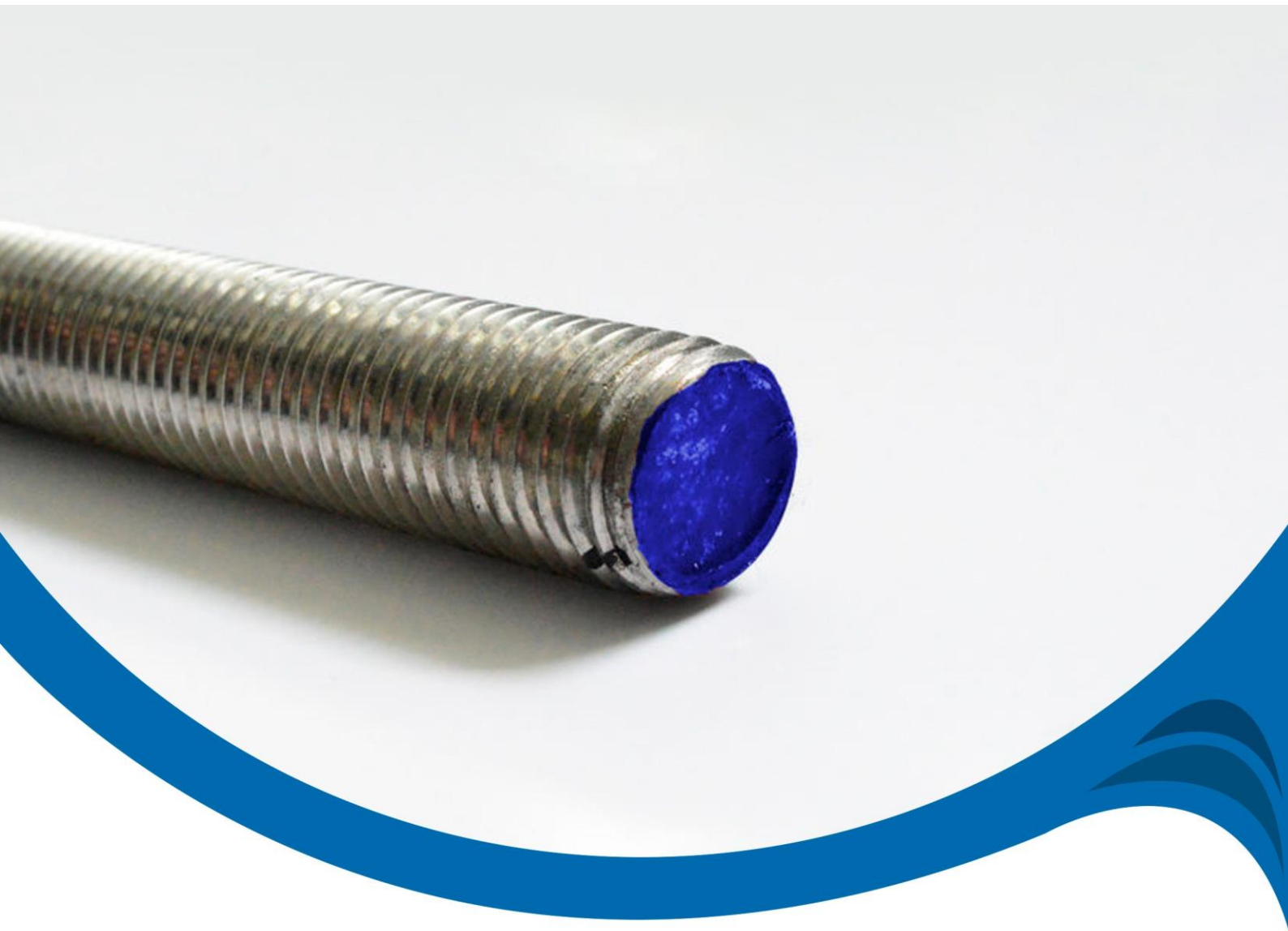

# Threaded Rod

## Size Chart

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1. Threaded Bar
2. All Thread Rod
3. ACME Threaded Rod

## About

Searching Threaded Rod Size Chart, Refer PDF Which Covers Chart Of Most Popular Grade ASTM A325, A320 Grade B8, A36, A490 Threaded Bar Sizes in MM and High Tensile Grade 8.8, 10.9 and 12.9 Dimensions

