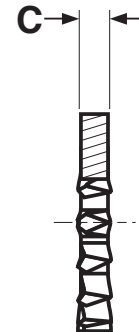
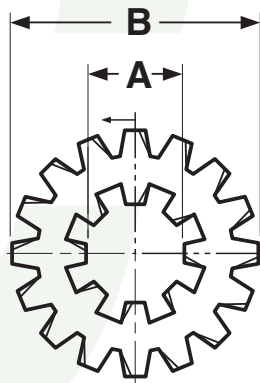


## WASHERS

Steel & Stainless  
Lockwashers

## COMBINATION TOOTH



INTERNAL-EXTERNAL TOOTH LOCK WASHERS						ASME B18.21.1 2009	
Nominal Washer Size		A		B		C	
		Inside Diameter		Outside Diameter *		Thickness	
		Max	Min	Max	Min	Max	Min
4	0.112	0.123	0.115	0.475	0.460	0.021	0.016
6	0.138	0.150	0.141	0.510	0.495	0.028	0.023
8**	0.164	0.176	0.168	0.506	0.494	0.028	0.023
8	0.164	0.176	0.168	0.610	0.580	0.034	0.028
10	0.190	0.204	0.195	0.610	0.580	0.034	0.028
12	0.216	0.231	0.221	0.690	0.670	0.040	0.032
1/4	0.250	0.267	0.256	0.760	0.725	0.040	0.032
5/16	0.312	0.332	0.320	0.900	0.865	0.040	0.032
3/8	0.375	0.398	0.384	0.985	0.965	0.045	0.037
7/16	0.438	0.464	0.448	1.070	1.045	0.050	0.042
1/2	0.500	0.530	0.512	1.260	1.220	0.055	0.047
5/8	0.625	0.663	0.640	1.410	1.380	0.060	0.052

\*Industry standards allow for washers with larger outside diameter dimensions.

\*\*ITW Shakeproof specification, not ASME B18.21.1

<b>Description</b>	A circular washer with twisted prongs or teeth protruding from both the inside and outer edges of the washer.	
<b>Applications/ Advantages</b>	Preferred lockwasher in the following situations: (1) where a larger bearing surface is desired; (2) for an optimum electrical connection; (3) where the hole is oversized or out of round; (4) as an insert between two adjustable pieces where a longitudinal or rotational adjustment must be maintained.	
<b>Material</b>	<b>Steel</b>	<b>Stainless</b>
	SAE 1050 - 1065 or equivalent spring steel	301 - 305 stainless steel
<b>Hardness</b>	Rockwell C40 - 50	Annealed: Rockwell B88 minimum 1/4 hard thru full hard: Rockwell C 20 - 45
<b>Plating</b>	See Appendix-A for information about the plating of steel lock washers.	Stainless lockwashers are usually supplied plain or with a black oxide conversion finish.