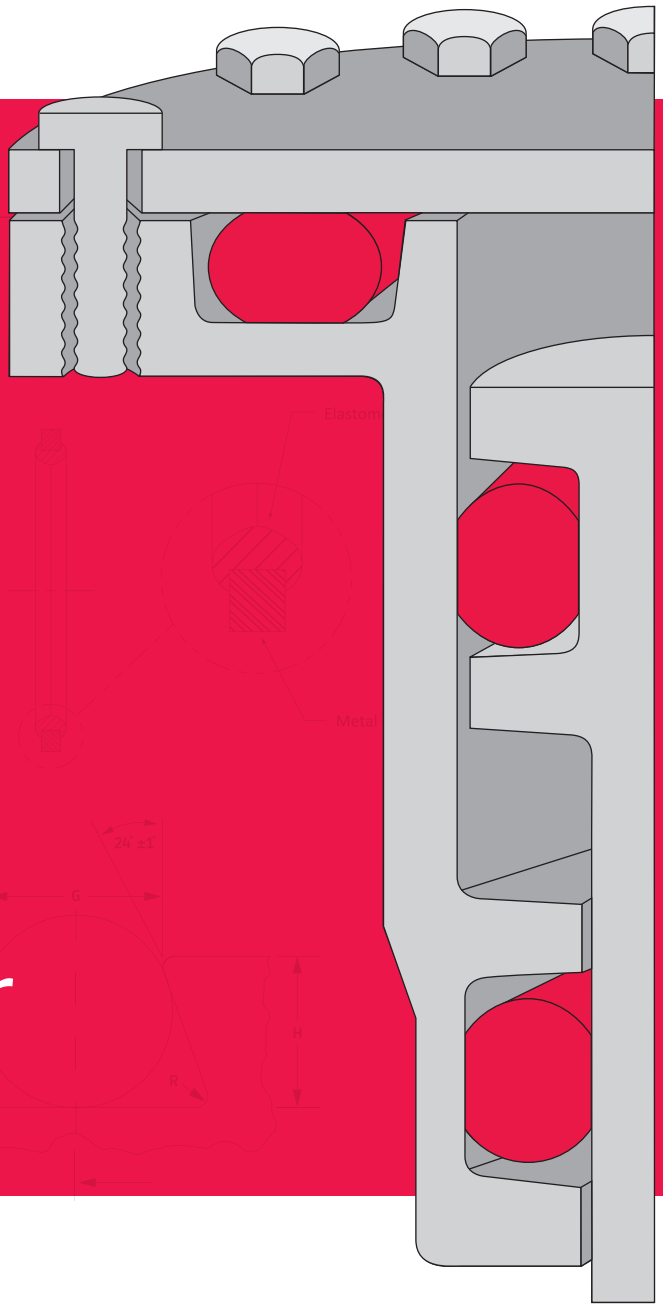
Seal Design Guide

Sizes and How to Order



9 Sizes and How to Order

HOW TO ORDER APPLE RUBBER O-RINGS

Apple Rubber o-rings and MicrOring™ seals are specified by three characteristics: size, hardness, and material. Prior to seal specification, please check for availability. We add to our tooling list all the time.

» Size

Standards are specified by their AS568 or ISO 3601 dash number. Non-standards are referenced by I.D. and C.S. (cross section). Although we only include the AS568 standard sizes in this guide, Apple Rubber has a vast inventory of non-standard and metric sizes. Visit our website at applerubber.com for more information. And, if you still don't find the size you are looking for, please keep in mind that Apple Rubber provides complete customized work to meet your special needs.

» Hardness

This is specified by a two-digit Shore A durometer number, ranging from 20 (soft) to 90 (hard), depending on the type of elastomer. Our standard durometer is 70 Shore A, except for Viton™ which is 75 Shore A. Standard durometer tolerance is ±5.

» Material

Our standard range of materials is designated by a two-letter abbreviation for each elastomer. See Section 6 for designations and further discussions of materials.

SHRINKAGE SIZE ADJUSTMENT

It is important to note that ALL o-ring materials shrink to some extent during molding. Over time, certain o-ring materials have been identified as possessing similar shrink rates, and are therefore used as o-ring size standards. The nominal o-ring sizes listed in this catalog are based upon a 70 durometer Nitrile. For o-ring materials other than 70 durometer Nitrile, please contact Apple Rubber, as extensive tooling is available for high shrink compounds.

Standard Tolerances for O-Ring Cross Sections

Cross Section	Tolerance (±)
Up to .104	.003
.139	±.004
.210	±.005
.275	±.006
.375	±.008

PROVIDE THE FOLLOWING WHEN ORDERING

- Quantity of o-rings
- Size by AS568 dash number, or I.D. and C.S., if ordering a non-standard
- Material by hardness and two-digit material

» Examples

Standard O-Ring – If ordering 10,000 pieces of an AS568-110 in 70 durometer Silicone your order would read: **10,000 AS568-110 70SL**

Non-Standard – If ordering 25,000 pieces with an internal diameter of .144" and a cross section of .025" 70 durometer Buna-N your order would read: **25,000 .144 I.D. x .025 C.S. 70BN**

HOW TO ORDER CUSTOM PARTS

For assistance with seal design, prototypes and production orders on custom parts, please contact an Apple Rubber team member or fill out an Engineering Assistance Request (EAR) on our website for custom orders and help from our engineers.