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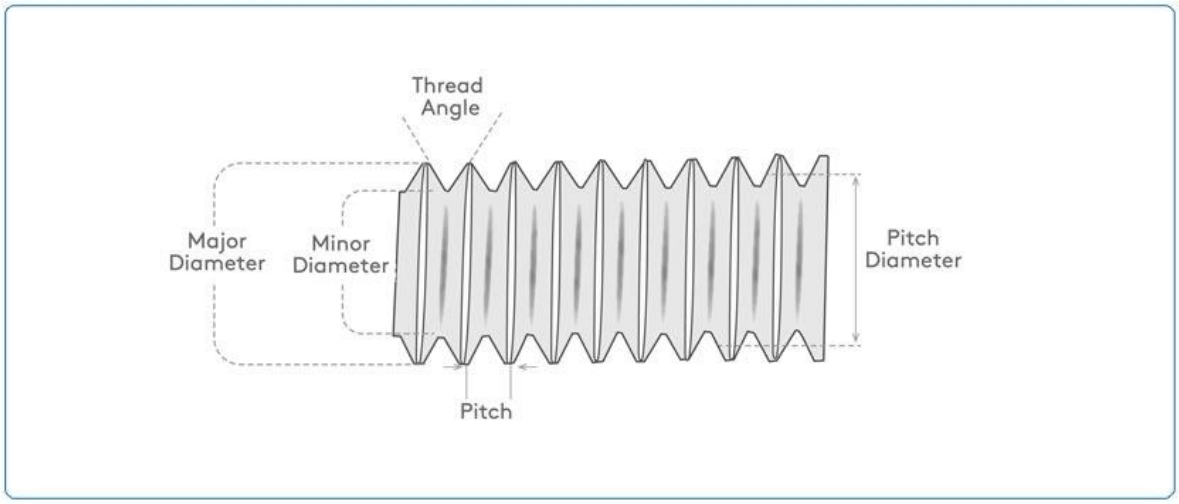
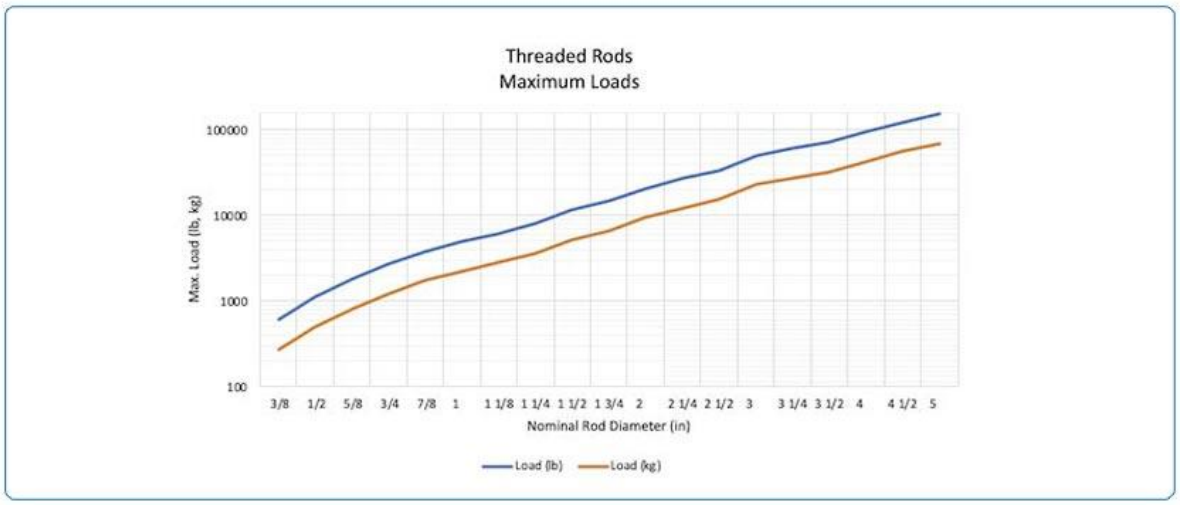
# Threaded Rod Sizes




| MAJOR DIAMETER | THREAD SIZE | TAPPING DRILL SIZE | THREAD PITCH (mm) |
|---|---|---|---|
| **4** | M4 | 3.3 | 0.7 |
| **3** | M3 | 2.5 | 0.5 |
| **5** | M5 | 4.2 | 0.8 |
| **8** | M8 | 6.8 | 1.25 |
| **6** | M6 | 5 | 1 |
| **10** | M10 | 8.5 | 1.5 |
| **16** | M16 | 14 | 2 |
| **12** | M12 | 10.2 | 1.75 |
| **20** | M20 | 17.5 | 2.5 |

