

REV.  
A

SAE AS28778

FEDERAL SUPPLY CLASS  
5331

RATIONALE

THIS STANDARD REPLACES MS28778 AND ADDS VISUAL QUALITY REQUIREMENTS, LOT REQUIREMENTS AND PACKAGING AND LABELING REQUIREMENTS FOR PROCUREMENT OF O-RINGS MOLDED FROM AMS-P-5510 NBR RUBBER. THE MS28778 PART NUMBERS HAVE BEEN RETAINED.

ALL DIAMETERS OF CROSS SECTION SHALL EQUAL W

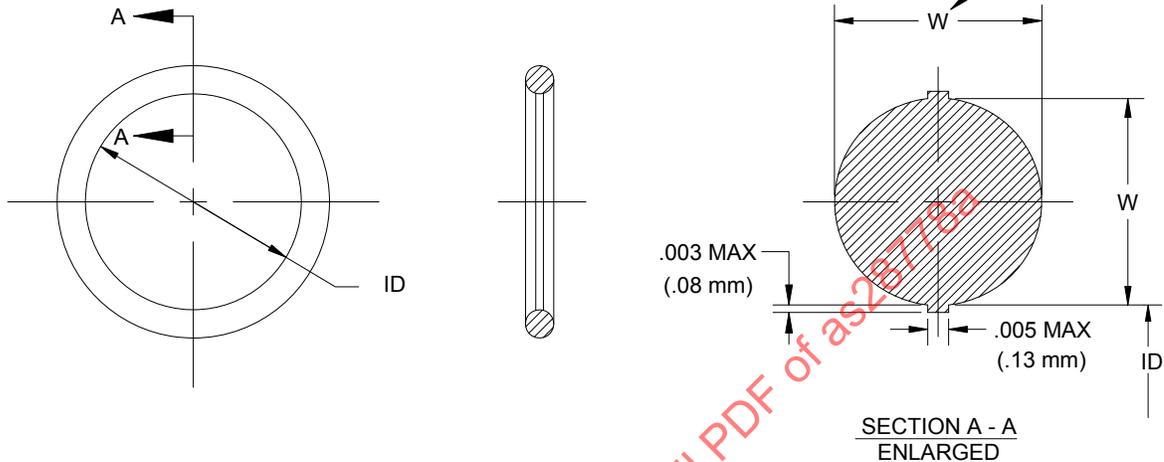


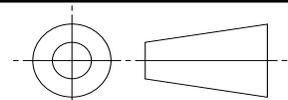
FIGURE 1 - O-RING

TABLE 1 - PART NUMBERS AND DIMENSIONS

PART NUMBER	TUBE OD (REF) IN	TUBE OD (REF) (mm)	ID IN		ID (mm)		W DIA IN		W DIA (mm)		APPROX MASS	
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	LB/100	Kg/100
MS28778-2	.125	3.175	.234	.244	5.94	6.20	.061	.067	1.55	1.70	.014	.006
MS28778-3	.188	4.763	.296	.306	7.52	7.77	.061	.067	1.55	1.70	.017	.008
MS28778-4	.250	6.350	.346	.356	8.79	9.04	.069	.075	1.75	1.90	.025	.011
MS28778-5	.313	7.938	.409	.419	10.39	10.64	.069	.075	1.75	1.90	.029	.013
MS28778-6	.375	9.525	.463	.473	11.76	12.01	.075	.081	1.90	2.06	.038	.017
MS28778-8	.500	12.700	.639	.649	16.23	16.48	.084	.090	2.13	2.29	.063	.028
MS28778-10	.625	15.875	.750	.760	19.05	19.30	.094	.100	2.39	2.54	.091	.041
MS28778-12	.750	19.050	.918	.930	23.32	23.62	.112	.120	2.84	3.05	.158	.071
MS28778-14	.875	22.225	1.041	1.053	26.44	26.75	.112	.120	2.84	3.05	.178	.080
MS28778-16	1.000	25.400	1.165	1.177	29.59	29.90	.112	.120	2.84	3.05	.196	.088
MS28778-20	1.250	31.750	1.465	1.485	37.21	37.72	.114	.122	2.90	3.10	.252	.113
MS28778-24	1.500	38.100	1.710	1.730	43.43	43.94	.114	.122	2.90	3.10	.290	.131
MS28778-28	1.750	44.450	2.080	2.100	52.83	53.34	.114	.122	2.90	3.10	.349	.157
MS28778-32	2.000	50.800	2.327	2.347	59.11	59.61	.114	.122	2.90	3.10	.388	.175