TO PLACE ORDERS OR QUOTATIONS

Phone: (716) 684-6560
Fax: (716) 684-8302
E-mail: info@applerubber.com
Online: applerubber.com

For complete list of o-ring seal sizes, please use the

TOLERANCES FOR CUSTOM MOLDED PARTS

The following tables illustrate different levels of tolerance control for all elastomeric parts. However, these standard tables do not take into account specific design concerns such as allowable flash. For assistance, please contact Apple Rubber for specific recommendations.

» RMA Designation "A1" HIgh Precision

Drawing designation “A1” is the tightest tolerance classification and indicates a high precision product. Such products require expensive molds, fewer cavities per mold, costly in-process controls and inspection procedures. It is desirable that the exact method of measurement be agreed upon between rubber manufacturer and customer, as errors in measurement may be large in relation to the tolerance.

» RMA Designation "A2" Precision

Drawing Designation “A2” tolerances indicate a precision product. Molds must be precision machined and kept in good repair. While measurement methods may be simpler than with Drawing Designation “A1", careful inspection will usually be required.

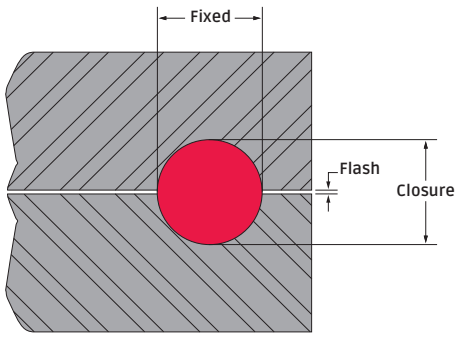


Illustration 9.1

Fixed – Dimensions not affected by flash thickness variation
Closure – Dimensions affected by flash thickness variation

“A1” High Precision

Size (Inches)	Fixed	Closure
Above Incl.		
0-.40	±.004	±.005
.40-.63	±.005	±.006
.63-1.00	±.006	±.008
1.00-1.60	±.008	±.010
1.60-2.50	±.010	±.013
2.50-4.00	±.013	±.016
4.00-6.30	±.016	±.020

Size (Millimeters)	Fixed	Closure
Above Incl.		
0-10	±.10	.13
10-16	.13	.16
16-25	.16	.20
25-40	.20	.25
40-63	.25	.32
63-100	.32	.40
100-160	.40	.50

“A2” Precision

Size (Inches)	Fixed	Closure
Above Incl.		
0-.40	±.006	±.008
.40-.63	±.008	±.010
.63-1.00	±.010	±.013
1.00-1.60	±.013	±.016
1.60-2.50	±.016	±.020
2.50-4.00	±.020	±.025
4.00-6.30	±.025	±.032
6.30 & over multiply by	.004%	.005

Size (Millimeters)	Fixed	Closure
Above Incl.		
0-10	±.16	.20
10-16	.20	.25
16-25	.25	.32
25-40	.32	.40
40-63	.40	.50
63-100	.50	.63
100-160	.63	.80
160 & over multiply by	.004	.005

