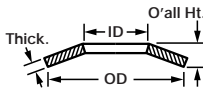


Lock Washers

Belleville Spring Lock Washers



Also called conical washers, these washers resist loosening due to heat and vibration. **Serrated**—Small grooves grip by uniformly pressing against surfaces. **Nonserrated**—Wider and stronger than serrated washers. **18-8 Stainless Steel**—Excellent corrosion resistance. May be mildly magnetic. Rockwell hardness is C38-C52 for inch sizes and B80 for metric. All steel washers are made of C1060-C1075 steel. Rockwell hardness is C42-C52. **Black-phosphate steel** is mildly rust resistant. Overall height listed is the minimum free (uncompressed) height.

Serrated (Top and Bottom) for Socket Head Cap Screws

| Screw Size | | ID | OD | Thick., Min.-Max. | O'all Ht. | 18-8 Stainless Steel | | Black-Phosphate Steel | | | |
|------------|--------|--------|--------|-------------------|-----------|----------------------|-----------|-----------------------|----------|-----------|--------|
| Inch | Metric | | | | | Pkg. Qty. | Per Pkg. | Pkg. Qty. | Per Pkg. | | |
| — | M2 | 0.087" | 0.157" | 0.0120"-0.0145" | 0.015" | 50 | 90895A001 | \$8.62 | 100 | 93501A001 | \$5.25 |
| — | M2.5 | 0.106" | 0.189" | 0.0153"-0.0185" | 0.019" | 50 | 90895A003 | 8.62 | 100 | 93501A003 | 5.25 |
| 5 | M3 | 0.126" | 0.217" | 0.0153"-0.0185" | 0.020" | 50 | 90895A005 | 8.62 | 100 | 93501A005 | 5.25 |
| 6 | M3.5 | 0.146" | 0.236" | 0.0177"-0.0209" | 0.035" | 100 | 90895A007 | 12.88 | 100 | 93501A007 | 4.58 |
| 8 | M4 | 0.169" | 0.276" | 0.0173"-0.0205" | 0.039" | 100 | 90895A009 | 14.31 | 100 | 93501A009 | 5.05 |
| 10 | M5 | 0.209" | 0.354" | 0.0212"-0.0244" | 0.043" | 50 | 90895A027 | 10.58 | 100 | 93501A027 | 6.41 |
| 1/4" | M6 | 0.264" | 0.374" | 0.0241"-0.0288" | 0.047" | 50 | 90895A029 | 14.31 | 100 | 93501A029 | 7.25 |
| 5/16" | M8 | 0.331" | 0.512" | 0.0280"-0.0327" | 0.055" | 25 | 90895A030 | 11.61 | 100 | 93501A030 | 8.75 |
| 3/8" | M10 | 0.413" | 0.630" | 0.0359"-0.0406" | 0.063" | 10 | 90895A031 | 7.73 | 100 | 93501A031 | 10.00 |
| 7/16" | M11 | 0.457" | 0.626" | 0.0359"-0.0406" | 0.063" | — | — | — | 100 | 93501A032 | 10.38 |
| 1/2" | M12 | 0.539" | 0.748" | 0.0398"-0.0445" | 0.071" | 10 | 90895A033 | 13.90 | 50 | 93501A033 | 9.80 |
| 9/16" | M14 | 0.591" | 0.866" | 0.0437"-0.0484" | 0.079" | 5 | 90895A037 | 8.72 | 50 | 93501A034 | 10.25 |
| 5/8" | M16 | 0.669" | 0.945" | 0.0465"-0.0528" | 0.083" | 5 | 90895A035 | 10.64 | 50 | 93501A035 | 10.38 |
| — | M18 | 0.748" | 1.063" | 0.0544"-0.0670" | 0.091" | 1 | 90895A021 | 3.28 | 10 | 93501A021 | 6.25 |
| 3/4" | M19 | 0.787" | 1.181" | 0.0544"-0.0607" | 0.098" | 5 | 90895A036 | 12.23 | 25 | 93501A036 | 10.38 |
| — | M20 | 0.827" | 1.181" | 0.0544"-0.0670" | 0.076" | — | — | — | 10 | 93501A022 | 8.75 |
| 7/8" | M22 | 0.906" | 1.299" | 0.0544"-0.0607" | 0.106" | — | — | — | 20 | 93501A037 | 10.25 |
| 1" | M25 | 1.063" | 1.496" | 0.0740"-0.0803" | 0.122" | — | — | — | 10 | 93501A038 | 10.29 |
| 1 1/8" | M30 | 1.244" | 1.772" | 0.0740"-0.0830" | 0.109" | — | — | — | 5 | 93501A023 | 8.75 |
| 1 3/8" | M36 | 1.496" | 2.126" | 0.0937"-0.1000" | 0.165" | — | — | — | 5 | 93501A040 | 10.38 |