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AS28778A>

THIRD ANGLE PROJECTION



CUSTODIAN: SAE A-6/A-6C2

PROCUREMENT SPECIFICATION: NONE

**SAE Aerospace**  
An SAE International Group

**AEROSPACE STANDARD**

(R) PACKING, PREFORMED, STRAIGHT THREAD TUBE FITTING BOSS

**SAE AS28778**  
SHEET 1 OF 3

**REV. A**

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ISSUED 2001-03 REVISED 2009-12

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).

APPLICABLE REFERENCES:

SAE PUBLICATIONS:

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

AMS-P-5510 PACKING, PREFORMED, STRAIGHT THREADED TUBE FITTING BOSS, TYPE I HYDRAULIC (-65°F TO 180°F)

AMS2817 PACKAGING AND IDENTIFICATION, PREFORMED PACKINGS

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

U.S. GOVERNMENT PUBLICATIONS

AVAILABLE FROM DODSSP, SUBSCRIPTION SERVICES DESK, BUILDING 4D, 700 ROBBINS AVENUE, PHILADELPHIA, PA 19111-5094 OR <http://assist.daps.dla.mil/quicksearch> OR [www.daps.mil](http://www.daps.mil).

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

MIL-STD-413 VISUAL INSPECTION GUIDE FOR RUBBER O-RINGS

ASQ PUBLICATIONS

AVAILABLE FROM AMERICAN SOCIETY FOR QUALITY, 600 NORTH PLANKINTON AVENUE, MILWAUKEE, WI 53203 OR <http://www.asq.org>

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

REQUIREMENTS:

1. MATERIAL: THE MATERIAL SHALL BE IN ACCORDANCE WITH AMS-P-5510.
2. DIMENSIONAL AND VISUAL INSPECTION: PRIOR TO INSPECTION, MOLD FLASH SHALL BE REMOVED FROM THE O-RINGS IN SUCH A MANNER THAT THE O-RINGS CONFORM TO THE REQUIREMENTS SPECIFIED HEREIN. EXAMINATION FOR DEFECTS IN APPEARANCE AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MIL-STD-413. THE SAMPLE SIZE SHALL BE IN ACCORDANCE WITH INSPECTION LEVEL II OF ANSI/ASQ Z1.4 WITH AQL OF 1.0 EXCEPT THAT THE ACCEPTANCE NUMBER SHALL BE ZERO. EXAMINATION FOR DIMENSIONAL DEFECTS SHALL BE MADE TO THE TOLERANCES SPECIFIED ABOVE. THE SAMPLE SIZE SHALL BE IN ACCORDANCE WITH INSPECTION LEVEL II OF ANSI/ASQ Z1.4 WITH AQL OF 1.0 EXCEPT THAT THE ACCEPTANCE NUMBER SHALL BE ZERO. IF THE PURCHASER REQUIRES A DIFFERENT SAMPLING PLAN OR VISUAL INSPECTION CRITERIA, PURCHASER AND MANUFACTURER SHALL AGREE PRIOR TO TIME OF ORDER.
3. LOT ACCEPTANCE: THE REQUIREMENTS ARE LISTED IN AMS-P-5510. 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.

PART NUMBER: THE O-RING PART NUMBERS ARE DESIGNATED MS28778-XX, WHERE XX INDICATES THE DASH SIZE.

4. IDENTIFICATION AND PACKAGING: PACKAGING SHALL BE IN ACCORDANCE WITH AMS2817 WITH THE EXCEPTION THAT, IF REQUESTED BY CONTRACT, EACH PACKAGE SHALL BEAR THE FOLLOWING IDENTIFICATION OF A RECOGNIZABLE SIZE:
  - NATIONAL STOCK NUMBER

IF REQUIRED BY THE PURCHASER, THE MANUFACTURER SHALL INDIVIDUALLY PACKAGE ALL THE O-RINGS.

 An SAE International Group	<b>AEROSPACE STANDARD</b>	<b>SAE AS28778</b> SHEET 2 OF 3	<b>REV.</b> <b>A</b>
	(R) PACKING, PREFORMED, STRAIGHT THREAD TUBE FITTING BOSS		