

Washer Information

WASHER TYPES



Beveled

Top-bearing surface is cut at an oblique angle to compensate for nonparallel surfaces in structural leveling and shimming applications. Can be round or square. See page 2093.



Conical or Spring

Slight dish shape and edges sheared parallel to the center line increase elasticity of joint for absorbing shock and maintaining tension under dynamic loads.



Countersunk

Allows flat or oval head countersunk screws to be flush with surface for finished appearance. See page 2096.



Disc-Lock™

2-pc. washer has interlocking cams and nonslip ridges that work together under vibration to prevent loosening and lock the assembly, maintaining joint integrity.



Fender

Large outside diameter provides extra-wide bearing surface for distributing force/stress; covers oversize holes. See page 2092.



Flat

The most common washer, with 2 flat surfaces for distributing force/stress of a nut or bolt and reducing friction and heat during installation of a threaded fastener. Can be round or square. See pages 2088, 2089.



SAE Flat—Very similar to the USS, except it has a smaller outside diameter and has a tighter fit to the bolt. Used in the automotive industry. See grainger.com/fasteners.



USS Flat—Most commonly used washer has a large outside diameter that helps distribute forces applied when tightening. See grainger.com/fasteners.



Friction

Rougher washer surfaces have embedded material to provide additional friction and help prevent loosening, even in high-vibration applications. See grainger.com/fasteners.



Nord-Lock®

2-pc. system serration and cams creates wedge locking action that prevents bolts from unintentional loosening. Bolt rotation is blocked due to tension between the pair of washers, regardless of high vibration or dynamic loads. See page 2093.



Ogee

Oversize, curved bearing surface keeps bolt heads and nuts from pulling into wood. The load-distributing ogee curve can serve as a force spreader in structural use. See grainger.com/fasteners.



Raised

Has a large bearing surface and raised reinforcements for structural use with wood fasteners. See page 2096.



Retaining

Feature a specially configured inner diameter that slides on the screw easily, but then grips the outside of the screw shank for retention. Ideal for preassembly and kitting. See grainger.com/fasteners.



Self-Sealing

Bonded silicone rubber to a stainless-steel compressible washer. High-pressure sealing, internally and externally.



Shoulder

Barrel protrudes from center hole of flat-bottomed washer to isolate or insulate a screw, shaft, or rivet. See grainger.com/fasteners.



Slotted

A slot the same width as the hole diameter is cut from the center to the perimeter. Slips on and off shaft without removing fastener. See grainger.com/fasteners.



Spherical

2-piece equalizing assembly with 1 flat washer and 1 dish-shaped washer. Eliminates unequal thread loads and stress from nonparallel surfaces. See grainger.com/fasteners.



Split Lock

Split with 1 end bent slightly outward to bite in and prevent loosening. Acts like a spring under compression to provide extra holding force and decrease frictional resistance during assembly and disassembly. See page 2094.



Tooth Lock

Also referred to as star washers. Directional teeth or serrated edges bite into fastener head/workpiece to prevent loosening. See page 2094.



Wave

Wavy shape provides compensating spring force, increases load-bearing capacity, absorbs shock and vibrations, and resists loosening and fatigue. See grainger.com/fasteners.



