

MIL-R-83412/1(USAF)

17 July 1979

## MILITARY SPECIFICATION SHEET

RUBBER, ETHYLENE-PROPYLENE, HYDRAZINE RESISTANT,  
O-RINGS SIZES AND TOLERANCES

This specification sheet is approved by the Air Force Materials Laboratory, MXA, Department of the Air Force, and is available for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the o-rings described herein shall consist of this document and the latest issue of specification MIL-R-83412(USAF).

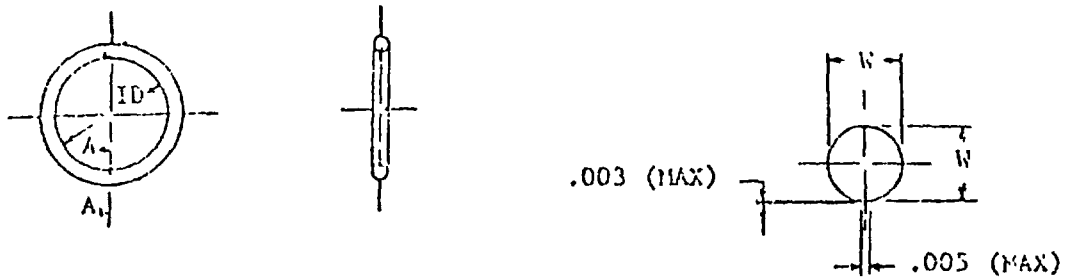


FIGURE 1. O-ring, front, side, and cross-section.

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  
M83412/1-214

Example 2  
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 I. O-ring sizes

DASH NO.	ACTUAL SIZE				DASH NO.	ACTUAL SIZE			
	W		ID			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	↓

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TABLE I. O-ring sizes. - Continued

DASH	ACTUAL SIZE				DASH	ACTUAL SIZE			
NO.	W		ID		NO.	W		ID	
131	.103	±.003	1.674	±.015	171	.103	±.003	7.987	±.
132	↓	↓	1.737	↓	172	↓	↓	8.237	±.
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	±.
137	↓	↓	2.050	↓	177	↓	↓	9.487	±.
138	↓	↓	2.112	↓	178	↓	↓	9.737	±.
139	↓	↓	2.175	↓					
140	↓	↓	2.237	↓	201	.139	±.004	.171	±.
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	±.
147	↓	↓	2.675	±.022	208	↓	↓	.609	±.
148	↓	↓	2.737	↓	209	↓	↓	.671	±.
149	↓	↓	2.800	↓	210	↓	↓	.734	±.
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	±.
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	±.
162	↓	↓	5.737	↓	223	↓	↓	1.609	±.
163	↓	↓	5.987	↓	224	↓	↓	1.734	±.
164	↓	↓	6.237	±.040	225	.139	±.004	1.859	±.
165	↓	↓	6.487	↓	226	↓	↓	1.984	±.
166	↓	↓	6.737	↓	227	↓	↓	2.109	±.
167	↓	↓	6.987	↓	228	↓	↓	2.234	±.
168	↓	↓	7.237	±.045	229	↓	↓	2.359	±.
169	↓	↓	7.487	↓	230	↓	↓	2.484	±.
170	↓	↓	7.737	↓	231	↓	↓	2.609	±.

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TABLE I. O-ring sizes. - Continued

DASH NO.	ACTUAL SIZE				DASH NO.	ACTUAL SIZE			
	W		ID			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	309	.210	±.005	.412	±.005
245	↓	↓	4.359	↓	310	↓	↓	.475	↓
246	↓	↓	4.484	↓	311	↓	↓	.537	±.007
247	↓	↓	4.609	↓	312	↓	↓	.600	±.009
248	↓	↓	4.734	↓	313	↓	↓	.662	↓
249	↓	↓	4.859	±.035	314	↓	↓	.725	±.010
250	↓	↓	4.984	↓	315	↓	↓	.787	↓
251	↓	↓	5.109	↓	316	↓	↓	.850	↓
252	↓	↓	5.234	↓	317	↓	↓	.912	↓
253	↓	↓	5.359	↓	318	↓	↓	.975	±.010
254	↓	↓	5.484	↓	319	↓	↓	1.037	↓
255	↓	↓	5.609	↓	320	↓	↓	1.100	±.012
256	↓	↓	5.734	↓	321	↓	↓	1.162	↓
257	↓	↓	5.859	↓	322	↓	↓	1.225	↓
258	↓	↓	5.984	↓	323	↓	↓	1.287	↓
259	↓	↓	6.234	±.040	324	↓	↓	1.350	↓
260	↓	↓	6.484	↓	325	↓	↓	1.475	±.015
261	↓	↓	6.734	↓	326	↓	↓	1.600	↓
262	↓	↓	6.984	↓	327	↓	↓	1.725	↓
263	↓	↓	7.234	±.045	328	↓	↓	1.850	↓
264	↓	↓	7.484	↓	329	↓	↓	1.975	±.018
265	↓	↓	7.734	↓	330	↓	↓	2.100	↓
266	↓	↓	7.984	↓	331	↓	↓	2.225	↓
267	↓	↓	8.234	±.050	332	↓	↓	2.350	↓
268	↓	↓	8.484	↓	333	↓	↓	2.475	±.020
269	↓	↓	8.734	↓	334	↓	↓	2.600	↓
270	↓	↓	8.984	↓	335	↓	↓	2.725	↓
271	↓	↓	9.234	±.055	336	↓	↓	2.850	↓
272	↓	↓	9.484	↓					

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TABLE I. C-ring sizes. - Continued