Standard AS568 Size O-Rings

AS568 No.	Nominal Reference			Actual Dimensions	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-001	1/32	3/32	1/32	.029 ± .004	.040 ± .003
-001 1/2	1/16	1/8	1/32	.070 ± .004	.040 ± .003
-002	3/64	9/64	3/64	.042 ± .004	.050 ± .003
-003	1/16	3/16	1/16	.056 ± .004	.060 ± .003
-004	5/64	13/64	1/16	.070 ± .005	.070 ± .003
-005	3/32	7/32	1/16	.101 ± .005	.070 ± .003
-006	1/8	1/4	1/16	.114 ± .005	.070 ± .003
-007	5/32	9/32	1/16	.145 ± .005	.070 ± .003
-008	3/16	5/16	1/16	.176 ± .005	.070 ± .003
-009	7/32	11/32	1/16	.208 ± .005	.070 ± .003
-010	1/4	3/8	1/16	.239 ± .005	.070 ± .003
-011	5/16	7/16	1/16	.301 ± .005	.070 ± .003
-012	3/8	1/2	1/16	.364 ± .005	.070 ± .003
-013	7/16	9/16	1/16	.426 ± .005	.070 ± .003
-014	1/2	5/8	1/16	.489 ± .005	.070 ± .003
-015	9/16	11/16	1/16	.551 ± .007	.070 ± .003
-016	5/8	3/4	1/16	.614 ± .009	.070 ± .003
-017	11/16	13/16	1/16	.676 ± .009	.070 ± .003
-018	3/4	7/8	1/16	.739 ± .009	.070 ± .003
-019	13/16	15/16	1/16	.801 ± .009	.070 ± .003
-020	7/8	1	1/16	.864 ± .009	.070 ± .003
-021	15/16	1 1/16	1/16	.926 ± .009	.070 ± .003
-022	1	1 1/8	1/16	.989 ± .010	.070 ± .003
-023	1 1/16	1 3/16	1/16	1.051 ± .010	.070 ± .003
-024	1 1/8	1 1/4	1/16	1.114 ± .010	.070 ± .003
-025	1 3/16	1 5/16	1/16	1.176 ± .011	.070 ± .003
-026	1 1/4	1 3/8	1/16	1.239 ± .011	.070 ± .003
-027	1 5/16	1 7/16	1/16	1.301 ± .011	.070 ± .003
-028	1 3/8	1 1/2	1/16	1.364 ± .013	.070 ± .003
-029	1 1/2	1 5/8	1/16	1.489 ± .013	.070 ± .003
-030	1 5/8	1 3/4	1/16	1.614 ± .013	.070 ± .003
-031	1 3/4	1 7/8	1/16	1.739 ± .015	.070 ± .003
-032	1 7/8	2	1/16	1.864 ± .015	.070 ± .003
-033	2	2 1/8	1/16	1.989 ± .018	.070 ± .003
-034	2 1/8	2 1/4	1/16	2.114 ± .018	.070 ± .003
-035	2 1/4	2 3/8	1/16	2.239 ± .018	.070 ± .003
-036	2 3/8	2 1/2	1/16	2.364 ± .018	.070 ± .003
-037	2 1/2	2 5/8	1/16	2.489 ± .018	.070 ± .003
-038	2 5/8	2 3/4	1/16	2.614 ± .020	.070 ± .003
-039	2 3/4	2 7/8	1/16	2.739 ± .020	.070 ± .003
-040	2 7/8	3	1/16	2.864 ± .020	.070 ± .003
-041	3	3 1/8	1/16	2.989 ± .024	.070 ± .003
-042	3 1/4	3 3/8	1/16	3.239 ± .024	.070 ± .003
-043	3 1/2	3 5/8	1/16	3.489 ± .024	.070 ± .003
-044	3 3/4	3 7/8	1/16	3.739 ± .027	.070 ± .003
-045	4	4 1/8	1/16	3.989 ± .027	.070 ± .003
-046	4 1/4	4 3/8	1/16	4.239 ± .030	.070 ± .003
-047	4 1/2	4 5/8	1/16	4.489 ± .030	.070 ± .003
-048	4 3/4	4 7/8	1/16	4.739 ± .030	.070 ± .003
-049	5	5 1/8	1/16	4.989 ± .037	.070 ± .003
-050	5 1/4	5 3/8	1/16	5.239 ± .037	.070 ± .003
-102	1/16	1/4	3/32	.049 ± .005	.103 ± .003
-103	3/32	9/32	3/32	.081 ± .005	.103 ± .003
-104	1/8	5/16	3/32	.112 ± .005	.103 ± .003
-105	5/32	11/32	3/32	.143 ± .005	.103 ± .003
-106	3/16	3/8	3/32	.174 ± .005	.103 ± .003
-107	7/32	13/32	3/32	.206 ± .005	.103 ± .003
-108	1/4	7/16	3/32	.237 ± .005	.103 ± .003
-109	5/16	1/2	3/32	.299 ± .005	.103 ± .003
-110	3/8	9/16	3/32	.362 ± .005	.103 ± .003
-111	7/16	5/8	3/32	.424 ± .005	.103 ± .003
-112	1/2	11/16	3/32	.487 ± .005	.103 ± .003
-113	9/16	3/4	3/32	.549 ± .007	.103 ± .003
-114	5/8	13/16	3/32	.612 ± .009	.103 ± .003
-115	11/16	7/8	3/32	.674 ± .009	.103 ± .003
-116	3/4	15/16	3/32	.737 ± .009	.103 ± .003
-117	13/16	1	3/32	.799 ± .010	.103 ± .003
-118	7/8	1 1/16	3/32	.862 ± .010	.103 ± .003
-119	15/16	1 1/8	3/32	.924 ± .010	.103 ± .003
-120	1	1 3/16	3/32	.987 ± .010	.103 ± .003
-121	1 1/16	1 1/4	3/32	1.049 ± .010	.103 ± .003
-122	1 1/8	1 5/16	3/32	1.112 ± .010	.103 ± .003
-123	1 3/16	1 3/8	3/32	1.174 ± .012	.103 ± .003
-124	1 1/4	1 7/16	3/32	1.237 ± .012	.103 ± .003
-125	1 5/16	1 1/2	3/32	1.299 ± .012	.103 ± .003
-126	1 3/8	1 9/16	3/32	1.362 ± .012	.103 ± .003
-127	1 7/16	1 5/8	3/32	1.424 ± .012	.103 ± .003
-128	1 1/2	1 11/16	3/32	1.487 ± .012	.103 ± .003
-129	1 9/16	1 3/4	3/32	1.549 ± .015	.103 ± .003
-130	1 5/8	1 13/16	3/32	1.612 ± .015	.103 ± .003
-131	1 11/16	1 7/8	3/32	1.674 ± .015	.103 ± .003
-132	1 3/4	1 15/16	3/32	1.737 ± .015	.103 ± .003
-133	1 13/16	2	3/32	1.799 ± .015	.103 ± .003
-134	1 7/8	2 1/16	3/32	1.862 ± .015	.103 ± .003
-135	1 15/16	2 1/8	3/32	1.925 ± .017	.103 ± .003
-136	2	2 3/16	3/32	1.987 ± .017	.103 ± .003
-137	2 1/16	2 1/4	3/32	2.050 ± .017	.103 ± .003
-138	2 1/8	2 5/16	3/32	2.112 ± .017	.103 ± .003
-139	2 3/16	2 3/8	3/32	2.175 ± .017	.103 ± .003
-140	2 1/4	2 7/16	3/32	2.237 ± .017	.103 ± .003
-141	2 5/16	2 1/2	3/32	2.300 ± .020	.103 ± .003
-142	2 3/8	2 9/16	3/32	2.362 ± .020	.103 ± .003
-143	2 7/16	2 5/8	3/32	2.425 ± .020	.103 ± .003
-144	2 1/2	2 11/16	3/32	2.487 ± .020	.103 ± .003
-145	2 9/16	2 3/4	3/32	2.550 ± .020	.103 ± .003