2FU05



3CWA2



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Washer Assortments

No. of Pieces	Material	Finish	No. of Sizes	Includes	Brand	Item No.
Flat Washer Assortment						
Standard						
587	Steel	Zinc	11	(160) Each: #6, (140) Each: #8, (100) Each: 3/16 in, (60) Each: 1/4 in, 3/8 in, (30) Each: 1/2 in, (12) Each: 5/8 in, (8) Each: 3/4 in, (6) Each: 7/8 in, 1 in, (5) Each: 1 1/4 in, and Plastic Case	—	53WR09
Nut and Washer Assortment						
600	Low Carbon Steel	Chrome	12	Split Lock Washers (50) Each: 1/4 in, 3/8 in, 1/2 in, Flat Washers (50) Each: 1/4 in, 3/8 in, 1/2 in, Hex Nuts (50) Each: 1/4"-20, 1/4"-28, 5/16"-18, 3/16"-24, 3/8"-16, 3/4"-24, and Plastic Container	—	2FU05
170	18-8 Stainless Steel	Plain	7	Hex Nuts (30) Each: 6-32, (25) Each: 8-32, (20) Each: 10-24, (15) Each: 1/4"-20, Flat Washers (30) Each: #8, #10, (20) Each: 1/4 in, Plastic Hanging Pak	—	53WR27
177	Steel	Zinc	6	Hex Nuts (30) Each: 8-32, (25) Each: 10-24, (12) Each: 1/4"-20, Flat Washers (50) Each: #8, (40) Each: #10, (20) Each: 1/4 in, and Plastic Hanging Pak	—	53WR20
Washer Assortment						
Fender						
143	Steel	Zinc	12	(20) Each: 1/8 in x 3/4 in, 3/16 in x 1/2 in, (15) Each: 3/16 in x 1 in, (12) Each: 1/4 in x 1 in, (10) Each: 3/16 in x 1 1/4 in, 1/4 in x 1 1/4 in, 3/16 in x 1 1/2 in, x1 1/2 in, 3/8 in x 1 1/4 in, x1 1/2 in, (8) Each: 1/4 in x 1 1/2 in, 3/16 in x 1 1/2 in, Plastic Hanging Pak	—	53WR16
1,400	Steel	Zinc	14	(100) Each: #6 x 3/4 in, 3/16 in x 1/2 in, 3/16 in x 3/4 in, x1 in, x1 1/4 in, 1/4 in x 1 in, x1 1/4 in, x1 1/2 in, 3/16 in x 1 1/4 in, x1 1/2 in, x1 3/4 in, 3/8 in x 1 1/4 in, x1 1/2 in, 1/2 in x 2 in, Plastic Container	—	53WR01
240	PTFE	Plain	8	Color: White, (40) Each: 0, 1/4, 1/4L, 3/8, (20) Each: 000, 00, 3/8L, 1/2, Plastic Box With Lid Chart	—	3CWA2
Flat and Split Lock						
232	Steel (SAE)	Zinc	12	(15) 1/2 in Flat Washers, (15) 1/2 in Split Lock Washers, (30) 1/4 in Flat Washers, (30) 1/4 in Split Lock Washers, (30) 3/8 in Flat Washers, (30) 3/8 in Split Lock Washers, (30) 1/2 in Flat Washers, (30) 1/2 in Split Lock Washers, (5) 3/4 in Flat Washers, (5) 3/4 in Split Lock Washers, (6) 3/8 in Flat Washers, (6) 3/8 in Split Lock Washers, Plastic Hanging Pak	Itw Bee Leitzke	2NR29
310	Steel	Zinc	12	Flat Washers (50) Each: #10, (30) Each: 1/4 in, (25) Each: 3/8 in, 1/2 in, (20) Each: 5/16 in, 3/8 in, (15) Each: 1/2 in, Split Lock Washers (50) Each: #10, (25) Each: 1/4 in, (20) Each: 3/8 in, 1/2 in, (16) Each: 5/16 in, (14) Each: 1/2 in, Plastic Hanging Pak	—	53WR28
Thin Fender						
318	Steel	Zinc	11	(48) Each: 10x1 in, (40) Each: 1/4x1 in, (30) Each: 6x5/8 in, 8x3/4 in, 10x1 1/4 in, (24) Each: 1/4x1 1/2 in, 5/16x1 1/2 in, x2 in, 3/8x1 1/4 in, x1 1/2 in, (20) Each: 5/16x1 1/4 in, Plastic Container	—	4AMG6
318	316 Stainless Steel	Plain	11		—	4AMG8
318	18-8 Stainless Steel	Plain	11		—	4AMG7