# Threaded Rod Load Chart




| Thread Size | Min. Proof Load (kg) | Stress Area (mm²) |
|---|---|---|
| **M4** | 204 | 8.8 |
| **M3** | 112 | 5 |
| **M5** | 326 | 14.2 |
| **M8** | 836 | 36.6 |
| **M6** | 459 | 20.1 |
| **M16** | 3598 | 157 |
| **M20** | 5617 | 245 |
| **M12** | 1937 | 84.3 |
| **M10** | 1335 | 58 |

Threaded Bar Sizes in MM and Weight Chart

## Threaded Bar Sizes in MM

### Stainless Steel

| Standard | Size | Dimensions | Material Grade | Description |
|---|---|---|---|---|
| ASTM A 307 | 1/4 to 2.1/2" | UNC | 316S31, SS 316L, SS 316, SS 304, | Thread rod |
| DIN 975 | M6 to M64 | MM | 316S31, SS 316, SS 304, SS 316L | Threaded bars |
| ASTM A 36 | 1/4 to 2.1/2" | ANSI , UNC | 316S31, SS 316, SS 304, SS 316L | Threaded rods |

### Alloy Steel

| Standard | Size | Dimensions | Material Grade | Description |
|---|---|---|---|---|
| **ASTM A 307** | 1/4 to 2.1/2" | UNC | 12.9, 10.9 | Thread rod |
| **DIN 975** | M6 to M64 | MM | 12.9, 10.9 | Threaded bars |
| **ASTM A 36** | 1/4 to 2.1/2" | ANSI , UNC | 12.9, 10.9 | Threaded rods |

### Duplex

| Standard | Size | Dimensions | Material Grade | Description |
|---|---|---|---|---|
| **ASTM A 307** | 1/4 to 2.1/2" | UNC | S31803, S32205 | Thread rod |
| **DIN 975** | M6 to M64 | MM | S31803, S32205 | Threaded bars |
| **ASTM A 36** | 1/4 to 2.1/2" | ANSI , UNC | S31803, S32205 | Threaded rods |

### Carbon Steel

| Standard | Size | Dimensions | Material Grade | Description |
|---|---|---|---|---|
| ASTM A 307 | 1/4 to 2.1/2" | UNC | S31803, S32205 | Thread rod |
| DIN 975 | M6 to M64 | MM | 6.6, 5.6, 4.6, 8.8 | Threaded bars |
| ASTM A 36 | 1/4 to 2.1/2" | ANSI , UNC | 6.6, 5.6, 4.6, 8.8 | Threaded rods |

