

AEROSPACE MATERIAL SPECIFICATION



AMS-P-83461/1

REV. B

Issued 1999-06
Revised 2002-02
Cancelled 2011-03

Superseded by AS83461/1

Packing, Preformed, Petroleum Hydraulic Fluid Resistant
Improved Performance at 275°F (135°C) Sizes and Tolerances

RATIONALE

AMS-P-83461/1A is a word for word copy of MIL-P-83461/1. AS83461/1 - "Packing, Preformed - M83461 O-Ring" was released on 25 September 2009 to replace AMS-P-83461/1A. On 20 January 2010, the U.S. Department of Defense withdrew its adoption of AMS-P-83461/1A and directed that future acquisition refer to AS83461/1. To streamline the acquisition process and to be consistent with the actions of the U.S. Department of Defense AMS-P-83461/1A is cancelled and replaced by the new AS83461/1 document for quality and procurement purposes.

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of March 2011 and has been superseded by AS83461/1. The requirements of the latest issue of AS83461/1 shall be fulfilled whenever reference is made to the cancelled AMS-P-83461/1. By this action, this document shall remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by AS83461/1.

Cancelled specifications are available from SAE.

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NOTICE

This document has been taken directly from U.S. Military Specification MIL-P-83461/1B 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-P-83461/1B. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

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The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-P-83461.

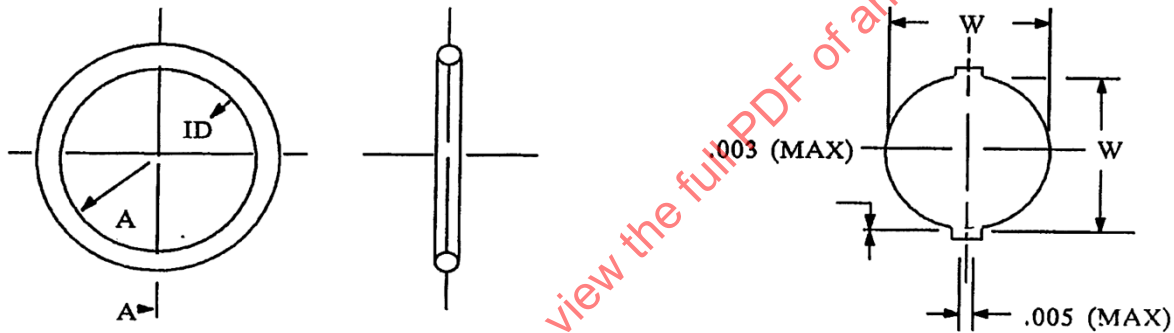
PURPOSE: The purpose of this specification sheet is to set up a standardized part numbering system for O-rings procured to MIL-P-83461.

APPLICABLE DOCUMENT

AS 568 Aerospace Size Standards for O-Rings

(Applications for copies should be addressed to Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096).

DIMENSIONS AND TOLERANCES



ALL DIAMETERS OF CROSS-SECTION
SHALL EQUAL W
SECTION A - A

PART NUMBERS. When this document is used for procurement of O-rings, part numbers shall consist of the following:

- The letter M and the specification sheet number.
- A dash followed by the appropriate dash number from table I or table II.

Example 1 (table I)

Example 2 (table II)

M83461/1-214

M83461/1-337

INTENDED USE: O-rings listed in table I are recommended for use in packing glands as specified in MIL-G-5514. O-rings listed in table II are the remainder of those listed in AS568, however, the applicable gland sizes for these O-rings are not specified in MIL-G-5514. The table II sizes are not recommended for hydraulic applications.

A change bar (|) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this specification. An (R) symbol to the left of the document title indicates a complete revision of the specification, including technical revisions. Change bars and (R) are not used in original publications, nor in specifications that contain editorial changes only.