Many more o-ring sizes available, visit us online for our full listing.

Standard AS568 Size O-Rings

AS568 No.	Nominal Reference			Actual Dimensions	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-146	2 5/8	2 13/16	3/32	2.612 ± .020	.103 ± .003
-147	2 11/16	2 7/8	3/32	2.675 ± .022	.103 ± .003
-148	2 3/4	2 15/16	3/32	2.737 ± .022	.103 ± .003
-149	2 13/16	3	3/32	2.800 ± .022	.103 ± .003
-150	2 7/8	3 1/16	3/32	2.862 ± .022	.103 ± .003
-151	3	3 3/16	3/32	2.987 ± .024	.103 ± .003
-152	3 1/4	3 7/16	3/32	3.237 ± .024	.103 ± .003
-153	3 1/2	3 11/16	3/32	3.487 ± .024	.103 ± .003
-154	3 3/4	3 15/16	3/32	3.737 ± .028	.103 ± .003
-155	4	4 3/16	3/32	3.987 ± .028	.103 ± .003
-156	4 1/4	4 7/16	3/32	4.237 ± .030	.103 ± .003
-157	4 1/2	4 11/16	3/32	4.487 ± .030	.103 ± .003
-158	4 3/4	4 15/16	3/32	4.737 ± .030	.103 ± .003
-159	5	5 3/16	3/32	4.987 ± .035	.103 ± .003
-160	5 1/4	5 7/16	3/32	5.237 ± .035	.103 ± .003
-161	5 1/2	5 11/16	3/32	5.487 ± .035	.103 ± .003
-162	5 3/4	5 15/16	3/32	5.737 ± .035	.103 ± .003
-163	6	6 3/16	3/32	5.987 ± .035	.103 ± .003
-164	6 1/4	6 7/16	3/32	6.237 ± .040	.103 ± .003
-165	6 1/2	6 11/16	3/32	6.487 ± .040	.103 ± .003
-166	6 3/4	6 15/16	3/32	6.737 ± .040	.103 ± .003
-167	7	7 3/16	3/32	6.987 ± .040	.103 ± .003
-168	7 1/4	7 7/16	3/32	7.237 ± .045	.103 ± .003
-169	7 1/2	7 11/16	3/32	7.487 ± .045	.103 ± .003
-170	7 3/4	7 15/16	3/32	7.737 ± .045	.103 ± .003
-171	8	8 3/16	3/32	7.987 ± .045	.103 ± .003
-172	8 1/4	8 7/16	3/32	8.237 ± .050	.103 ± .003
-173	8 1/2	8 11/16	3/32	8.487 ± .050	.103 ± .003
-174	8 3/4	8 15/16	3/32	8.737 ± .050	.103 ± .003
-175	9	9 3/16	3/32	8.987 ± .050	.103 ± .003
-176	9 1/4	9 7/16	3/32	9.237 ± .055	.103 ± .003
-177	9 1/2	9 11/16	3/32	9.487 ± .055	.103 ± .003
-178	9 3/4	9 15/16	3/32	9.737 ± .055	.103 ± .003
-201	3/16	7/16	1/8	.171 ± .005	.139 ± .004
-202	1/4	1/2	1/8	.234 ± .005	.139 ± .004
-203	5/16	9/16	1/8	.296 ± .005	.139 ± .004
-204	3/8	5/8	1/8	.359 ± .005	.139 ± .004
-205	7/16	11/16	1/8	.421 ± .005	.139 ± .004
-206	1/2	3/4	1/8	.484 ± .005	.139 ± .004
-207	9/16	13/16	1/8	.546 ± .007	.139 ± .004
-208	5/8	7/8	1/8	.609 ± .009	.139 ± .004
-209	11/16	15/16	1/8	.671 ± .009	.139 ± .004
-210	3/4	1	1/8	.734 ± .010	.139 ± .004
-211	13/16	1 1/16	1/8	.796 ± .010	.139 ± .004
-212	7/8	1 1/8	1/8	.859 ± .010	.139 ± .004
-213	15/16	1 3/16	1/8	.921 ± .010	.139 ± .004
-214	1	1 1/4	1/8	.984 ± .010	.139 ± .004
-215	1 1/16	1 5/16	1/8	1.046 ± .010	.139 ± .004

