

REV.  
C

AS28778™

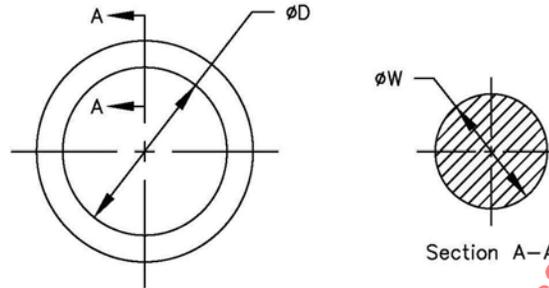
FEDERAL SUPPLY CLASS  
5331

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-5510 RUBBER. IT SHALL BE USED FOR PROCUREMENT PURPOSES.



NOTE: DIMENSION AND TOLERANCING PER ASME Y14.5

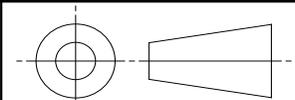
FIGURE 1 - O-RING: WIDTH ( $\phi W$ ) AND INSIDE ( $\phi D$ ) DIAMETERS

TABLE 1 - PART NUMBERS AND DIMENSIONS

PART NUMBER	NOMINAL TUBE OUTSIDE DIAMETER		$\phi D$		$\phi W$		APPROX MASS	
	(IN)	(MM)	(IN)	(MM)	(IN)	(MM)	(LB/100)	(KG/100)
MS28778-2	.125	3.175	.234 / .244	5.944 / 6.198	.061 / .067	1.549 / 1.702	.014	0.007
MS28778-3	.188	4.775	.295 / .306	7.493 / 7.772	.061 / .067	1.549 / 1.702	.017	0.009
MS28778-4	.250	6.350	.346 / .356	8.788 / 9.042	.069 / .075	1.753 / 1.905	.025	0.011
MS28778-5	.313	7.950	.409 / .419	10.389 / 10.643	.069 / .075	1.753 / 1.905	.029	0.013
MS28778-6	.375	9.525	.463 / .473	11.760/12.014	.075 / .081	1.905 / 2.057	.038	0.017
MS28778-8	.500	12.700	.639 / .649	16.231/16.485	.084 / .090	2.134 / 2.286	.063	0.028
MS28778-10	.625	15.875	.750 / .760	19.050/19.304	.094 / .100	2.388 / 2.540	.091	0.041
MS28778-12	.750	19.050	.918 / .930	23.317/23.622	.112 / .120	2.845 / 3.048	.158	0.071
MS28778-14	.875	22.225	1.041 / 1.053	26.441/26.746	.112 / .120	2.845 / 3.048	.178	0.080
MS28778-16	1.000	25.400	1.165 / 1.177	29.591/29.896	.120 / .112	2.845 / 3.048	.196	0.088
MS28778-20	1.250	31.750	1.465 / 1.485	37.211/37.719	.114 / .122	2.896 / 3.099	.252	0.113
MS28778-24	1.500	38.100	1.710 / 1.730	43.434/43.942	.114 / .122	2.896 / 3.099	.290	0.131
MS28778-28	1.750	44.450	2.080 / 2.100	52.832/53.340	.114 / .122	2.896 / 3.099	.349	0.157
MS28778-32	2.000	50.800	2.327 / 2.347	59.106/59.614	.114 / .122	2.896 / 3.099	.388	0.175

For more information on this standard, visit  
<https://www.sae.org/standards/content/AS28778C/>

THIRD ANGLE PROJECTION



CUSTODIAN: A-6/A-6C2

PROCUREMENT SPECIFICATION: NONE



**AEROSPACE STANDARD**

O-RING, STRAIGHT THREAD TUBE FITTING BOSS  
MOLDED FROM AMS-P-5510 RUBBER

AS28778™  
SHEET 1 OF 3

REV.  
C

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

## 1. APPLICATION

THESE O-RINGS TYPICALLY HAVE BEEN USED AS THE SEAL ON STRAIGHT-THREADED, FLARED-TUBE CONNECTION FITTINGS ASSEMBLED IN AS4395 AND AS5202 BOSSES IN ACCORDANCE WITH MS21344. THEY ARE TO BE USED WITH SYSTEMS CONTAINING AIR OR HYDRAULIC FLUID CONFORMING TO MIL-PRF-5606, 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 +160 °F (-54 TO +71 °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](http://www.sae.org).

AMS-P-5510 O-RING, PREFORMED, STRAIGHT THREAD TUBE FITTING BOSS, TYPE I HYDRAULIC (-65 TO 160 °F)

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](http://www.asme.org).

ASME Y14.5-2009 DIMENSIONING AND TOLERANCING

### 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](http://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

### 2.5 U.S. GOVERNMENT PUBLICATIONS

COPIES OF THESE DOCUMENTS ARE AVAILABLE ONLINE AT <http://quicksearch.dla.mil>.

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

MS21344 FITTINGS - INSTALLATION OF FLARED TUBE, STRAIGHT THREADED CONNECTORS, DESIGN STANDARD FOR

## 3. REQUIREMENTS

3.1 PART NUMBER: THE O-RING PART NUMBERS ARE DESIGNATED MS28778-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-5510.

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.

	<b>AEROSPACE STANDARD</b>		<b>AS28778™</b> SHEET 2 OF 3	<b>REV.</b> <b>C</b>
	O-RING, STRAIGHT THREAD TUBE FITTING BOSS MOLDED FROM AMS-P-5510 RUBBER			