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PREPARED UNDER THE JURISDICTION OF AMS COMMITTEE "CE"

TABLE I. Sizes listed in MIL-G-5514

DASH	ACTUAL SIZE				DASH	ACTUAL SIZE			
NO. 1/	WIDTH	INSIDE DIAMETER			NO. 1/	WIDTH	INSIDE DIAMETER		
001	0.040	±0.003	0.029	±0.004	118	0.103	±0.003	0.862	±0.010
002	0.050		0.042		119			0.924	
003	0.060		0.056		120			0.987	
004	0.070	±0.003	0.070	±0.005	121			1.049	
005			0.101		122			1.112	
006			0.114		123			1.174	±0.012
007			0.145		124			1.237	
008			0.176		125			1.299	
009			0.208		126			1.362	
010			0.239		127			1.424	
011			0.301		128			1.487	
012			0.364		129			1.549	±0.015
013			0.426		130			1.612	
014			0.489		131			1.674	
015			0.551	±0.007	132			1.737	
016			0.614	±0.009	133			1.799	
017			0.676		134			1.862	
018			0.739		135			1.925	±0.017
019			0.801		136			1.987	
020			0.864		137			2.050	
021			0.926		138			2.112	
022			0.989	±0.010	139			2.175	
023			1.051		140			2.237	
024			1.114		141			2.300	±0.020
025			1.176	±0.011	142			2.362	
026			1.239		143			2.425	
027			1.301		144			2.487	
028			1.364	±0.013	145			2.550	
					146			2.612	
110	0.103	±0.003	0.362	±0.005	147			2.675	±0.022
111			0.424		148			2.737	
112			0.487		149			2.800	
113			0.549	±0.007					
114			0.612	±0.009	210	0.139	±0.004	0.734	±0.010
115			0.674		211			0.796	
116			0.737		212			0.859	
117			0.799	±0.010	213			0.921	

1/ All dash numbers conform with the uniform dash system of AS568.

TABLE I. Sizes listed in MIL-G-5514 (Continued)

DASH NO. 1/	ACTUAL SIZE				DASH NO. 1/	ACTUAL SIZE			
	WIDTH		INSIDE DIAMETER			WIDTH		INSIDE DIAMETER	
214	0.139	±0.004	0.984	±0.010	325	0.210	±0.005	1.475	±0.015
215	↓	↓	1.046	↓	326	↓	↓	1.600	↓
216	↓	↓	1.109	±0.012	327	↓	↓	1.725	↓
217	↓	↓	1.171	↓	328	↓	↓	1.850	↓
218	↓	↓	1.234	↓	329	↓	↓	1.975	±0.018
219	↓	↓	1.296	↓	330	↓	↓	2.100	↓
220	↓	↓	1.359	↓	331	↓	↓	2.225	↓
221	↓	↓	1.421	↓	332	↓	↓	2.350	↓
222	↓	↓	1.484	±0.015	333	↓	↓	2.475	±0.020
223	↓	↓	1.609	↓	334	↓	↓	2.600	↓
224	↓	↓	1.734	↓	335	↓	↓	2.725	↓
225	↓	↓	1.859	±0.018	336	↓	↓	2.850	↓
226	↓	↓	1.984	↓	337	↓	↓	2.975	±0.024
227	↓	↓	2.109	↓	338	↓	↓	3.100	↓
228	↓	↓	2.234	±0.020	339	↓	↓	3.225	↓
229	↓	↓	2.359	↓	340	↓	↓	3.350	↓
230	↓	↓	2.484	↓	341	↓	↓	3.475	↓
231	↓	↓	2.609	↓	342	↓	↓	3.600	±0.028
232	↓	↓	2.734	±0.024	343	↓	↓	3.725	↓
233	↓	↓	2.859	↓	344	↓	↓	3.850	↓
234	↓	↓	2.984	↓	345	↓	↓	3.975	↓
235	↓	↓	3.109	↓	346	↓	↓	4.100	↓
236	↓	↓	3.234	↓	347	↓	↓	4.225	±0.030
237	↓	↓	3.359	↓	348	↓	↓	4.350	↓
238	↓	↓	3.484	↓	349	↓	↓	4.475	↓
239	↓	↓	3.609	±0.028		↓	↓		↓
240	↓	↓	3.734	↓	425	0.275	±0.006	4.475	±0.033
241	↓	↓	3.859	↓	426	↓	↓	4.600	↓
242	↓	↓	3.984	↓	427	↓	↓	4.725	↓
243	↓	↓	4.109	↓	428	↓	↓	4.850	↓
244	↓	↓	4.234	±0.030	429	↓	↓	4.975	±0.037
245	↓	↓	4.359	↓	430	↓	↓	5.100	↓
246	↓	↓	4.484	↓	431	↓	↓	5.225	↓
247	↓	↓	4.609	↓	432	↓	↓	5.350	↓