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# Threaded Rod Weight Chart

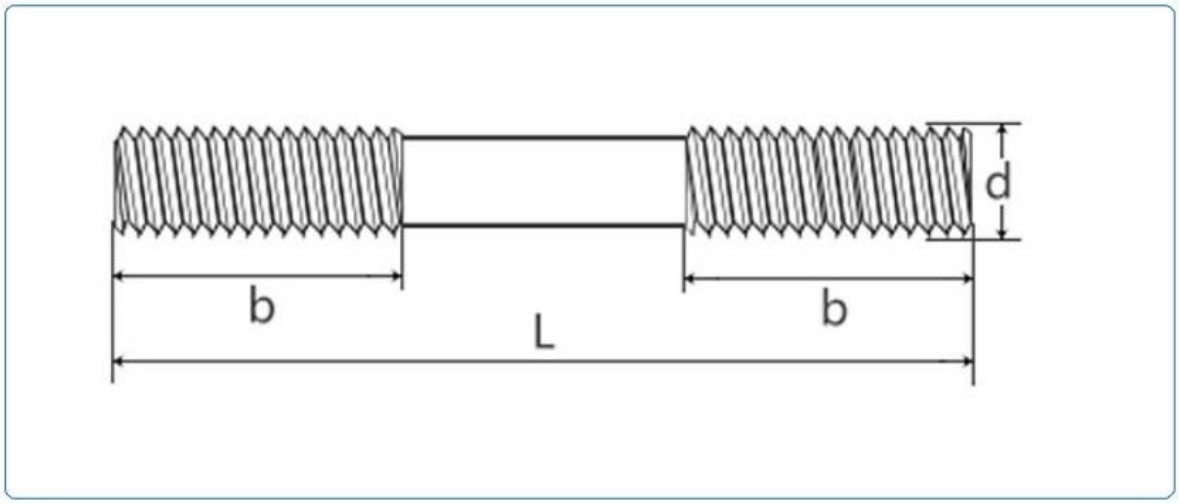
**Approximate Weight in Kgs Per No.**

| Length in mm | Diameter in Inches | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 8 | 5 8 | 1 2 | 3 4 | 1.1 8 | 1 | 1.3 8 | 1.1 4 | 1.5 8 | 1.1 2 | 1.7 8 | 1.3 4 | 2 |
| **55** | 0.150 | 0.076 | 0.049 | 0.110 | 0.247 | 0.195 | 0.392 | 0.326 | 0.543 | 0.464 | 0.749 | 0.627 | 0.848 |
| **50** | 0.136 | 0.069 | 0.044 | 0.100 | 0.225 | 0.178 | 0.356 | 0.296 | 0.493 | 0.422 | 0.681 | 0.570 | 0.771 |
| **60** | 0.163 | 0.083 | 0.053 | 0.120 | 0.270 | 0.213 | 0.428 | 0.355 | 0.592 | 0.506 | 0.817 | 0.684 | 0.925 |
| **70** | 0.190 | 0.097 | 0.062 | 0.140 | 0.315 | 0.249 | 0.499 | 0.415 | 0.690 | 0.591 | 0.953 | 0.798 | 1.079 |
| **65** | 0.177 | 0.090 | 0.058 | 0.130 | 0.292 | 0.231 | 0.463 | 0.385 | 0.641 | 0.549 | 0.885 | 0.741 | 1.002 |
| **75** | 0.204 | 0.104 | 0.067 | 0.150 | 0.337 | 0.266 | 0.535 | 0.444 | 0.740 | 0.633 | 1.021 | 0.855 | 1.156 |
| **85** | 0.231 | 0.118 | 0.075 | 0.170 | 0.382 | 0.302 | 0.606 | 0.504 | 0.838 | 0.717 | 1.158 | 0.969 | 1.310 |
| **80** | 0.218 | 0.111 | 0.071 | 0.160 | 0.360 | 0.284 | 0.570 | 0.474 | 0.789 | 0.675 | 1.089 | 0.912 | 1.233 |
| **90** | 0.245 | 0.125 | 0.080 | 0.180 | 0.404 | 0.320 | 0.641 | 0.533 | 0.888 | 0.760 | 1.226 | 1.026 | 1.387 |
| **100** | 0.272 | 0.139 | 0.089 | 0.200 | 0.449 | 0.355 | 0.713 | 0.592 | 0.986 | 0.844 | 1.362 | 1.140 | 1.541 |
| **95** | 0.258 | 0.132 | 0.084 | 0.190 | 0.427 | 0.337 | 0.677 | 0.563 | 0.937 | 0.802 | 1.294 | 1.083 | 1.464 |
| **110** | 0.299 | 0.153 | 0.098 | 0.220 | 0.494 | 0.391 | 0.784 | 0.652 | 1.085 | 0.928 | 1.498 | 1.254 | 1.695 |
| **125** | 0.340 | 0.173 | 0.111 | 0.250 | 0.562 | 0.444 | 0.891 | 0.741 | 1.233 | 1.055 | 1.702 | 1.425 | 1.927 |
| **120** | 0.326 | 0.166 | 0.107 | 0.240 | 0.539 | 0.426 | 0.855 | 0.711 | 1.184 | 1.013 | 1.634 | 1.388 | 1.850 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **130** | 0.353 | 0.180 | 0.115 | 0.260 | 0.584 | 0.462 | 0.926 | 0.770 | 1.282 | 1.097 | 1.770 | 1.482 | 2.004 |
| **150** | 0.408 | 0.208 | 0.133 | 0.300 | 0.674 | 0.533 | 1.069 | 0.889 | 1.480 | 1.266 | 2.043 | 1.710 | 2.312 |
| **140** | 0.381 | 0.194 | 0.124 | 0.280 | 0.628 | 0.497 | 0.998 | 0.829 | 1.381 | 1.182 | 1.907 | 1.596 | 2.158 |
| **160** | 0.435 | 0.222 | 0.142 | 0.320 | 0.719 | 0.568 | 1.140 | 0.948 | 1.578 | 1.350 | 2.179 | 1.824 | 2.466 |
