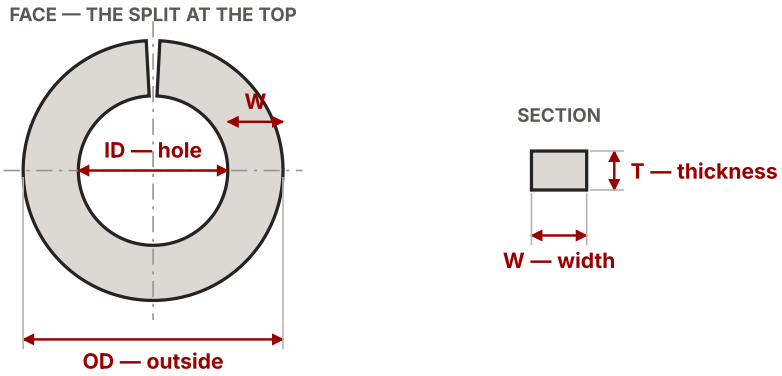
Lock Washer Dimensions

jandesupply.com/reference-lock-washer-dimensions.php

J & E Supply & FASTENER CO.

Hole, outside diameter, thickness and width for regular split lock washers, #2 to 1-1/2″ — by the bolt they fit. ASME B18.21.1.

A split lock washer is a hardened spring ring with one cut in it, sized by the **bolt it fits**: a ½″ lock washer goes on a ½″ bolt. The **regular** series below is the everyday one; heavy, extra-duty and hi-collar versions of the same size are thicker or narrower.



Letters match the table columns: **ID** the hole, **OD** across the outside, **T** thickness and **W** width of the ring's section.

Split lock washers, regular — ASME B18.21.1 (inches)

BOLT SIZE	HOLE ID MAX / MIN	OUTSIDE OD MAX	THICKNESS T MIN	WIDTH W MIN
#2	.094 / .088	.172	.020	.035
#4	.120 / .114	.209	.025	.040
#5	.133 / .127	.236	.031	.047
#6	.148 / .141	.250	.031	.047
#8	.174 / .167	.293	.040	.055
#10	.200 / .193	.334	.047	.062
#12	.227 / .220	.377	.056	.070
1/4″	.260 / .252	.487	.062	.109
5/16″	.322 / .314	.583	.078	.125
3/8″	.385 / .377	.680	.094	.141
7/16″	.450 / .440	.776	.109	.156
1/2″	.512 / .502	.869	.125	.171
9/16″	.574 / .564	.965	.141	.188
5/8″	.641 / .628	1.073	.156	.203
3/4″	.766 / .753	1.265	.188	.234
7/8″	.894 / .878	1.459	.219	.266
1″	1.024 / 1.003	1.656	.250	.297
1-1/8″	1.153 / 1.129	1.847	.281	.328
1-1/4″	1.280 / 1.254	2.036	.312	.359
1-3/8″	1.408 / 1.379	2.219	.344	.391
1-1/2″	1.534 / 1.504	2.419	.375	.422

Regular series. Thickness is the mean of the section's inside and outside edges. Steel and stainless are made to the same sizes. High-alloy lock washers (4037 alloy steel, for grade 5 and grade 8 bolts) are made to the same sizes through 1″.

Hi-collar lock washers — ASME B18.21.1 (inches)

SIZE	HOLE ID MAX / MIN	OD MAX	THICKNESS MIN	WIDTH MIN
#4	.120 / .114	.173	.022	.022
#6	.148 / .141	.216	.030	.030
#8	.174 / .167	.267	.047	.042
#10	.200 / .193	.294	.047	.042
1/4″	.260 / .252	.363	.078	.047
5/16″	.322 / .314	.457	.093	.062
3/8″	.385 / .377	.550	.125	.076
7/16″	.450 / .440	.644	.140	.090
1/2″	.512 / .502	.733	.172	.103
5/8″	.641 / .628	.917	.203	.125
3/4″	.766 / .753	1.105	.218	.154
7/8″	.894 / .878	1.291	.234	.182
1″	1.024 / 1.003	1.478	.250	.208
1-1/8″	1.153 / 1.129	1.663	.313	.236
1-1/4″	1.280 / 1.254	1.790	.313	.236
1-1/2″	1.534 / 1.504	2.159	.375	.292

Hi-collar lock washers are thicker, with a smaller outside diameter than a regular split lock washer, for socket head cap screws and other small heads.

