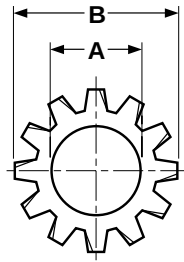


Washers

External Tooth

Steel & Stainless Lockwashers



EXTERNAL TOOTH LOCK WASHERS

ASME
B18.21.1-1994

Nominal Washer Size		A		B		C	
		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	0.015	0.012
#4	0.112	0.123	0.115	0.260	0.245	0.019	0.014
#5	0.125	0.136	0.129	0.285	0.270	0.019	0.015
#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	0.025	0.020
#12	0.216	0.231	0.221	0.475	0.460	0.028	0.023
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	0.5625	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

Description	A hardened circular washer with twisted prongs or "teeth" which extend out from the outer edge of the washer.
Applications/ Advantages	This is the most preferable of all tooth-lock washers. It offers the greatest locking efficiency since the teeth are on the largest radius and provide greater torsional resistance.
Material	Steel: SAE 1050 - 1065 spring steel. 18-8 Stainless: SAE 301 - 305 stainless steel. 316 Stainless: SAE 316 stainless steel. 410 Stainless: SAE 410 stainless steel.
Hardness	Steel: Rockwell C40 - 50 18-8 Stainless: Rockwell C20 - 45 410 Stainless: Rockwell C40 - 50
Twist Test	The rim of the washer shall be cut and the severed ends shall be gripped by pliers (or a vise and pliers). The ends shall separate in the form of a helix to a distance equal to the inside diameter of the washer without fracturing. When the washer ultimately fractures beyond this prescribed limit, the structure at the breaking point shall show a fine grain. Up to the point of fracture, the washer shall retain a firm, springy reaction.
Plating	See Appendix-A for information on the plating of steel lock washers.