.073	1.70	1.85	0.047	0.021
031	1.724	1.754	43.79	44.55	.067	.073	1.70	1.85	0.050	0.023
032	1.849	1.879	46.96	47.73	.067	.073	1.70	1.85	0.053	0.024
033	1.971	2.007	50.06	50.98	.067	.073	1.70	1.85	0.057	0.026
034	2.096	2.132	53.24	54.15	.067	.073	1.70	1.85	0.060	0.027
035	2.221	2.257	56.41	57.33	.067	.073	1.70	1.85	0.063	0.029
036	2.346	2.382	59.59	60.50	.067	.073	1.70	1.85	0.066	0.030
037	2.471	2.507	62.76	63.68	.067	.073	1.70	1.85	0.069	0.032
038	2.594	2.634	65.89	66.90	.067	.073	1.70	1.85	0.073	0.033
039	2.719	2.759	69.06	70.08	.067	.073	1.70	1.85	0.076	0.035
040	2.844	2.884	72.24	73.25	.067	.073	1.70	1.85	0.079	0.036
041	2.965	3.013	75.31	76.53	.067	.073	1.70	1.85	0.082	0.037
042	3.215	3.263	81.66	82.88	.067	.073	1.70	1.85	0.089	0.040
043	3.465	3.513	88.01	89.23	.067	.073	1.70	1.85	0.095	0.043
044	3.712	3.766	94.28	95.66	.067	.073	1.70	1.85	0.102	0.046
045	3.962	4.016	100.63	102.01	.067	.073	1.70	1.85	0.108	0.049
046	4.209	4.269	106.91	108.43	.067	.073	1.70	1.85	0.114	0.052
047	4.459	4.519	113.26	114.78	.067	.073	1.70	1.85	0.121	0.055
048	4.709	4.769	119.61	121.13	.067	.073	1.70	1.85	0.127	0.058
049	4.952	5.026	125.78	127.66	.067	.073	1.70	1.85	0.134	0.061
050	5.202	5.276	132.13	134.01	.067	.073	1.70	1.85	0.140	0.064



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