Serrated (Top Only) for Machine and Hex Head Cap Screws

| Screw Size | ID | OD | Thick. | O'all Ht. | Pkg. Qty. | Plain Steel Per Pkg. |
|------------|--------|--------|--------|-----------|-----------|----------------------|
| 6 | 0.142" | 0.362" | 0.028" | 0.042" | 100 | 90127A007 \$7.05 |
| 8 | 0.161" | 0.402" | 0.039" | 0.053" | 100 | 90127A009 8.67 |
| 10 | 0.201" | 0.481" | 0.050" | 0.066" | 100 | 90127A011 11.59 |
| 1/4" | 0.254" | 0.559" | 0.052" | 0.078" | 100 | 90127A029 14.95 |
| 5/16" | 0.323" | 0.717" | 0.055" | 0.085" | 50 | 90127A030 10.81 |
| 3/8" | 0.402" | 0.877" | 0.062" | 0.097" | 25 | 90127A031 9.23 |
| 7/16" | 0.489" | 1.074" | 0.078" | 0.108" | 25 | 90127A032 14.13 |
| 1/2" | 0.512" | 1.074" | 0.078" | 0.108" | 25 | 90127A033 13.81 |
| 5/8" | 0.646" | 1.273" | 0.098" | 0.140" | 10 | 90127A035 12.47 |

Nonserrated for Machine and Hex Head Cap Screws

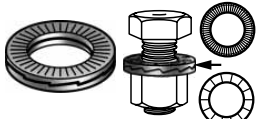
| Screw Size | ID | OD | Thick., Min.-Max. | O'all Ht. | Pkg. Qty. | 18-8 Stainless Steel Per Pkg. |
|------------|--------|--------|-------------------|-----------|-----------|-------------------------------|
| 6 | 0.142" | 0.344" | 0.023"-0.027" | 0.042" | 50 | 91235A102 \$12.41 |
| 8 | 0.168" | 0.406" | 0.029"-0.033" | 0.050" | 50 | 91235A105 13.48 |
| 10 | 0.196" | 0.469" | 0.033"-0.037" | 0.057" | 25 | 91235A109 7.84 |
| 1/4" | 0.258" | 0.688" | 0.048"-0.052" | 0.090" | 10 | 91235A112 5.15 |
| 5/16" | 0.322" | 0.813" | 0.060"-0.064" | 0.100" | 25 | 91235A115 14.47 |
| 3/8" | 0.386" | 0.938" | 0.070"-0.076" | 0.112" | 10 | 91235A120 9.21 |
| 1/2" | 0.515" | 1.188" | 0.091"-0.099" | 0.152" | 5 | 91235A126 6.51 |

■ 17-7 PH stainless steel.

Metric Nonserrated for Machine and Hex Head Cap Screws—DIN 696

| Screw Size, mm | ID, mm | OD, mm | Thick., mm | O'all Ht., mm | 18-8 Stainless Steel Pkg. Qty. | Zinc-Plated Steel Per Pkg. | Plain Steel Pkg. Qty. | Per Pkg. | | |
|----------------|--------|--------|------------|---------------|--------------------------------|----------------------------|-----------------------|------------------|-----|-----------------|
| M2 | 2.2 | 5 | 0.4 | 0.60 | 100 | 95221A101 \$8.62 | 100 | 93497A100 \$6.03 | | |
| M3 | 3.2 | 7 | 0.6 | 0.85 | 10 | 91477A121 \$0.69 | 100 | 95221A103 8.62 | 100 | 93497A120 6.38 |
| M4 | 4.3 | 9 | 1.0 | 1.30 | 25 | 91477A141 2.19 | 100 | 95221A105 9.66 | 100 | 93497A140 7.76 |
| M5 | 5.3 | 11 | 1.2 | 1.55 | 50 | 95221A107 7.93 | 100 | 95221A109 6.90 | 50 | 93497A150 9.14 |
| M6 | 6.4 | 14 | 1.5 | 2.00 | 25 | 91477A161 5.09 | 25 | 95221A111 6.90 | 25 | 93497A161 6.90 |
| M8 | 8.4 | 18 | 2.0 | 2.60 | 10 | 91477A181 2.32 | 25 | 95221A113 11.03 | 10 | 93497A181 6.90 |
| M10 | 10.5 | 23 | 2.5 | 3.20 | 25 | 91477A190 9.41 | 10 | 95221A115 10.69 | 10 | 93497A191 5.34 |
| M12 | 13.0 | 29 | 3.0 | 3.95 | 10 | 91477A200 6.72 | 5 | 95221A117 7.76 | 1 | 93497A200 10.69 |
| M16 | 17.0 | 39 | 4.0 | 5.25 | 5 | 91477A220 7.10 | 1 | 95221A119 12.41 | 1 | 93497A221 2.76 |
| M20 | 21.0 | 45 | 5.0 | 6.40 | 1 | 91477A240 2.73 | 1 | 95221A121 17.24 | 1 | 93497A240 6.34 |
| M24 | 25.0 | 56 | 6.0 | 7.75 | — | — | — | — | — | — |

Wedge Lock Washers



Also called Nord-Lock washer assemblies, these washers hold tight even when subjected to extreme vibration. An assembly includes a pair (one top and one bottom) of reusable washers, each with wedges on one side and radial teeth on the other. As the bolt is tightened, wedges lock together to prevent loosening. ID and OD tolerances are ±0.008". Assembly thickness is ±0.010".