DASH NO.	ACTUAL SIZE				DASH NO.	ACTUAL SIZE			
	W		ID			W		ID	
337	.210	+.005	2.975	+.024	378	.210	+.005	10.475	+.060
338	↓	↓	3.100	↓	379	↓	↓	10.975	↓
339	↓	↓	3.225	↓	380	↓	↓	11.475	+.065
340	↓	↓	3.350	↓	381	↓	↓	11.975	↓
341	↓	↓	3.475	↓	382	↓	↓	12.975	↓
342	↓	↓	3.600	+.028	383	↓	↓	13.975	+.070
343	↓	↓	3.725	↓	384	↓	↓	14.975	↓
344	↓	↓	3.850	↓	385	↓	↓	15.955	+.075
345	↓	↓	3.975	↓	386	↓	↓	16.955	+.080
346	↓	↓	4.100	↓	387	↓	↓	17.955	+.085
347	↓	↓	4.225	+.030	388	↓	↓	18.955	+.090
348	↓	↓	4.350	↓	389	↓	↓	19.955	+.095
349	↓	↓	4.475	↓	390	↓	↓	20.955	↓
350	↓	↓	4.600	↓	391	↓	↓	21.955	+.100
351	↓	↓	4.725	↓	392	↓	↓	22.940	+.105
352	↓	↓	4.850	↓	393	↓	↓	23.940	+.110
353	↓	↓	4.975	+.037	394	↓	↓	24.940	+.115
354	↓	↓	5.100	↓	395	↓	↓	25.940	+.120
355	↓	↓	5.225	↓					↓
356	↓	↓	5.350	↓	425	.275	+.006	4.475	+.033
357	↓	↓	5.475	↓	426	↓	↓	4.600	↓
358	↓	↓	5.600	↓	427	↓	↓	4.725	↓
359	↓	↓	5.725	↓	428	↓	↓	4.850	↓
360	↓	↓	5.850	↓	429	↓	↓	4.975	+.037
361	↓	↓	5.975	↓	430	↓	↓	5.100	↓
362	↓	↓	6.225	+.040	431	↓	↓	5.225	↓
363	↓	↓	6.475	↓	432	↓	↓	5.350	↓
364	↓	↓	6.725	↓	433	↓	↓	5.475	↓
365	↓	↓	6.975	↓	434	↓	↓	5.600	↓
366	↓	↓	7.225	+.045	435	↓	↓	5.725	↓
367	↓	↓	7.475	↓	436	↓	↓	5.850	↓
368	↓	↓	7.725	↓	437	↓	↓	5.975	↓
369	↓	↓	7.975	↓	438	↓	↓	6.225	+.040
370	↓	↓	8.225	+.050	439	↓	↓	6.475	↓
371	↓	↓	8.475	↓	440	↓	↓	6.725	↓
372	↓	↓	8.725	↓	441	↓	↓	6.975	↓
373	↓	↓	8.975	↓	442	↓	↓	7.225	+.045
374	↓	↓	9.225	+.055	443	↓	↓	7.475	↓
375	↓	↓	9.475	↓	444	↓	↓	7.725	↓
376	↓	↓	9.725	↓	445	↓	↓	7.975	↓
377	↓	↓	9.975	↓	446	↓	↓	8.475	+.055

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TABLE I. O-ring sizes. - Continued

DASH NO.	ACTUAL SIZE			
	W		ID	
447	.275	+.006	8.975	+.055
448	↓	↓	9.475	↓
449			9.975	↓
450			10.475	+.060
451			10.975	↓
452			11.475	↓
453			11.975	↓
454			12.475	↓
455			12.975	↓
456			13.475	+.070
457			13.975	↓
458			14.475	↓
459			14.975	↓
460			15.475	↓
461			15.955	+.075
462			16.455	↓
463			16.955	+.080
464			17.455	+.085
465			17.955	↓
466			18.455	↓
467			18.955	+.090
468			19.455	↓
469			19.955	+.095
470			20.955	↓
471			21.955	+.100
472			22.940	+.105
473			23.940	+.110
474			24.940	+.115
475			25.940	+.120

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TABLE II. Straight thread tube fitting boss gaskets.

DASH NO.	TUBE OUTSIDE DIAMETER	W CROSS-SECTION		I D.	
901	.094	.056	$\pm .003$	.185	$\pm .005$
902	.125	.064	↓	.239	↓
903	.188	↓	↓	.351	↓
904	.250	.072	↓	.351	↓
905	.312	↓	↓	.414	↓
906	.375	.078	↓	.468	↓
907	.438	.082	↓	.530	$\pm .007$
908	.500	.087	↓	.604	$\pm .009$
909	.562	.097	↓	.700	↓
910	.625	↓	↓	.755	↓
911	.688	.116	$\pm .004$	.863	↓
912	.750	↓	↓	.924	↓
913	.812	↓	↓	.986	$\pm .010$
914	.875	↓	↓	1.047	↓
916	1.000	↓	↓	1.171	↓
918	1.125	↓	↓	1.355	$\pm .012$
920	1.250	.118	↓	1.475	$\pm .014$
924	1.500	↓	↓	1.720	↓
928	1.750	↓	↓	2.090	$\pm .018$
932	2.000	↓	↓	2.337	↓

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(Project No 5330-F045)

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1426

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NOTICE  
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MIL-R-83412/1(USAF)  
NOTICE 2  
10 December 1992

## MILITARY SPECIFICATION

### RUBBER, ETHYLENE-PROPYLENE, HYDRAZINE RESISTANT, O-RINGS SIZES AND TOLERANCES

MIL-R-83412/1(USAF), dated 17 July 1979, has been reviewed and determined to be valid for use in acquisition.

Custodians:  
Air Force - 11

Preparing activity:  
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