Internal tooth lock washers — ASME B18.21.1 (inches)

SIZE	HOLE ID MAX / MIN	OD MAX / MIN	THICKNESS MAX / MIN
#2	.095 / .089	.200 / .175	.016 / .010
#3	.109 / .102	.232 / .215	.016 / .010
#4	.123 / .115	.270 / .245	.018 / .012
#5	.136 / .129	.280 / .255	.020 / .014
#6	.150 / .141	.295 / .275	.022 / .016
#8	.176 / .168	.340 / .325	.023 / .018
#10	.204 / .195	.381 / .365	.024 / .018
#12	.231 / .221	.410 / .394	.027 / .020
1/4″	.267 / .256	.478 / .460	.028 / .023
5/16″	.332 / .320	.610 / .594	.034 / .028
3/8″	.398 / .384	.692 / .670	.040 / .032
7/16″	.464 / .448	.789 / .740	.040 / .032
1/2″	.530 / .512	.900 / .867	.045 / .037
9/16″	.596 / .576	.985 / .957	.045 / .037
5/8″	.663 / .640	1.071 / 1.045	.050 / .042
3/4″	.795 / .769	1.245 / 1.220	.055 / .047
7/8″	.927 / .894	1.410 / 1.364	.060 / .052
1″	1.060 / 1.019	1.637 / 1.590	.067 / .059
1-1/8″	1.192 / 1.144	1.830 / 1.799	.067 / .059
1-1/4″	1.325 / 1.275	1.975 / 1.921	.067 / .059

Internal tooth lock washers have their teeth on the inside edge, hidden under the head — the pick for small heads such as fillister screws.

External tooth lock washers — ASME B18.21.1 (inches)

SIZE	HOLE ID MAX / MIN	OD MAX / MIN	THICKNESS MAX / MIN

SIZE	HOLE ID MAX / MIN	OD MAX / MIN	THICKNESS MAX / MIN
#3	.109 / .102	.235 / .220	.016 / .010
#4	.123 / .115	.260 / .245	.018 / .012
#5	.136 / .129	.285 / .270	.020 / .014
#6	.150 / .141	.320 / .305	.022 / .016
#8	.176 / .168	.381 / .365	.023 / .018
#10	.204 / .195	.410 / .395	.024 / .018
#12	.231 / .221	.475 / .460	.027 / .020
1/4″	.267 / .256	.510 / .494	.028 / .023
5/16″	.332 / .320	.610 / .588	.034 / .028
3/8″	.398 / .384	.694 / .670	.040 / .032
7/16″	.464 / .448	.760 / .740	.040 / .032
1/2″	.530 / .513	.900 / .880	.045 / .037
9/16″	.596 / .576	.985 / .960	.045 / .037
5/8″	.663 / .641	1.070 / 1.045	.050 / .042
3/4″	.795 / .768	1.260 / 1.220	.055 / .047
7/8″	.927 / .897	1.410 / 1.380	.060 / .052
1″	1.060 / 1.025	1.620 / 1.590	.067 / .059

External tooth lock washers have their teeth on the outside edge — the most grip, since the teeth sit on the largest radius.

How to measure a lock washer

Measure the hole and across the outside, then find the row they fit. The bolt size on that row is the washer's size. A washer much thicker than the table is a heavy or extra-duty one; a narrow, thick one is a hi-collar.

Do lock washers work?

A split lock washer helps resist loosening from light vibration. For serious vibration, a lock nut or threadlocker does more — see Washer Types & When to Use Them and the flat washer chart.

Quick answers

What size is a 1/2" lock washer?

A regular 1/2″ split lock washer has a .502–.512″ hole, is .869″ across at most and .125″ thick (minimum).

What is the outside diameter of a 3/8" split lock washer?

.680″ maximum (regular series, ASME B18.21.1).

How thick is a 1/4" lock washer?

.062″ minimum, with a ring .109″ wide (regular series).

Do split lock washers stop bolts from loosening?

They help against light vibration. For serious vibration, a lock nut or threadlocker does more.

Reference values drawn from the governing standards. For critical applications, confirm against the standard and the manufacturer's published data. Technical information disclaimer →