AS568 No.	Nominal Reference			Actual Dimensions	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-216	1 1/8	1 3/8	1/8	1.109 ± .012	.139 ± .004
-217	1 3/16	1 7/16	1/8	1.171 ± .012	.139 ± .004
-218	1 1/4	1 1/2	1/8	1.234 ± .012	.139 ± .004
-219	1 5/16	1 9/16	1/8	1.296 ± .012	.139 ± .004
-220	1 3/8	1 5/8	1/8	1.359 ± .012	.139 ± .004
-221	1 7/16	1 11/16	1/8	1.421 ± .012	.139 ± .004
-222	1 1/2	1 3/4	1/8	1.484 ± .015	.139 ± .004
-223	1 5/8	1 7/8	1/8	1.609 ± .015	.139 ± .004
-224	1 3/4	2	1/8	1.734 ± .015	.139 ± .004
-225	1 7/8	2 1/8	1/8	1.859 ± .018	.139 ± .004
-226	2	2 1/4	1/8	1.984 ± .018	.139 ± .004
-227	2 1/8	2 3/8	1/8	2.109 ± .018	.139 ± .004
-228	2 1/4	2 1/2	1/8	2.234 ± .020	.139 ± .004
-229	2 3/8	2 5/8	1/8	2.359 ± .020	.139 ± .004
-230	2 1/2	2 3/4	1/8	2.484 ± .020	.139 ± .004
-231	2 5/8	2 7/8	1/8	2.609 ± .020	.139 ± .004
-232	2 3/4	3	1/8	2.734 ± .024	.139 ± .004
-233	2 7/8	3 1/8	1/8	2.859 ± .024	.139 ± .004
-234	3	3 1/4	1/8	2.984 ± .024	.139 ± .004
-235	3 1/8	3 3/8	1/8	3.109 ± .024	.139 ± .004
-236	3 1/4	3 1/2	1/8	3.234 ± .024	.139 ± .004
-237	3 3/8	3 5/8	1/8	3.359 ± .024	.139 ± .004
-238	3 1/2	3 3/4	1/8	3.484 ± .024	.139 ± .004
-239	3 5/8	3 7/8	1/8	3.609 ± .028	.139 ± .004
-240	3 3/4	4	1/8	3.734 ± .028	.139 ± .004
-241	3 7/8	4 1/8	1/8	3.859 ± .028	.139 ± .004
-242	4	4 1/4	1/8	3.984 ± .028	.139 ± .004
-243	4 1/8	4 3/8	1/8	4.109 ± .028	.139 ± .004
-244	4 1/4	4 1/2	1/8	4.234 ± .030	.139 ± .004
-245	4 3/8	4 5/8	1/8	4.359 ± .030	.139 ± .004
-246	4 1/2	4 3/4	1/8	4.484 ± .030	.139 ± .004
-247	4 5/8	4 7/8	1/8	4.609 ± .030	.139 ± .004
-248	4 3/4	5	1/8	4.734 ± .030	.139 ± .004
-249	4 7/8	5 1/8	1/8	4.859 ± .035	.139 ± .004
-250	5	5 1/4	1/8	4.984 ± .035	.139 ± .004
-251	5 1/8	5 3/8	1/8	5.109 ± .035	.139 ± .004
-252	5 1/4	5 1/2	1/8	5.234 ± .035	.139 ± .004
-253	5 3/8	5 5/8	1/8	5.359 ± .035	.139 ± .004
-254	5 1/2	5 3/4	1/8	5.484 ± .035	.139 ± .004
-255	5 5/8	5 7/8	1/8	5.609 ± .035	.139 ± .004
-256	5 3/4	6	1/8	5.734 ± .035	.139 ± .004
-257	5 7/8	6 1/8	1/8	5.859 ± .035	.139 ± .004
-258	6	6 1/4	1/8	5.984 ± .035	.139 ± .004
-259	6 1/4	6 1/2	1/8	6.234 ± .040	.139 ± .004
-260	6 1/2	6 3/4	1/8	6.484 ± .040	.139 ± .004
-261	6 3/4	7	1/8	6.734 ± .040	.139 ± .004
-262	7	7 1/4	1/8	6.984 ± .040	.139 ± .004

Many more o-ring sizes available, visit us online for our full listing.

