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REV. C
AS29512™

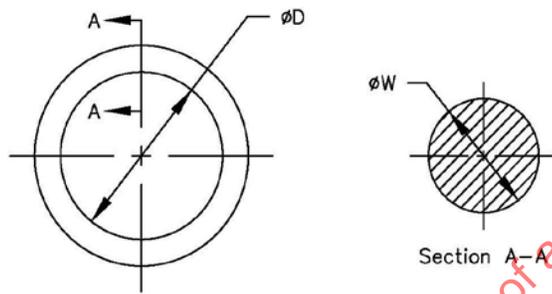
FEDERAL SUPPLY CLASS
5331

RATIONALE

THIS STANDARD HAS BEEN REVISED TO INCORPORATE MINOR TECHNICAL CHANGES.

FOREWORD

THIS STANDARD ESTABLISHES THE DIMENSIONAL AND VISUAL QUALITY REQUIREMENTS, LOT REQUIREMENTS AND PACKAGING AND LABELING REQUIREMENTS FOR O-RINGS MOLDED FROM AMS-P-5315 RUBBER. IT SHALL BE USED FOR PROCUREMENT PURPOSES.

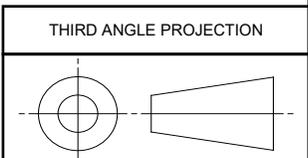


NOTE: DIMENSION AND TOLERANCING PER ASME Y14.5

FIGURE 1 - O-RING - WIDTH ($\varnothing W$) AND INSIDE ($\varnothing D$) DIAMETERS

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<https://www.sae.org/standards/content/AS29512C>



CUSTODIAN: A-6/A-6C2		PROCUREMENT SPECIFICATION: NONE	
	AEROSPACE STANDARD		AS29512™ SHEET 1 OF 4
	HYDROCARBON FUEL RESISTANT, TUBE FITTING, O-RING MOLDED FROM AMS-P-5315 RUBBER		

ISSUED 2001-03 REVISED 2016-10 REAFFIRMED 2021-11

TABLE 1 - PART NUMBERS AND DIMENSIONS

PART NUMBER	NOMINAL TUBE OUTSIDE DIAMETER		ØD		ØW		APPROX. MASS	
	(IN)	(MM)	(IN)	(MM)	(IN)	(MM)	(LB/100)	(KG/100)
MS29512-01	.094	2.381	.180 / .190	4.572 / 4.826	.053 / .059	1.346 / 1.499	.009	0.004
MS29512-02	.125	3.175	.234 / .244	5.944 / 6.198	.061 / .067	1.549 / 1.702	.014	0.007
MS29512-03	.188	4.775	.295 / .306	7.493 / 7.772	.061 / .067	1.549 / 1.702	.017	0.009
MS29512-04	.250	6.350	.346 / .356	8.788 / 9.042	.069 / .075	1.753 / 1.905	.025	0.011
MS29512-05	.313	7.950	.409 / .419	10.389 / 10.643	.069 / .075	1.753 / 1.905	.029	0.013
MS29512-06	.375	9.525	.463 / .473	11.760 / 12.014	.075 / .081	1.905 / 2.057	.038	0.017
MS29512-07	.438	11.113	.525 / .535	13.335 / 13.589	.079 / .085	2.007 / 2.159	.047	0.021
MS29512-08	.500	12.700	.639 / .649	16.231 / 16.485	.084 / .090	2.134 / 2.286	.063	0.028
MS29512-09	.563	14.288	.701 / .711	17.805 / 18.059	.094 / .100	2.388 / 2.540	.086	0.039
MS29512-10	.625	15.875	.750 / .760	19.050 / 19.304	.094 / .100	2.388 / 2.540	.091	0.041
MS29512-11	.688	17.463	.858 / .868	21.793 / 22.047	.112 / .120	2.845 / 3.048	.150	0.068
MS29512-12	.750	19.050	.918 / .930	23.317 / 23.622	.112 / .120	2.845 / 3.048	.158	0.076
MS29512-13	.813	20.638	.980 / .992	24.892 / 25.197	.112 / .120	2.845 / 3.048	.168	0.080
MS29512-14	.875	22.225	1.041 / 1.053	26.441 / 26.746	.112 / .120	2.845 / 3.048	.178	0.080
MS29512-16	1.000	25.400	1.165 / 1.177	29.591 / 29.896	.112 / .120	2.845 / 3.048	.196	0.088
MS29512-18	1.125	28.575	1.349 / 1.361	34.265 / 34.569	.112 / .120	2.845 / 3.048	.225	0.101
MS29512-20	1.250	31.750	1.465 / 1.485	37.211 / 37.719	.114 / .122	2.896 / 3.099	.252	0.113
MS29512-24	1.500	38.100	1.710 / 1.730	43.434 / 43.942	.114 / .122	2.896 / 3.099	.290	0.131
MS29512-28	1.750	44.450	2.080 / 2.100	52.832 / 53.340	.114 / .122	2.896 / 3.099	.349	0.157
MS29512-32	2.000	50.800	2.327 / 2.347	59.106 / 59.614	.114 / .122	2.896 / 3.099	.388	0.175