| **175** | 0.476 | 0.243 | 0.155 | 0.350 | 0.786 | 0.621 | 1.247 | 1.037 | 1.726 | 1.477 | 2.383 | 1.995 | 2.697 |
| **170** | 0.462 | 0.236 | 0.151 | 0.340 | 0.764 | 0.604 | 1.212 | 1.007 | 1.677 | 1.435 | 2.315 | 1.938 | 2.620 |
| **180** | 0.489 | 0.250 | 0.160 | 0.360 | 0.809 | 0.639 | 1.283 | 1.066 | 1.776 | 1.519 | 2.451 | 2.052 | 2.774 |
| **200** | 0.544 | 0.277 | 0.178 | 0.399 | 0.899 | 0.710 | 1.425 | 1.185 | 1.973 | 1.688 | 2.724 | 2.280 | 3.083 |
| **190** | 0.517 | 0.264 | 0.169 | 0.380 | 0.854 | 0.675 | 1.354 | 1.126 | 1.874 | 1.604 | 2.588 | 2.166 | 2.928 |
| **210** | 0.571 | 0.291 | 0.186 | 0.419 | 0.944 | 0.746 | 1.497 | 1.244 | 2.071 | 1.772 | 2.860 | 2.394 | 3.237 |
| **225** | 0.612 | 0.312 | 0.200 | 0.449 | 1.011 | 0.799 | 1.604 | 1.333 | 2.219 | 1.899 | 3.064 | 2.565 | 3.468 |
| **220** | 0.596 | 0.305 | 0.195 | 0.439 | 0.989 | 0.781 | 1.568 | 1.303 | 2.170 | 1.857 | 2.996 | 2.508 | 3.391 |
| **230** | 0.625 | 0.319 | 0.204 | 0.459 | 1.034 | 0.817 | 1.639 | 1.363 | 2.269 | 1.941 | 3.132 | 2.622 | 3.545 |
| **290** | 0.788 | 0.402 | 0.257 | 0.579 | 1.303 | 1.030 | 2.067 | 1.718 | 2.861 | 2.448 | 3.949 | 3.306 | 4.470 |
| **250** | 0.680 | 0.347 | 0.222 | 0.499 | 1.124 | 0.888 | 1.782 | 1.481 | 2.466 | 2.110 | 3.405 | 2.850 | 3.853 |
| **240** | 0.653 | 0.333 | 0.213 | 0.479 | 1.079 | 0.852 | 1.710 | 1.422 | 2.367 | 2.026 | 3.268 | 2.736 | 3.699 |
| **260** | 0.707 | 0.361 | 0.231 | 0.519 | 1.169 | 0.923 | 1.853 | 1.540 | 2.565 | 2.194 | 3.541 | 2.964 | 4.007 |
| **275** | 0.748 | 0.382 | 0.244 | 0.549 | 1.236 | 0.977 | 1.960 | 1.629 | 2.713 | 2.321 | 3.745 | 3.135 | 4.238 |

Refer ASTM A325 All Thread Rod Size Chart

## ASTM A325 Threaded Rod Size Chart




| Grade | Class | | | | | |
|---|---|---|---|---|---|---|
| Type 2 | Withdrawn | | | | | |
| Type 1 | Carbon Boron Steel, Carbon Steel, Alloy Boron Steel | | | | | |
| Type 3 | A | B | C | D | E | F |

| Specification | Nominal Size (In.) | Material and Treatment | Rockwell Hardness | | Mechanical Properties | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Min | Max | Elong % Min [9] | Yield Strength Min (ksi) | Proof Load Min (ksi) | Tensile Strength Min (ksi) | RA % Min [10] |
| A325 Type 3 | 1⁄2" - 1 1⁄2" | Medium CS, Q & T | C25 | C34 | 14 | 92 | 85 | 120 | **35** |
| A325 Type 1 | | Atmospheric Corrosion Resistant | | | | | | | |