Standard AS568 Size O-Rings

AS568 No.	Nominal Reference			Actual Dimensions	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-263	7 1/4	7 1/2	1/8	7.234 ± .045	.139 ± .004
-264	7 1/2	7 3/4	1/8	7.484 ± .045	.139 ± .004
-265	7 3/4	8	1/8	7.734 ± .045	.139 ± .004
-266	8	8 1/4	1/8	7.984 ± .045	.139 ± .004
-267	8 1/4	8 1/2	1/8	8.234 ± .050	.139 ± .004
-268	8 1/2	8 3/4	1/8	8.484 ± .050	.139 ± .004
-269	8 3/4	9	1/8	8.734 ± .050	.139 ± .004
-270	9	9 1/4	1/8	8.984 ± .050	.139 ± .004
-271	9 1/4	9 1/2	1/8	9.234 ± .055	.139 ± .004
-272	9 1/2	9 3/4	1/8	9.484 ± .055	.139 ± .004
-273	9 3/4	10	1/8	9.734 ± .055	.139 ± .004
-274	10	10 1/4	1/8	9.984 ± .055	.139 ± .004
-275	10 1/2	10 3/4	1/8	10.484 ± .055	.139 ± .004
-276	11	11 1/4	1/8	10.984 ± .065	.139 ± .004
-277	11 1/2	11 3/4	1/8	11.484 ± .065	.139 ± .004
-278	12	12 1/4	1/8	11.984 ± .065	.139 ± .004
-279	13	13 1/4	1/8	12.984 ± .065	.139 ± .004
-280	14	14 1/4	1/8	13.984 ± .065	.139 ± .004
-281	15	15 1/4	1/8	14.984 ± .065	.139 ± .004
-282	16	16 1/4	1/8	15.955 ± .075	.139 ± .004
-283	17	17 1/4	1/8	16.955 ± .080	.139 ± .004
-284	18	18 1/4	1/8	17.955 ± .085	.139 ± .004
-309	7/16	13/16	3/16	.412 ± .005	.210 ± .005
-310	1/2	7/8	3/16	.475 ± .005	.210 ± .005
-311	9/16	15/16	3/16	.537 ± .007	.210 ± .005
-312	5/8	1	3/16	.600 ± .009	.210 ± .005
-313	11/16	1 1/16	3/16	.662 ± .009	.210 ± .005
-314	3/4	1 1/8	3/16	.725 ± .010	.210 ± .005
-315	13/16	1 3/16	3/16	.787 ± .010	.210 ± .005
-316	7/8	1 1/4	3/16	.850 ± .010	.210 ± .005
-317	15/16	1 5/16	3/16	.912 ± .010	.210 ± .005
-318	1	1 3/8	3/16	.975 ± .010	.210 ± .005
-319	1 1/16	1 7/16	3/16	1.037 ± .010	.210 ± .005
-320	1 1/8	1 1/2	3/16	1.100 ± .012	.210 ± .005
-321	1 3/16	1 9/16	3/16	1.162 ± .012	.210 ± .005
-322	1 1/4	1 5/8	3/16	1.225 ± .012	.210 ± .005
-323	1 5/16	1 11/16	3/16	1.287 ± .012	.210 ± .005
-324	1 3/8	1 3/4	3/16	1.350 ± .012	.210 ± .005
-325	1 1/2	1 7/8	3/16	1.475 ± .015	.210 ± .005
-326	1 5/8	2	3/16	1.600 ± .015	.210 ± .005
-327	1 3/4	2 1/8	3/16	1.725 ± .015	.210 ± .005
-328	1 7/8	2 1/4	3/16	1.850 ± .015	.210 ± .005
-329	2	2 3/8	3/16	1.975 ± .018	.210 ± .005
-330	2 1/8	2 1/2	3/16	2.100 ± .018	.210 ± .005
-331	2 1/4	2 5/8	3/16	2.225 ± .018	.210 ± .005
-332	2 3/8	2 3/4	3/16	2.350 ± .018	.210 ± .005
-333	2 1/2	2 7/8	3/16	2.475 ± .020	.210 ± .005
-334	2 5/8	3	3/16	2.600 ± .020	.210 ± .005