NOTE: O-ring sizes -013 through -028, -117 through -149 and -223 through -247 are intended only for use as static seals, and are not to be used in applications involving reciprocating or rotary movement.

TABLE I. Sizes listed in MIL-G-5514 (Continued)

DASH NO. 1/	ACTUAL SIZE			
	WIDTH		INSIDE DIAMETER	
433	0.275	± 0.006	5.475	± 0.037
434			5.600	↓
435			5.725	
436			5.850	↓
437			5.975	
438			6.225	± 0.040
439			6.475	↓
440			6.725	
441			6.975	↓
442			7.225	
443			7.475	↓
444			7.725	
445			7.975	↓
446			8.475	
447			8.975	↓
448			9.475	
449			9.975	↓
450			10.475	
451			10.975	↓
452			11.475	
453			11.975	↓
454			12.475	
455			12.975	↓
456			13.475	
457			13.975	↓
458			14.475	
459			14.975	↓
460			15.475	

TABLE II. Sizes not listed in MIL-G-5514

DASH	ACTUAL SIZE				DASH	ACTUAL SIZE			
NO. 1/	WIDTH		INSIDE DIAMETER		NO. 1/	WIDTH		INSIDE DIAMETER	
029	0.070	±0.003	1.489	±0.013	155	0.103	±0.003	3.987	±0.028
030			1.614	↓	156			4.237	±0.030
031			1.739	±0.015	157			4.487	↓
032			1.864	↓	158			4.737	↓
033			1.989	±0.018	159			4.987	±0.035
034			2.114	↓	160			5.237	↓
035			2.239	↓	161			5.487	↓
036			2.364	↓	162			5.737	↓
037			2.489	↓	163			5.987	↓
038			2.614	±0.020	164			6.237	±0.040
039			2.739	↓	165			6.487	↓
040			2.864	↓	166			6.737	↓
041			2.989	±0.024	167			6.987	↓
042			3.239	↓	168			7.237	±0.045
043			3.489	↓	169			7.487	↓
044			3.739	±0.027	170			7.737	↓
045			3.989	↓	171			7.987	↓
046			4.239	±0.030	172			8.237	±0.050
047			4.489	↓	173			8.487	↓
048			4.739	↓	174			8.737	↓
049			4.989	±0.037	175			8.987	↓
050	↓	↓	176	9.237	±0.055				
102	0.103	↓	0.049	±0.005	177	0.139	↓	9.487	↓
103			0.081	↓	178			9.737	↓
104			0.112	↓	201			0.171	±0.005
105			0.143	↓	202			0.234	↓
106			0.174	↓	203			0.296	↓
107			0.206	↓	204			0.359	↓
108			0.237	↓	205			0.421	↓
109			0.299	↓	206			0.484	↓
150			2.862	±0.022	207			0.546	±0.007
151			2.987	±0.024	208			0.609	±0.009
152			3.237	↓	209			0.671	↓
153			3.487	↓	248			4.734	±0.030
154			3.737	±0.028	249			4.859	±0.035