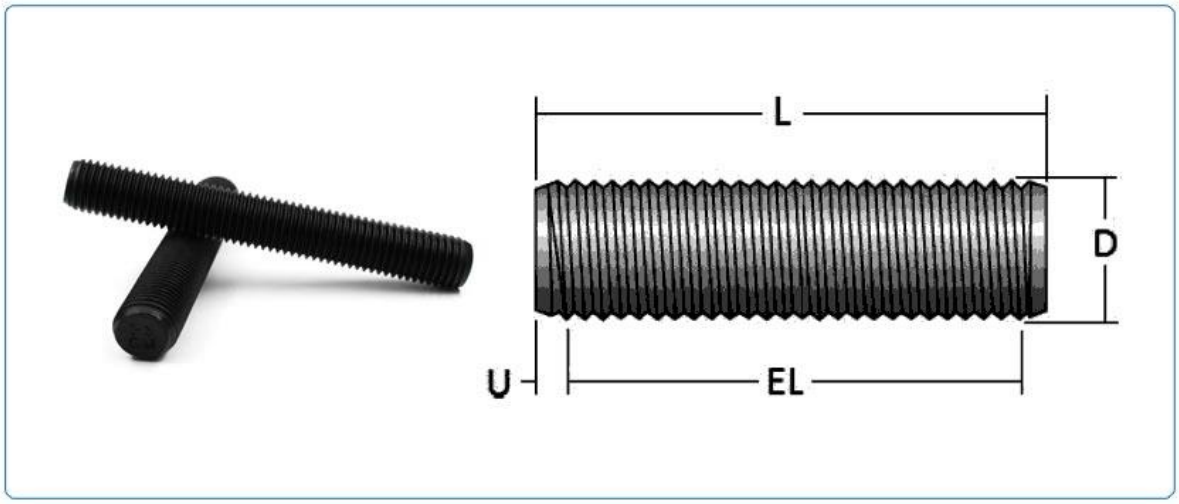
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Steel and Q & T | | | | | | | |
| A449 Type 3 | 1⁄4" - 1" | Weathering Steel and Q & T | C25 | C34 | 14 | 92 | 85 | 120 | **35** |
| | 1 1⁄8" - 1 1⁄2" | | C19 | C30 | | 81 | 74 | 105 | |
| | 1 5⁄8" - 3" | | B91 | B100 | | 58 | 55 | 90 | |
| A449 Type 1 | 1⁄4" - 1" | Medium CS and Q & T | C25 | C34 | 14 | 92 | 85 | 120 | **35** |
| | 1 1⁄8" - 1 1⁄2" | | C19 | C30 | | 81 | 74 | 105 | |
| | 1 5⁄8" - 3" | | B91 | B100 | | 58 | 55 | 90 | |

Find ASTM A320 Grade B8 ACME Threaded Rod Size Chart

## ASTM A320 Grade B8 Threaded Rod Sizes

| Grade | Size | Yield, ksi, min | Charpy Impact 20-ft-lbf @ temp | Tensile ksi, min | Elong, %, min | RA % min |
|---|---|---|---|---|---|---|
| B8 Class 1 | All | 30 | N/A | 75 | 30 | 50 |
| B8 Class 2 | 1-3/8 - 1-1/2 | 50 | N/A | 100 | 28 | 45 |
| | 7/8 - 1 | 80 | N/A | 115 | 15 | 35 |
| | Up to 3/4 | 100 | N/A | 125 | 12 | 35 |
| | 1-1/8 - 1-1/4 | 65 | N/A | 105 | 20 | 35 |

# ASTM A320 L7 Threaded Rod Dimensions




| | |
|---|---|
| **Inch Sizes** | **¼" to 8"** |
| **Metric Sizes** | M6 – M152 |
| **Imperial Threads** | ASME, BSW, BSF |
| **Metric Threads** | ISO, ASME |
| **Thread Standards** | ISO 268, ISO 68-1, ASME B1.1, ISO 724, BS 84, ASME B1.13M, BS 3643 |

