

# SPLIT LOCK WASHERS

ZINC, GALVANIZED & STAINLESS STEEL

CERTIFICATION

TECHNICAL DATA



**FOR INSTALL SUPPORT**  
[sales@allfasteners.com](mailto:sales@allfasteners.com)



**FOR SPECIFICATION SUPPORT**  
[certs@allfasteners.com](mailto:certs@allfasteners.com)



**FOR CUSTOMER SUPPORT**  
888.859.6060



# SPLIT LOCK WASHERS

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**Split Lock Washers** are designed for increased bolt tensioning resulting in tighter assemblies and protection against loosening resulting from vibration. Lock washers can be used with a standard flat washer to provide uniform bearing surface.



ZINC PLATED



HOT DIP GALVANIZED



STAINLESS STEEL

## DIMENSIONAL DATA

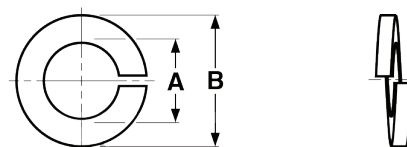
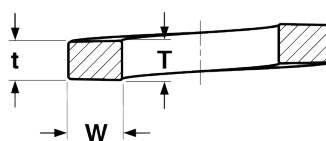


TABLE 1: DIMENSIONAL DATA OF SPLIT LOCK WASHERS

REGULAR & HIGH ALLOY HELICAL SPRING LOCK WASHERS						ASME B18.21.1-1999
NOMINAL WASHER SIZE		A		B	(T+T) / 2	W
		INSIDE DIAMETER		OUTSIDE DIAMETER	MEAN SECTION THICKNESS	SECTION WIDTH
		MAX	MIN	MAX	MIN	MIN
#2	0.086	0.094	0.088	0.172	0.200	0.035
#3	0.099	0.107	0.101	0.195	0.025	0.040
#4	0.112	0.120	0.114	0.209	0.025	0.040
#5	0.125	0.133	0.127	0.236	0.031	0.047
#6	0.138	0.148	0.141	0.250	0.031	0.047
#8	0.164	0.174	0.167	0.293	0.040	0.055
#10	0.190	0.200	0.193	0.334	0.047	0.062
#12	0.216	0.227	0.220	0.377	0.056	0.070
1/4	0.250	0.260	0.252	0.487	0.062	0.109
5/16	0.312	0.322	0.314	0.583	0.078	0.125
3/8	0.375	0.385	0.377	0.680	0.094	0.141
7/16	0.438	0.450	0.440	0.776	0.109	0.156
1/2	0.500	0.512	0.502	0.869	0.125	0.171
9/16	0.562	0.574	0.564	0.965	0.141	0.188
5/8	0.625	0.641	0.628	1.073	0.156	0.203
3/4	0.750	0.766	0.753	1.265	0.188	0.234
7/8	0.875	0.894	0.878	1.459	0.219	0.266
1	1.000	1.024	1.003	1.656	0.250	0.297
1-1/8	1.125	1.153	1.129	1.847	0.281	0.328
1-1/4	1.250	1.280	1.254	2.036	0.312	0.359
1-3/8	1.375	1.408	1.379	2.219	0.344	0.391
1-1/2	1.500	1.534	1.504	2.419	0.375	0.422
1-3/4	1.750	1.789	1.758	2.679	0.389	0.424
2	2.000	2.039	2.008	2.936	0.422	0.427