1. APPLICATION

THESE O-RINGS TYPICALLY HAVE BEEN USED WHERE RESISTANCE TO FUEL IS REQUIRED, BUT USAGE IS NOT LIMITED TO SUCH APPLICATIONS. EACH APPLICATION SHOULD BE CONSIDERED SEPARATELY. THESE O-RINGS HAVE A SERVICE TEMPERATURE RANGE OF -65 TO +180 °F (-54 TO +82 °C).

2. APPLICABLE REFERENCES

2.1 SAE PUBLICATIONS

AVAILABLE FROM SAE INTERNATIONAL, 400 COMMONWEALTH DRIVE, WARRENDALE, PA 15096-0001, TEL: 877-606-7323 (INSIDE USA AND CANADA) OR +1 724-776-4970 (OUTSIDE USA), www.sae.org.

AMS-P-5315 ACRYLONITRILE-BUTADIENE (NBR) RUBBER FOR FUEL-RESISTANT SEALS 60 TO 70

AMS2817 PACKAGING AND IDENTIFICATION PREFORMED PACKINGS

ARP5316 STORAGE OF ELASTOMER SEALS AND SEAL ASSEMBLIES WHICH INCLUDE AN ELASTOMER ELEMENT PRIOR TO HARDWARE ASSEMBLY

2.2 ASME PUBLICATIONS

AVAILABLE FROM ASME, P.O. BOX 2900, 22 LAW DRIVE, FAIRFIELD, NJ 07007-2900, TEL: 800-843-2763 (U.S./CANADA), 001-800-843-2763 (MEXICO), 973-882-1170 (OUTSIDE NORTH AMERICA), www.asme.org.

ASME Y14.5-2009 DIMENSIONING AND TOLERANCING

	AEROSPACE STANDARD	AS29512™ SHEET 2 OF 4	REV. C
	HYDROCARBON FUEL RESISTANT, TUBE FITTING, O-RING MOLDED FROM AMS-P-5315 RUBBER		

2.3 ASQ PUBLICATIONS

AVAILABLE FROM AMERICAN SOCIETY FOR QUALITY, 600 NORTH PLANKINTON AVENUE, MILWAUKEE, WI 53203, TEL: 800-248-1946 (UNITED STATES OR CANADA), 001-800-514-1564 (MEXICO) OR +1-414-272-8575 (ALL OTHER LOCATIONS), www.asq.org.

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

2.4. ISO PUBLICATIONS

COPIES OF THESE DOCUMENTS ARE AVAILABLE ONLINE AT <http://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

