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400 Commonwealth Drive, Warrendale, PA 15096-0001

**AEROSPACE
MATERIAL
SPECIFICATION**

Submitted for recognition as an American National Standard

SAE® AMS-R-83412/1

Issued	JUL 1999

Rubber, Ethylene-Propylene, Hydrazine Resistant,
O-Rings Sizes and Tolerances

FSC 5330

NOTICE

This document has been taken directly from U.S. Military Specification MIL-R-83412/1(USAF), Notice 3, and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-R-83412/1(USAF), Notice 3. Any part numbers established by the original specification remain unchanged.

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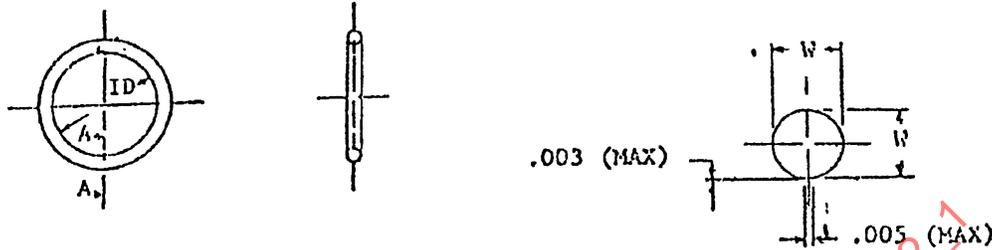SAE WEB ADDRESS: http://www.sae.org

FIGURE 1. O-ring, front, side, and cross-section

Purpose: The purpose of this specification sheet is to set up a standardized part numbering system for o-rings procured to MIL-R-83412(USAF), Type I.

Intended use: These o-rings are recommended for use in packing glands such as specified in MIL-G-5514 (See Note).

Part numbers: When this document is used for procurement of o-rings, part numbers shall consist of the following:

1.   The letter M and the specification sheet number.

2.   A dash followed by the appropriate dash number for Table I or Table II.

      Example 1   Example 2

      M83412/1-214   M83412/1-340

NOTE: The following sizes are not included in MIL-G-5514:
        029 to 050, 102 to 109, 150 to 178, 201 to 209, 248 to 284,
        309 to 324, 350 to 395, 461 to 475, and 901 to 932.

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TABLE 1. O-ring sizes

DASH NO.	ACTUAL SIZE W		ID		DASH NO.	ACTUAL SIZE W		ID	
001	.040	+.003	.029	+.004	041	.070	+.003	2.989	+.024
002	.050		.042		042			3.239	
003	.060		.056		043			3.489	
004	.070	+.003	.070	+.005	044			3.739	+.027
005			.101		045			3.989	
006			.114		046			4.239	+.030
007			.145		047			4.489	
008			.176		048			4.739	
009			.208		049			4.989	+.037
010			.239		050			5.239	
011			.301						
012			.364		102	.103	+.003	.049	+.005
013			.426		103			.081	
014			.489		104			.112	
015			.551	+.007	105			.143	
016			.614	+.009	106			.174	
017			.676		107			.206	
018			.739		108			.237	
019			.801		109			.299	
020			.864		110			.362	
021			.926		111			.424	
022			.989	+.010	112			.487	
023			1.051		113			.549	+.007
024			1.114		114			.612	+.009
025			1.176	+.011	115			.674	
026			1.239		116			.737	
027			1.301		117			.799	+.010
028			1.364	+.013	118			.862	
029			1.489		119			.924	
030			1.614		120			.987	
031			1.739		121			1.049	
032			1.864		122			1.112	
033			1.989	+.018	123			1.174	+.012
034			2.114		124			1.237	
035			2.239		125			1.299	
036			2.364		126			1.362	
037			2.489		127			1.424	
038			2.614	+.020	128			1.487	
039			2.739		129			1.549	+.015
040			2.864		130			1.612	