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## MATERIAL SPECIFICATIONS

**TABLE 2: MATERIAL SPECIFICATIONS OF SPLIT LOCK WASHERS**

<b>DESCRIPTION</b>	<p><b>Regular:</b> A coiled, hardened, split circular washer with a slightly trapezoidal wire section.</p> <p><b>High-Alloy:</b> Dimensionally identical to a regular split lock washer but made from 4037 alloy steel (sizes over 1" are equivalent to heavy split lock washers in size and material).</p> <p><b>Stainless:</b> A regular split lock washer made from austenitic stainless steel.</p>
<b>APPLICATION/ADVANTAGES</b>	<p><b>Regular:</b> (A) Applies greater bolt tension per unit of applied torque; (B) Provides a hardened bearing surface, creating more uniform torque control; (C) Provides more uniform load distribution; (D) Resists loosening caused by vibration and corrosion; (E) Is preferred lock washer for use with hardened bearing surfaces.</p> <p><b>High-Alloy:</b> Designed for use with Grade-5 &amp; Grade-8 bolts and nuts.</p> <p><b>Stainless:</b> For use with stainless nuts and screws of a similar stainless alloy in corrosive environments.</p>
<b>MATERIAL</b>	<p><b>Carbon Steel:</b> SAE J403 1055 - 1065 carbon steel</p> <p><b>High-Alloy:</b> 1/4" through 1": SAE J404 4037 alloy steel; 1/8" through 1-1/2": SAE J1403 1055 - 1065 carbon steel</p> <p><b>18-8 Stainless:</b> SAE J405 302 - 305 stainless steel.</p> <p><b>316 Stainless:</b> SAE J405 316 stainless steel.</p>
<b>HARDNESS</b>	<p><b>Carbon &amp; High-Alloy Steel:</b> Rockwell C38 - 46</p> <p><b>Stainless:</b> Through 5/8": Rockwell C35 - 43; Sizes over 5/8": Rockwell C32 - 43</p>
<b>TWIST TEST</b>	With washer in a vice with the split ends free and straight above the vice jaws, a 90° segment of the free end is gripped with a wrench and bent. Washers are to withstand being twisted through a 90° angle without signs of fracture. When the washer ultimately fractures beyond the prescribed 90° limit, the structure of the breaking point shall show a fine grain.

## ORDERING INFORMATION

**TABLE 3: ORDERING INFORMATION OF SPLIT LOCK WASHERS ZINC**

PART NUMBER	SIZE	QTY/BOX	QTY/CASE
2MSL06	#6	100	7000
2MSL08	#8	100	7000
2MSL10	#10	100	7000
2MSL14	1/4	100	5000
2MSL56	5/16	100	7000
2MSL38	3/8	100	4000
2MSL76	7/16	100	4000
2MSL12	1/2	100	3000
2MSL58	5/8	100	1500
2MSL34	3/4	50	750
2MSL01	1	50	500



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## ORDERING INFORMATION

**TABLE 4: ORDERING INFORMATION OF SPLIT LOCK WASHERS HOT DIP GALVANIZED**

PART NUMBER	SIZE	QTY/BOX	QTY/CASE
2MSLG14	1/4	100	7000
2MSLG38	3/8	100	4000
2MSLG12	1/2	100	3000
2MSLG58	5/8	100	1500
2MSLG34	3/4	50	750
2MSLG78	7/8	50	750
2MSLG100	1	50	500
2MSLG118	1-1/8	50	500
2MSLG114	1-1/4	50	500
2MSLG138	1-3/8	50	500
2MSLG112	1-1/2	50	500
2MSLG134	1-3/4	25	250
2MSLG200	2	25	250
2MSLG214	2-1/4	20	200
2MSLG212	2-1/2	15	150

**TABLE 5: ORDERING INFORMATION OF SPLIT LOCK WASHERS 18-8 STAINLESS STEEL**

PART NUMBER	SIZE	QTY/BOX	QTY/CASE
2MSLS214	1/4	100	7000
2MSLS256	5/16	100	7000
2MSLS238	3/8	100	4000
2MSLS212	1/2	100	2500
2MSLS258	5/8	100	1500
2MSLS234	3/4	50	750
2MSLS278	7/8	50	750
2MSLS210	1	50	500

**TABLE 6: ORDERING INFORMATION OF SPLIT LOCK WASHERS 316 STAINLESS STEEL**

PART NUMBER	SIZE	QTY/BOX	QTY/CASE
2MSLS438	3/8	100	4000
2MSLS412	1/2	100	2500
2MSLS458	5/8	100	1500



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## ORDERING INFORMATION

**TABLE 7: ORDERING INFORMATION OF SPLIT LOCK WASHERS MAGNI 565**

PART NUMBER	SIZE	QTY/BOX	QTY/CASE
2MSL12M	1/2	100	3000
2MSL58M	5/8	100	1500
2MSL34M	3/4	50	750
2MSL78M	7/8	50	750
2MSL100M	1	50	500
2MSL118M	1-1/8	50	500
2MSL114M	1-1/4	50	500
2MSL112M	1-1/2	50	500