Type 316 stainless steel offers excellent corrosion resistance and may be mildly magnetic. Rockwell hardness is C29. **Zinc and yellow-chromate plated steel** is for use with Grade 8 and Class 10.9 bolts. Provides good rust resistance. Made of through-hardened C1020 steel with a Rockwell hardness of C42.

| Screw Size | | ID | OD | Assembly Thick. | Pair/Pkg. | Per Pkg. | |
|---|--------|--------|-------|-----------------|-----------------|------------------|----------|
| Inch | Metric | | | | | | |
| Type 316 Stainless Steel | | | | | | | |
| 5 | M3 | 0.13" | 0.28" | 0.09" | 10 | 91812A212 \$7.24 | |
| 8 | M4 | 0.17" | 0.29" | 0.09" | 10 | 91812A215 7.24 | |
| 10 | M5 | 0.21" | 0.35" | 0.09" | 10 | 91812A217 7.24 | |
| 1/4" | M6 | 0.28" | 0.45" | 0.09" | 10 | 91812A229 8.49 | |
| 5/16" | M8 | 0.34" | 0.53" | 0.09" | 10 | 91812A230 9.43 | |
| 3/8" | M10 | 0.41" | 0.63" | 0.09" | 10 | 91812A231 10.47 | |
| 7/16" | M11 | 0.45" | 0.73" | 0.09" | 5 | 91812A232 9.31 | |
| 1/2" | M12 | 0.53" | 0.77" | 0.09" | 5 | 91812A233 9.31 | |
| 5/8" | M16 | 0.67" | 1.00" | 0.13" | 5 | 91812A235 13.66 | |
| Zinc and Yellow-Chromate Plated Steel | | | | | | | |
| 5 | M3 | 0.13" | 0.28" | 0.07" | 25 | 91074A112 7.06 | |
| 8 | M4 | 0.17" | 0.29" | 0.07" | 25 | 91074A115 7.46 | |
| 10 | M5 | 0.21" | 0.35" | 0.07" | 25 | 91074A127 7.06 | |
| 1/4" | M6 | 0.28" | 0.45" | 0.07" | 25 | 91074A129 7.48 | |
| 5/16" | M8 | 0.34" | 0.53" | 0.10" | 25 | 91074A130 8.06 | |
| 3/8" | M10 | 0.41" | 0.65" | 0.10" | 25 | 91074A131 9.45 | |
| 7/16" | M11 | 0.45" | 0.73" | 0.10" | 10 | 91074A132 6.07 | |
| 1/2" | M12 | 0.53" | 0.77" | 0.10" | 10 | 91074A133 6.32 | |
| 5/8" | M14 | 0.60" | 0.91" | 0.13" | 10 | 91074A134 9.02 | |
| Screw Size | | | | | | | |
| Inch | | Metric | ID | OD | Assembly Thick. | Pair/Pkg. | Per Pkg. |
| Zinc and Yellow-Chromate Plated Steel (Cont.) | | | | | | | |
| 5/8" | M16 | 0.67" | 1.00" | 0.13" | 10 | 91074A135 \$9.02 | |
| 3/4" | M20 | 0.79" | 1.21" | 0.13" | 5 | 91074A136 6.69 | |
| 7/8" | M22 | 0.92" | 1.36" | 0.13" | 5 | 91074A137 8.94 | |
| 1" | — | 1.10" | 1.54" | 0.13" | 5 | 91074A138 11.41 | |
| 1 1/8" | M30 | 1.24" | 1.85" | 0.26" | 2 | 91074A140 7.44 | |
| 1 1/4" | M33 | 1.35" | 1.91" | 0.26" | 2 | 91074A145 8.16 | |
| 1 3/8" | M36 | 1.47" | 2.17" | 0.26" | 2 | 91074A150 10.10 | |
| 1 1/2" | M39 | 1.59" | 2.30" | 0.26" | 2 | 91074A160 10.47 | |
| Assortments | | | | | | | |
| 150 Pair (300 Pieces) —Includes 50 pairs of 1/4"; 40 pairs of 5/16"; 25 pairs of 3/8"; 20 pairs of 1/2"; and 15 pairs of 5/8". Comes in a 1 1/2" Ht. x 3 1/2" Wd. x 7" Dp. plastic case. | | | | | | | |
| Type 316 Stainless Steel..... 91812A114 Each \$185.91 | | | | | | | |
| Zinc and Yellow-Chromate Plated Steel..... 91074A213 Each \$74.36 | | | | | | | |
| 325 Pair (650 Pieces) —Made of zinc and yellow-chromate plated steel. Includes 100 pairs each of 1/4" and 3/8"; 50 pairs each of 5/16" and 1/2"; and 25 pairs of 5/8". Comes in a 2" Ht. x 13" Wd. x 9" Dp. metal box. | | | | | | | |
| 91074A111 Each \$127.20 | | | | | | | |