TABLE I. O-rings sizes - Continued

DASH NO.	ACTUAL SIZE W		ACTUAL SIZE ID		DASH NO.	ACTUAL SIZE W		ACTUAL SIZE ID	
131	.103	+.003	1.674	+.015	171	.103	+.003	7.987	+.045
132			1.737		172			8.237	+.050
133			1.799		173			8.487	
134			1.862		174			8.737	
135			1.925	+.017	175			8.987	
136			1.987		176			9.237	+.055
137			2.050		177			9.487	
138			2.112		178			9.737	
139			2.175						
140			2.237		201	.139	+.004	.171	+.005
141			2.300	+.020	202			.234	
142			2.362		203			.296	
143			2.425		204			.359	
144			2.487		205			.421	
145			2.550		206			.484	
146			2.612		207			.546	+.007
147			2.675	+.022	208			.609	+.009
148			2.737		209			.671	
149			2.800		210			.734	+.010
150			2.862		211			.796	
151			2.987	+.024	212			.859	
152			3.237		213			.921	
153			3.487		214			.984	
154			3.737	+.028	215			1.046	
155			3.987		216			1.109	+.012
156			4.237	+.030	217			1.171	
157			4.487		218			1.234	
158			4.737		219			1.296	
159			4.987	+.035	220			1.359	
160			5.237		221			1.421	
161			5.487		222			1.484	+.015
162			5.737		223			1.609	
163			5.987		224			1.734	
164			6.237	+.040	225	.139	+.004	1.859	+.018
165			6.487		226			1.984	
166			6.737		227			2.109	
167			6.987		228			2.234	+.020
168			7.237	+.045	229			2.359	
169			7.487		230			2.484	
170			7.737		231			2.609	

TABLE I. O-ring sizes - Continued

DASH NO.	ACTUAL SIZE W		ID		DASH NO.	ACTUAL SIZE W		ID	
232	.139	+.004	2.734	+.024	273	.139	+.004	9.734	+.055
233			2.859		274			9.984	
234			2.984		275			10.484	
235			3.109		278			10.984	+.065
236			3.234		277			11.484	
237			3.359		278			11.984	
238			3.484		279			12.984	
239			3.609	+.028	280			13.984	
240			3.734		281			14.984	
241			3.859		282			15.955	+.075
242			3.984		283			16.955	+.080
243			4.109		284			17.955	+.085
244			4.234	+.030					
245			4.359		309	.210	+.005	.412	+.005
246			4.484		310			.475	
247			4.609		311			.537	+.007
248			4.734		312			.600	+.009
249			4.859	+.035	313			.662	
250			4.984		314			.725	+.010
251			5.109		315			.787	
252			5.234		316			.850	
253			5.359		317			.912	
254			5.484		318			.975	+.010
255			5.609		319			1.037	
256			5.734		320			1.100	+.012
257			5.859		321			1.162	
258			5.984		322			1.225	
259			6.234	+.040	323			1.287	
260			6.484		324			1.350	
261			6.734		325			1.475	+.015
262			6.984		326			1.600	
263			7.234	+.045	327			1.725	
264			7.484		328			1.850	
265			7.734		329			1.975	+.018
266			7.984		330			2.100	
267			8.234	+.050	331			2.225	
268			8.484		332			2.350	
269			8.734		333			2.475	+.020
270			8.984		334			2.600	
271			9.234	+.055	335			2.725	
272			9.484		336			2.850	

TABLE I. O-ring sizes - Continued

DASH NO.	ACTUAL SIZE W		ID	
337	.210	±.005	2.975	±.024
338			3.100	
339			3.225	
340			3.350	
341			3.475	
342			3.600	±.028
343			3.725	
344			3.850	
345			3.975	
346			4.100	
347			4.225	±.030
348			4.350	
349			4.475	
350			4.600	
351			4.725	
352			4.850	
353			4.975	±.037
354			5.100	
355			5.225	
356			5.350	
357			5.475	
358			5.600	
359			5.725	
360			5.850	
361			5.975	
362			6.225	±.040
363			6.475	
364			6.725	
365			6.975	
366			7.225	±.045
367			7.475	
368			7.725	
369			7.975	
370			8.225	±.050
371			8.475	
372			8.725	
373			8.975	
374			9.225	±.055
375			9.475	
376			9.725	
377			9.975	

DASH NO.	ACTUAL SIZE W		ID	
378	.210	±.005	10.475	±.060
379			10.975	
380			11.475	±.065
381			11.975	
382			12.975	
383			13.975	±.070
384			14.975	
385			15.955	±.075
386			16.955	±.080
387			17.955	±.085
388			18.955	±.090
389			19.955	±.095
390			20.955	
391			21.955	±.100
392			22.940	±.105
393			23.940	±.110
394			24.940	±.115
395			25.940	±.120
425	.275	±.006	4.475	±.033
426			4.600	
427			4.725	
428			4.850	
429			4.975	±.037
430			5.100	
431			5.225	
432			5.350	
433			5.475	
434			5.600	
435			5.725	
436			5.850	
437			5.975	
438			6.225	±.040
439			6.475	
440			6.725	
441			6.975	
442			7.225	±.045
443			7.475	
444			7.725	
445			7.975	
446			8.475	±.055