

## EXTERNAL TOOTH LOCK WASHERS ASME B18.21.1-1999

Steel & Stainless Steel External Tooth Lockwashers

**Description:**

A locking washer with teeth or prongs which extend outward from the outside edge of the washer. This maintains essential tension and opposes any loosening influence on the fastener. The flexed teeth absorb shock, vibration and slipping.

**Applications:**

The external tooth washer is preferred when finished appearance is less crucial as it provides the greatest torsional resistance and therefore locking efficiency because the teeth are on the largest radius.

**Materials:**

Carbon Steel: SAE 1050 - 1065 spring steel.

18-8 Stainless Steel: SAE 301 - 305

316 Stainless Steel: SAE 316

410 Stainless Steel: SAE 410

**Hardness:**

Carbon Steel: Rockwell C40 - 50

18-8 Stainless Steel: Rockwell C20 - 45

410 Stainless Steel: Rockwell C40 - 50

**Product Line Codes:****Style:**

Steel Black Zinc:

Steel Black Oxide:

Steel Yellow Zinc:

Steel Zinc:

18-8 Stainless Steel Black Oxide:

18-8 Stainless Steel:

410 Stainless Steel:

**Code:**

[WA047](#)

[WA048](#)

[WA049](#)

[WA050](#)

[ST215](#)

[ST216](#)

[ST217](#)

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## Specifications

Nominal Washer Size		Inside Diameter		Outside Diameter		Thickness	
		Max	Min	Max	Min	Max	Min
#2	0.086	0.095	0.086	0.189	0.177	0.013	0.010
#3	0.099	0.109	0.102	0.235	0.220	0.016	0.010
#4	0.112	0.123	0.115	0.260	0.245	0.018	0.012
#5	0.125	0.136	0.129	0.285	0.270	0.020	0.014
#6	0.138	0.150	0.141	0.320	0.305	0.022	0.016
#8	0.164	0.176	0.168	0.381	0.365	0.023	0.018
#10	0.190	0.204	0.195	0.410	0.395	0.024	0.018
#12	0.216	0.231	0.221	0.475	0.460	0.027	0.020
1/4"	0.250	0.267	0.256	0.510	0.494	0.028	0.023
5/16"	0.312	0.332	0.320	0.610	0.588	0.034	0.028
3/8"	0.375	0.398	0.384	0.694	0.670	0.040	0.032
7/16"	0.438	0.464	0.448	0.760	0.740	0.040	0.032
1/2"	0.500	0.530	0.513	0.900	0.880	0.045	0.037
9/16"	0.563	0.596	0.576	0.985	0.960	0.045	0.037
5/8"	0.625	0.663	0.641	1.070	1.045	0.050	0.042
3/4"	0.750	0.795	0.768	1.260	1.220	0.055	0.047
7/8"	0.875	0.927	0.897	1.410	1.380	0.060	0.052
1"	1.000	1.060	1.025	1.620	1.590	0.067	0.059

unless otherwise specified, all dimensions are in inches