

**SAE THROUGH-HARDENED FLAT WASHERS**

Bolt Size	Outside Diameter			Inside Diameter			Thickness		Approximate Number per 50 Pounds
	Nominal	Max	Min	Nominal	Max	Min	Max	Min	
6	3/8	0.390	0.370	5/32	0.164	0.151	.065	.036	39500
8	7/16	0.453	0.433	3/16	0.196	0.183	.065	.036	29500
10	1/2	0.515	0.495	7/32	0.227	0.214	.065	.036	22750
12	9/16	0.577	0.557	1/4	0.265	0.245	.080	.051	14700
1/4	5/8	0.640	0.620	9/32	0.296	0.276	.080	.051	13000
5/16	11/16	0.703	0.681	11/32	0.359	0.339	.080	.051	10000
3/8	13/16	0.827	0.805	13/32	0.419	0.401	.080	.051	7000 - 8000
7/16	59/64	0.937	0.915	15/32	0.484	0.464	.080	.051	5000 - 6000
1/2	1-1/16	1.092	1.055	17/32	0.546	0.526	.121	.074	2425 - 3000
9/16	1-3/16	1.186	1.149	19/32	0.609	0.589	.121	.074	2000 - 2250
5/8	1-5/16	1.342	1.305	21/32	0.686	0.649	.146	.108	1340 - 1800
3/4	1-15/32	1.499	1.462	13/16	0.842	0.805	.177	.122	1120 - 1300
7/8	1-3/4	1.780	1.743	15/16	0.968	0.931	.177	.136	695 - 700
1	2	2.030	1.993	1-1/16	1.092	1.055	.177	.136	555 - 600
1-1/8	2-1/4	2.280	2.243	1-1/4	1.280	1.243	.177	.146	435 - 450
1-1/4	2-1/2	2.530	2.493	1-3/8	1.405	1.368	.177	.136	350 - 400
1-1/2	3	3.030	2.993	1-5/8	1.655	1.618	.177	.136	240 - 250
1-3/4	3-3/8	3.405	3.368	1-7/8	1.905	1.868	.201	.178	150
2	3-3/4	3.780	3.748	2-1/8	2.155	2.118	.201	.178	125

Description	Dimensionally equivalent to the low carbon SAE flat washer counterparts, but with tighter tolerances on thickness, manufactured from a higher grade of steel and heat-treated.
Applications/ Advantages	Designed to perform the same functions as low carbon SAE flat washers, but for use specifically with high-strength hardened steel bolts.
Material	SAE 1035 - 1050 steel
Hardness	Rockwell C38 - 45
Plating	See Appendix-A for information about the plating of through-hardened flat washers.

*Product standards require all through-hardened washers 1/4" diameter and larger to bear the insignia identifying its manufacturer. "X" represents one location such as an insignia may appear.