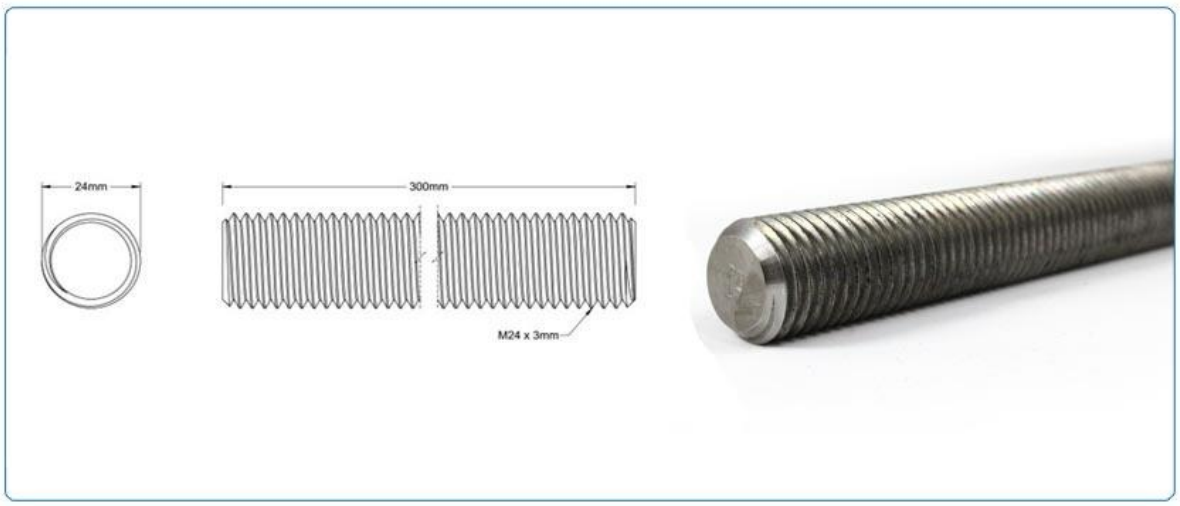
| **Nominal Size** | **Mechanical Properties** | | | | | **Hardness Rockwell** | |
|---|---|---|---|---|---|---|---|
| | Tensile Str. | Yield Str. | Elong. % | Proof Load | R.A. % | Min | Max |
| **1⁄4 - 21⁄2"** | 125 | 105 | 16 | - | 50 | - | - |

## ASTM A490 Threaded Rod Size Chart

| Specification | Material and Treatment | Nominal Size (In.) | Hardness Rockwell | | Mechanical Properties | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Min | Max | Elong % Min [9] | Proof Load Min (ksi) | Yield Strength Min (ksi) | Tensile Strength Min (ksi) | RA % Min [10] |
| **A490 Type 1** | Q & T, Medium CS and Alloy Steel | 1⁄2" - 1 1⁄2" | C33 | C38 | 14 | 120 | 130 | 173 max 150 min | 40 |

Get ASTM A36 Threaded Rod Diameter Chart

## ASTM A36 All Thread Rod Diameter Chart



| Diameter | ASTM A36* | |
|---|---|---|
| | Galvanized | Plain |
| 5⁄8 | 14057 | 14046 |
| 1⁄2 | 14056 | 14045 |
| 3⁄4 | 14058 | 14047 |
| 1 | 14060 | 14049 |
| 7⁄8 | 14059 | 14048 |
| 11⁄8 | - | 14050 |
| 13⁄8 | - | 14052 |
| 2 | - | 14055 |
| 11⁄4 | - | 14051 |
| 11⁄2 | - | 14053 |
| 13⁄4 | - | 14054 |

## ASTM A307 All Thread Rod Sizes

| Diameter | ASTM A193 Grade B7 | | ASTM A307 Grade B | | ASTM A307 Grade A | |
|---|---|---|---|---|---|---|
| | Plain | | Galvanized | Plain | Galvanized | Plain |
| | UNC | 8UN | | | | |
| 5⁄8 | 19569 | - | 13917 | 13906 * | 17647 | 18471* |
| 1⁄2 | 19568 | - | 13916 | 13905 * | 17646 | 18470* |
| 3⁄4 | 19570 | | 13918 | 13907 * | 17648 | 18472* |
| 1 | 19572 | - | 13920 | 13909 * | 17650 | 18474* |
| 7⁄8 | 19571 | - | 13919 | 13908 * | 17649 | 18473* |
| 11⁄8 | 19573 | 13979 | - | 13910 | - | 18475 |
| 13⁄8 | 19656 | 13981 | - | 13912 | - | 18477 |
| 11⁄4 | 19574 | 13980 | - | 13911 | - | 18476 |
| 13⁄4 | 19658 | 13983 | - | 13914 | - | 18479 |
| 11⁄2 | 19657 | 13982 | - | 13913 | - | 18478 |
| 2 | 19659 | 13984 | - | 13915 | - | 18480 |