AS568 No.	Nominal Reference			Actual Dimensions	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-335	2 3/4	3 1/8	3/16	2.725 ± .020	.210 ± .005
-336	2 7/8	3 1/4	3/16	2.850 ± .020	.210 ± .005
-337	3	3 3/8	3/16	2.975 ± .024	.210 ± .005
-338	3 1/8	3 1/2	3/16	3.100 ± .024	.210 ± .005
-339	3 1/4	3 5/8	3/16	3.225 ± .024	.210 ± .005
-340	3 3/8	3 3/4	3/16	3.350 ± .024	.210 ± .005
-341	3 1/2	3 7/8	3/16	3.475 ± .024	.210 ± .005
-342	3 5/8	4	3/16	3.600 ± .028	.210 ± .005
-343	3 3/4	4 1/8	3/16	3.725 ± .028	.210 ± .005
-344	3 7/8	4 1/4	3/16	3.850 ± .028	.210 ± .005
-345	4	4 3/8	3/16	3.975 ± .028	.210 ± .005
-346	4 1/8	4 1/2	3/16	4.100 ± .028	.210 ± .005
-347	4 1/4	4 5/8	3/16	4.225 ± .030	.210 ± .005
-348	4 3/8	4 3/4	3/16	4.350 ± .030	.210 ± .005
-349	4 1/2	4 7/8	3/16	4.475 ± .030	.210 ± .005
-350	4 5/8	5	3/16	4.600 ± .030	.210 ± .005
-351	4 3/4	5 1/8	3/16	4.725 ± .030	.210 ± .005
-352	4 7/8	5 1/4	3/16	4.850 ± .030	.210 ± .005
-353	5	5 3/8	3/16	4.975 ± .037	.210 ± .005
-354	5 1/8	5 1/2	3/16	5.100 ± .037	.210 ± .005
-355	5 1/4	5 5/8	3/16	5.225 ± .037	.210 ± .005
-356	5 3/8	5 3/4	3/16	5.350 ± .037	.210 ± .005
-357	5 1/2	5 7/8	3/16	5.475 ± .037	.210 ± .005
-358	5 5/8	6	3/16	5.600 ± .037	.210 ± .005
-359	5 3/4	6 1/8	3/16	5.725 ± .037	.210 ± .005
-360	5 7/8	6 1/4	3/16	5.850 ± .037	.210 ± .005
-361	6	6 3/8	3/16	5.975 ± .037	.210 ± .005
-362	6 1/4	6 5/8	3/16	6.225 ± .040	.210 ± .005
-363	6 1/2	6 7/8	3/16	6.475 ± .040	.210 ± .005
-364	6 3/4	7 1/8	3/16	6.725 ± .040	.210 ± .005
-365	7	7 3/8	3/16	6.975 ± .040	.210 ± .005
-366	7 1/4	7 5/8	3/16	7.225 ± .045	.210 ± .005
-367	7 1/2	7 7/8	3/16	7.475 ± .045	.210 ± .005
-368	7 3/4	8 1/8	3/16	7.725 ± .045	.210 ± .005
-369	8	8 3/8	3/16	7.975 ± .045	.210 ± .005
-370	8 1/4	8 5/8	3/16	8.225 ± .050	.210 ± .005
-371	8 1/2	8 7/8	3/16	8.475 ± .050	.210 ± .005
-372	8 3/4	9 1/8	3/16	8.725 ± .050	.210 ± .005
-373	9	9 3/8	3/16	8.975 ± .050	.210 ± .005
-374	9 1/4	9 5/8	3/16	9.225 ± .055	.210 ± .005
-375	9 1/2	9 7/8	3/16	9.475 ± .055	.210 ± .005
-376	9 3/4	10 1/8	3/16	9.725 ± .055	.210 ± .005
-377	10	10 3/8	3/16	9.975 ± .055	.210 ± .005
-378	10 1/2	10 7/8	3/16	10.475 ± .060	.210 ± .005
-379	11	11 3/8	3/16	10.975 ± .060	.210 ± .005
-380	11 1/2	11 7/8	3/16	11.475 ± .065	.210 ± .005
-381	12	12 3/8	3/16	11.975 ± .065	.210 ± .005