3. REQUIREMENTS

3.1. PART NUMBER: THE O-RING PART NUMBERS ARE DESIGNATED MS29512-XX, WHERE XX INDICATES THE DASH SIZE.

3.2 DO NOT USE UNASSIGNED PART NUMBERS.

3.3 MATERIAL: THE MATERIAL SHALL BE IN ACCORDANCE WITH AMS-P-5315.

3.4 DIMENSIONAL AND VISUAL INSPECTION: PRIOR TO INSPECTION, MOLD FLASH SHALL BE REMOVED FROM THE O-RINGS IN SUCH A MANNER THAT THEY CONFORM TO THE REQUIREMENTS SPECIFIED HEREIN. FOR END OF PROCESS INSPECTION, EACH INDIVIDUAL O-RING (100%) SHALL BE VISUALLY INSPECTED AT 1X MAGNIFICATION FOR MOLD FLASH, BACKRIND, PARTING LINE PROJECTION, NON-FILLS, FLOW LINES, AND OTHER SIGNIFICANT DEFECTS. THE ENTIRE O-RING SURFACE SHALL BE INSPECTED.

3.5 FOR FINAL INSPECTION, THE SAMPLE SIZE SHALL BE IN ACCORDANCE WITH ANSI/ASQ Z1.4 SINGLE SAMPLING PLAN INSPECTION LEVEL II WITH AN AQL 1.0 EXCEPT THAT THE ACCEPTANCE NUMBER SHALL BE ZERO.

THE SAMPLE UNIT SHALL BE ONE O-RING. INSPECTION SHALL BE ACCORDING TO ISO 3601-3, GRADE S REQUIREMENTS UNDER 2X MAGNIFICATION. IN CASE OF DISAGREEMENT, THE VISUAL INSPECTION AT 2X MAGNIFICATION SHALL GOVERN. THE ENTIRE O-RING SURFACE SHALL BE MANUALLY INSPECTED. THE PROCEDURES OUTLINED IN ANNEX B OF ISO 3601-1 SHALL BE FOLLOWED FOR DIMENSIONAL INSPECTION. IF THE PURCHASER REQUIRES A DIFFERENT SAMPLING PLAN OR VISUAL INSPECTION CRITERIA, MANUFACTURER SHALL BE INFORMED PRIOR TO TIME OF ORDER.

3.6 THE MANUFACTURER OF THE O-RINGS SHALL BE RESPONSIBLE FOR THE REQUIRED INSPECTIONS. PURCHASER RESERVES THE RIGHT TO SAMPLE AND PERFORM ANY CONFIRMATORY INSPECTION DEEMED NECESSARY TO ENSURE THAT THE O-RINGS CONFORM TO THE SPECIFIED REQUIREMENTS.

3.7 LOT ACCEPTANCE: THE REQUIREMENTS ARE LISTED IN AMS-P-5315. THE LOT CERTIFICATION REPORT SHALL BE FURNISHED TO THE PURCHASER WHEN THE PRODUCT IS SHIPPED. THE MANUFACTURER OF THE O-RINGS SHALL BE RESPONSIBLE FOR THE REQUIRED INSPECTIONS AND LOT ACCEPTANCE TESTS. PURCHASER RESERVES THE RIGHT TO SAMPLE AND PERFORM ANY CONFIRMATORY INSPECTION DEEMED NECESSARY TO ENSURE THAT THE O-RINGS CONFORM TO THE SPECIFIED REQUIREMENTS.

3.8 IDENTIFICATION AND PACKAGING: PACKAGING SHALL BE IN ACCORDANCE WITH AMS2817 WITH THE EXCEPTION THAT, IF REQUESTED BY CONTRACT, EACH PACKAGE SHALL ALSO BEAR THE FOLLOWING IDENTIFICATION OF A RECOGNIZABLE SIZE:

- NATIONAL STOCK NUMBER

3.9 PURCHASE DOCUMENTS SHOULD SPECIFY NOT LESS THAN THE FOLLOWING:

- AMS-P-5315 MATERIAL
- PART NUMBER OF O-RING PER AS29512
- QUANTITY OF O-RINGS DESIRED
- SPECIAL PACKAGING, LABELING, AND INSPECTION REQUIREMENTS, IF REQUIRED

3.10 SHELF LIFE REQUIREMENTS OF ARP5316 APPLY TO THESE O-RINGS.

	AEROSPACE STANDARD	AS29512™ SHEET 3 OF 4	REV. C
	HYDROCARBON FUEL RESISTANT, TUBE FITTING, O-RING MOLDED FROM AMS-P-5315 RUBBER		