Check High Tensile Threaded Rod Dimensions Chart of Grade 8.8, 10.9 and 12.9 Here

## SAE Grade 8.8 Threaded Rod Dimensions

| Thread | Nominal stress area mm² | Pitch (mm) | Minimum ultimate tensile strength (As * Rm) N | | Proof stress Rp0.2 N/mm² | |
|---|---|---|---|---|---|---|
| | | | 12.9 Threaded Rod | 8.8 Threaded Rod | 12.9 Threaded Rod | 8.8 Threaded Rod |
| **M18** | 192 | 2,5 | 234 | 159 | 207 | 123 |
| **M16** | 157 | 2 | 192 | 125 | 170 | 100 |
| **M20** | 245 | 2,5 | 299 | 203 | 265 | 157 |
| **M24** | 353 | 3 | 431 | 293 | 381 | 226 |
| **M22** | 303 | 2,5 | 370 | 252 | 327 | 194 |
| **M39** | 976 | 4 | 1200 | 810 | 1050 | 625 |
| **M27** | 459 | 3 | 560 | 381 | 496 | 294 |
| **M33** | 694 | 3,5 | 847 | 576 | 750 | 444 |
| **M30** | 561 | 3,5 | 684 | 466 | 606 | 359 |
| **M36** | 817 | 4 | 997 | 678 | 882 | 523 |

# Grade 10.9 All Thread Size Chart

| Thread Size (T) | Length (L) | Material / Finish |
|---|---|---|
| M10 (10mm) | 100mm | Zinc Yellow |
| M10 (10mm) | 100mm | Self Colour |
| M10 (10mm) | 110mm | Self Colour |
| M14 (14mm) | 100mm | Self Colour |
| M12 (12mm) | 100mm | Self Colour |
| M16 (16mm) | 100mm | Self Colour |
| M20 (20mm) | 100mm | Self Colour |
| M18 (18mm) | 100mm | Self Colour |
| M8 (8mm) | 100mm | Self Colour |
| M22 (22mm) | 100mm | Self Colour |
| M27 (27mm) | 100mm | Self Colour |
| M24 (24mm) | 100mm | Self Colour |
| M30 (30mm) | 120mm | Self Colour |
| M5 (5mm) | 55mm | Self Colour |
| M36 (36mm) | 330mm | Self Colour |
| M6 (6mm) | 25mm | Self Colour |

# Grade 12.9 Threaded Rod Dimensions in mm

| Threaded Rod Thread | Threaded Rod Weight per metre | Strength Of Threaded Rod | | | |
|---|---|---|---|---|---|
| | | Class 70 Threaded Rod | | Class 80 Threaded Rod | |
| | | 0.2% proof | UTS | 0.2% proof | UTS |
| | Kg/m | kN | kN | kN | kN |
| **M16** | 1.31 | 70.7 | 109.9 | 94.2 | 125.6 |
| **M52** | 14.65 | 791.1 | 1230.6 | 1054.8 | 1406.4 |
| **M48** | 12.32 | 662.9 | 1031.1 | 883.8 | 1178.4 |
| **M12** | 0.72 | 41.0 | 64.0 | 54.0 | 73.0 |
| **M27** | 3.83 | 206.6 | 321.3 | 275.4 | 367.2 |
| **M20** | 2.05 | 110.3 | 171.5 | 147.0 | 196.0 |
| **M24** | 2.96 | 158.9 | 247.1 | 211.8 | 282.4 |
| **M36** | 6.84 | 367.7 | 571.9 | 490.2 | 653.6 |
| **M30** | 4.70 | 252.6 | 392.7 | 336.6 | 448.8 |
| **M33** | 5.78 | 312.3 | 485.8 | 416.4 | 555.2 |

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