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Standard AS568 Size O-Rings

AS568 No.	Nominal Reference			Actual Dimensions	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-382	13	13 3/8	3/16	12.975 ± .065	.210 ± .005
-383	14	14 3/8	3/16	13.975 ± .070	.210 ± .005
-384	15	15 3/8	3/16	14.975 ± .070	.210 ± .005
-385	16	16 3/8	3/16	15.955 ± .075	.210 ± .005
-386	17	17 3/8	3/16	16.955 ± .080	.210 ± .005
-387	18	18 3/8	3/16	17.955 ± .085	.210 ± .005
-388	19	19 3/8	3/16	18.955 ± .090	.210 ± .005
-389	20	20 3/8	3/16	19.955 ± .095	.210 ± .005
-390	21	21 3/8	3/16	20.955 ± .095	.210 ± .005
-391	22	22 3/8	3/16	21.955 ± .100	.210 ± .005
-392	23	23 3/8	3/16	22.940 ± .105	.210 ± .005
-393	24	24 3/8	3/16	23.940 ± .110	.210 ± .005
-394	25	25 3/8	3/16	24.940 ± .115	.210 ± .005
-395	26	26 3/8	3/16	25.940 ± .120	.210 ± .005
-425	4 1/2	5	1/4	4.475 ± .033	.275 ± .006
-426	4 5/8	5 1/8	1/4	4.600 ± .033	.275 ± .006
-427	4 3/4	5 1/4	1/4	4.725 ± .033	.275 ± .006
-428	4 7/8	5 3/8	1/4	4.850 ± .033	.275 ± .006
-429	5	5 1/2	1/4	4.975 ± .037	.275 ± .006
-430	5 1/8	5 5/8	1/4	5.100 ± .037	.275 ± .006
-431	5 1/4	5 3/4	1/4	5.225 ± .037	.275 ± .006
-432	5 3/8	5 7/8	1/4	5.350 ± .037	.275 ± .006
-433	5 1/2	6	1/4	5.475 ± .037	.275 ± .006
-434	5 5/8	6 1/8	1/4	5.600 ± .037	.275 ± .006
-435	5 3/4	6 1/4	1/4	5.725 ± .037	.275 ± .006
-436	5 7/8	6 3/8	1/4	5.850 ± .037	.275 ± .006
-437	6	6 1/2	1/4	5.975 ± .037	.275 ± .006
-438	6 1/4	6 3/4	1/4	6.225 ± .040	.275 ± .006
-439	6 1/2	7	1/4	6.475 ± .040	.275 ± .006
-440	6 3/4	7 1/4	1/4	6.725 ± .040	.275 ± .006
-441	7	7 1/2	1/4	6.975 ± .040	.275 ± .006
-442	7 1/4	7 3/4	1/4	7.225 ± .045	.275 ± .006
-443	7 1/2	8	1/4	7.475 ± .045	.275 ± .006
-444	7 3/4	8 1/4	1/4	7.725 ± .045	.275 ± .006
-445	8	8 1/2	1/4	7.975 ± .045	.275 ± .006
-446	8 1/2	9	1/4	8.475 ± .055	.275 ± .006
-447	9	9 1/2	1/4	8.975 ± .055	.275 ± .006
-448	9 1/2	10	1/4	9.475 ± .055	.275 ± .006
-449	10	10 1/2	1/4	9.975 ± .055	.275 ± .006
-450	10 1/2	11	1/4	10.475 ± .060	.275 ± .006
-451	11	11 1/2	1/4	10.975 ± .060	.275 ± .006
-452	11 1/2	12	1/4	11.475 ± .060	.275 ± .006
-453	12	12 1/2	1/4	11.975 ± .060	.275 ± .006
-454	12 1/2	13	1/4	12.475 ± .060	.275 ± .006
-455	13	13 1/2	1/4	12.975 ± .060	.275 ± .006
-456	13 1/2	14	1/4	13.475 ± .070	.275 ± .006
-457	14	14 1/2	1/4	13.975 ± .070	.275 ± .006
-458	14 1/4	15	1/4	14.475 ± .070	.275 ± .006
-459	15	15 1/2	1/4	14.975 ± .070	.275 ± .006
-460	15 1/2	16	1/4	15.475 ± .070	.275 ± .006
-461	16	16 1/2	1/4	15.955 ± .075	.275 ± .006
-462	16 1/2	17	1/4	16.455 ± .075	.275 ± .006
-463	17	17 1/2	1/4	16.955 ± .080	.275 ± .006
-464	17 1/2	18	1/4	17.455 ± .085	.275 ± .006
-465	18	18 1/2	1/4	17.955 ± .085	.275 ± .006
-466	18 1/2	19	1/4	18.455 ± .085	.275 ± .006
-467	19	19 1/2	1/4	18.955 ± .090	.275 ± .006
-468	19 1/2	20	1/4	19.455 ± .090	.275 ± .006
-469	20	20 1/2	1/4	19.955 ± .090	.275 ± .006
-470	21	21 1/2	1/4	20.955 ± .090	.275 ± .006
-471	22	22 1/2	1/4	21.955 ± .100	.275 ± .006
-472	23	23 1/2	1/4	22.940 ± .105	.275 ± .006
-473	24	24 1/2	1/4	23.940 ± .110	.275 ± .006
-474	25	25 1/2	1/4	24.940 ± .115	.275 ± .006
-475	26	26 1/2	1/4	25.940 ± .120	.275 ± .006

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Standard O-Rings for Boss Gaskets for Straight Thread Tube Fittings

AS568 No.	Tube Size (O.D.) Fractional	Actual Dimensions	
		I.D. Tol.	W. Tol.
-901	3/32	.185 ±.005	.056 ±.003
-902	1/8	.239 ±.005	.064 ±.003
-903	3/16	.301 ±.005	.064 ±.003
-904	1/4	.351 ±.005	.072 ±.003
-905	5/16	.414 ±.005	.072 ±.003
-906	3/8	.468 ±.005	.078 ±.003
-907	7/16	.530 ±.007	.082 ±.003
-908	1/2	.644 ±.009	.087 ±.003
-909	9/16	.706 ±.009	.097 ±.003
-910	5/8	.755 ±.009	.097 ±.003
-911	11/16	.863 ±.009	.116 ±.004
-912	3/4	.924 ±.009	.116 ±.004
-913	13/16	.986 ±.010	.116 ±.004
-914	7/8	1.047 ±.010	.116 ±.004
-916	1	1.171 ±.010	.116 ±.004
-918	1 1/8	1.355 ±.012	.116 ±.004
-920	1 1/4	1.475 ±.014	.118 ±.004
-924	1 1/2	1.720 ±.014	.118 ±.004
-928	1 3/4	2.090 ±.018	.118 ±.004
-932	2	2.337 ±.018	.118 ±.004

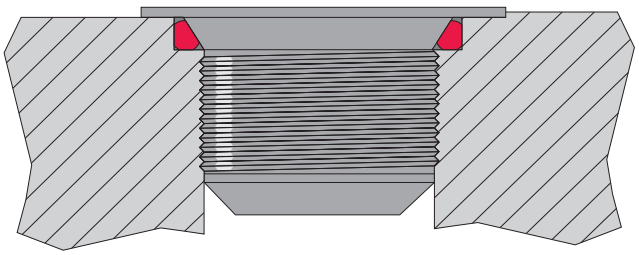

Illustration 9.2, O-rings for Straight Thread Tube Fitting Bosses

This class of o-rings is primarily utilized in hydraulic tubing and fittings up to 3000 psi. A straight thread, not tapered, is used so that the o-ring seals under compression. Because of their use in primarily high pressure applications, these seals are normally supplied in 90 durometer material.