

Flat Washers

Galvanized Dock Washers



Dock Washers are most commonly used in construction applications. They have an oversized outer diameter and are galvanized for corrosion resistance.

Nominal Size	Outer Diameter	Inner Diameter	Galvanized Part No.
1/2"	3.000"	0.562"	11103154
5/8"	3.000"	0.687"	11103155
3/4"	3.000"	0.812"	11103156
7/8"	3.000"	0.937"	11103157
1"	3.250"	1.062"	11103158
1-1/4"	4.000"	1.375"	11103159

Square Washers

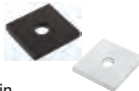
Square I.D. Washers



Square Washers offer a large surface and are most often used in channel applications

Nominal Size	Inner Diameter	Outer Diameter	Plain Part No.
#5	0.132"	0.312"	-
#8	0.187"	0.375"	11103145
#10	0.226"	0.500"	11103146
5/16"	0.320"	0.680"	11103147
3/8"	0.385"	0.750"	11103148
3/8"	0.405"	0.700"	11103149
1/2"	0.517"	0.937"	11103150
1/2"	0.555"	1"	11103151
9/16"	0.617"	1.125"	11103152
5/8"	0.700"	1.250"	11103153

Square O.D. Washers



Square Washers offer a large surface and are most often used in channel applications

Nominal Size	Inner Diameter	Outer Diameter	Black Oxide Part No.	Galvanized Part No.
1/4"	0.312"	2"	11101243	-
3/8"	0.438"	2"	11101244	11101250
1/2"	0.563"	2"	11101245	11101251
5/8"	0.687"	2"	11101246	11101252
3/4"	0.812"	2"	11101247	11101253
7/8"	0.937"	2"	11101248	11101254
1"	1.062"	2"	11101249	-

Structural Washers

Round Raised Malleable Structural Washers



Large surface area to prevent nut from sinking under high stress. Raised nubs on the top secure the washer against the nut. A nail can be used in the outer notches to prevent the washer from turning in wood.

Nominal Size	Galvanized Part No.	Plain Part No.
3/8"	0128537	11102535
1/2"	0128538	11102536
5/8"	0128539	11102537
3/4"	0128540	11102538
1"	-	11102539

ASTM F436 Structural Flat Washers



Structural Washers to be used with A325 and A490 Structural Bolts.

Nominal Size	Zinc Part No.	Plain Part No.	Mechanically Galvanized Part No.
1/2"	0156023	33117	33172
9/16"	-	33118	-
5/8"	0156026	33119	33173
3/4"	0156029	33120	33174
7/8"	0156032	33121	33175
1"	0156035	33122	33176
1-1/8"	0156038	33123	33179
1-1/4"	0156041	33124	33177
1-3/8"	-	33125	33194
1-1/2"	0156044	33126	33178
1-5/8"	-	33127	-
1-3/4"	0156047	33128	33196
1-7/8"	-	33129	-
2"	0156050	33130	33199

Made in the USA ASTM F436 Structural Flat Washers



Structural Washers to be used with A325 and A490 Structural Bolts.

Nominal Size	Plain Part No.	Yellow Zinc Part No.	Hot Dipped Galvanized Part No.	Mechanically Galvanized Part No.
1/2"	0133544	0156024	0156022	0133549
5/8"	0133545	0156027	0156025	0133550
3/4"	0133546	0156030	0156028	0133551
7/8"	0133547	0156033	0156031	0133552
1"	0133548	0156036	0156034	0133553
1-1/8"	0156052	0156039	0156037	0156053
1-1/4"	0156054	0156042	0156040	0156055
1-1/2"	0156056	0156045	0156043	0156057
1-3/4"	0156058	0156048	-	0156059
2"	0156060	0156051	0156049	0156061

ASTM F436 Extra Thick Structural Flat Washers



Flat washers are used typically under the head of a bolt or a nut to distribute the forces applied when tightening. Yellow Zinc offers a modest amount of corrosion resistance, slightly higher than that of clear zinc.

Nominal Size	Nominal Thickness	Outer Diameter	Inner Diameter	Yellow Zinc Part No.
1/4"	0.090"	0.625"	0.281"	0161175
5/16"	0.090"	0.687"	0.344"	0161176
3/8"	0.110"	0.812"	0.406"	0161177
7/16"	0.110"	0.921"	0.468"	0161178
1/2"	0.305"	1.062"	0.531"	0161179
9/16"	0.305"	1.187"	0.593"	0161180
5/8"	0.305"	1.312"	0.656"	0161181
3/4"	0.305"	1.468"	0.812"	0161182
7/8"	0.305"	1.750"	0.937"	0161183
1"	0.305"	2"	1.062"	0161184

Load Indicating Washers

Load Indicating Washers



Often referred to as "Direct Tension Indicators", Load Indicating Washers are a simple, accurate, and cost effective method for installing structural bolts to their specified tension.

Application - Use with A325 Structural Bolts		
Nominal Size	Mechanically Galvanized Part No.	Plain Part No.
1/2"	33299	33290
5/8"	33300	33291
3/4"	33301	33292
7/8"	33302	33293
1"	33303	33294
1-1/8"	33304	33295
1-1/4"	33305	33296
1-1/2"	33307	33298

Application - Use with A490 Structural Bolts		
Nominal Size	Mechanically Galvanized Part No.	Plain Part No.
3/4"	33319	33310
7/8"	33320	33311
1"	-	33312
1-1/8"	-	33313
1-1/4"	33323	33314
1-1/2"	-	33316

SQUIRTER® DTIs



SQUIRTER® DTIs are Direct Tension Indicators with a flexible silicone embedded in the depressions under the bumps. As the bumps in the steel DTI washer are compressed by the action of tightening the bolt, the silicone is squirted out and becomes a visible indicator of correct bolt tension.

Application - Use with A325 Structural Bolts		
Nominal Size	Plain Part No.	Galvanized Part No.
1/2"	0157594	0157602
5/8"	0157595	0157603
3/4"	0157596	0157604
7/8"	0157597	0157605
1"	0157598	0157606
1-1/8"	0157599	0157607
1-1/4"	0157600	0157608
1-1/2"	0157601	0157609

Application - Use with A490 Structural Bolts	
Nominal Size	Plain Part No.
3/4"	0157618
7/8"	0157619
1"	0157620
1-1/8"	0157621
1-1/4"	0157622
1-1/2"	0157623

Belleville Washers

Belleville Washers



Designed to maintain tension in bolted assemblies with spring-like action.

Nominal Size	Overall Height	Outer Diameter	Inner Diameter	Thickness	Stainless Steel Part No.
#6	0.0320"	0.312"	0.147"	0.016"	0172465
#8	0.0480"	0.375"	0.174"	0.020"	0172466
#10	0.0480"	0.437"	0.203"	0.020"	0172467
3/4"	0.1550"	1.490"	0.765"	0.078"	0172468

Beveled Washers

Beveled Washers



Square beveled washers are specially designed for shimming and leveling in structural applications. Use with American standard beams and channels that have 1:6 slope (the same taper as a standard I-beam). Hardened steel washers conform to ASTM F 436. They are suitable for use with A325/A490 structural bolts.

Nominal Size	Plain Part No.	Hot Dipped Galvanized Part No.
1/2"	33344	33882
5/8"	33345	33883
3/4"	33346	33884
7/8"	33347	33885
1"	33348	33886