

Bar Properties



DYWI® Drill Hollow Bar



DYWIDAG
THREADBAR®

DYWIDAG THREADBAR® Reinforcing Steel ASTM A615 (Grade 75 & 80)

| THREADBAR® Designation | | Maximum THREADBAR® Diameter | | Minimum Yield Stress (f _y) | | Nominal Cross Section Area (A _s) | | Minimum Yield Load (f _y x A _s) | | Nominal Weight | |
|---------------------------|------|-----------------------------------|------|--|-------|--|-------|---|-------|----------------|--------|
| | [mm] | [in] | [mm] | [ksi] | [MPa] | [in²] | [mm²] | [kips] | [kN] | [lbs/ft] | [kg/m] |
| #6 | 19 | 0.86 | 22 | 75 | 517 | 0.44 | 284 | 33.0 | 147 | 1.50 | 2.23 |
| #7 | 22 | 0.99 | 25 | 75 | 517 | 0.60 | 387 | 45.0 | 200 | 2.04 | 3.04 |
| #8 | 25 | 1.12 | 28 | 75 | 517 | 0.79 | 510 | 59.3 | 264 | 2.67 | 3.97 |
| #9 | 29 | 1.26 | 32 | 75 | 517 | 1.00 | 645 | 75.0 | 334 | 3.40 | 5.06 |
| #10 | 32 | 1.43 | 36 | 75 | 517 | 1.27 | 819 | 95.3 | 424 | 4.30 | 6.40 |
| #11 | 36 | 1.61 | 41 | 75 | 517 | 1.56 | 1,006 | 117.0 | 520 | 5.31 | 7.90 |
| #14 | 43 | 1.86 | 47 | 80 | 552 | 2.25 | 1,452 | 180.0 | 801 | 7.65 | 11.38 |
| #18 | 57 | 2.50 | 64 | 80 | 552 | 4.00 | 2,581 | 320.0 | 1,423 | 13.60 | 20.24 |
| #20 | 63 | 2.72 | 69 | 80 | 552 | 4.91 | 3,168 | 393.0 | 1,748 | 16.70 | 24.85 |
| #24 | 75 | 3.18 | 81 | 75 | 517 | 7.06 | 4,555 | 529.5 | 2,355 | 24.09 | 35.85 |
| #28 | 90 | 3.68 | 94 | 75 | 517 | 9.62 | 6,207 | 721.5 | 3,209 | 32.79 | 48.80 |

Note: Maximum allowable temporary tension is 90% of yield load. Mill length is 60 ft (#6 through #24) and 53 ft for #28.

DYWIDAG THREADBAR® Reinforcing Steel ASTM A615 (Grade 100)

| THREADBAR® Designation | | Maximum THREADBAR® Diameter | | Minimum Yield Stress (f _y) | | Nominal Cross Section Area (A _s) | | Minimum Yield Load (f _y x A _s) | | Nominal Weight | |
|---------------------------|------|-----------------------------------|------|--|-------|--|-------|---|-------|----------------|--------|
| | [mm] | [in] | [mm] | [ksi] | [MPa] | [in²] | [mm²] | [kips] | [kN] | [lbs/ft] | [kg/m] |
| #6 | 19 | 0.86 | 22 | 100 | 690 | 0.44 | 284 | 44.0 | 196 | 1.50 | 2.23 |
| #7 | 22 | 0.99 | 25 | 100 | 690 | 0.60 | 387 | 60.0 | 267 | 2.04 | 3.04 |
| #8 | 25 | 1.12 | 28 | 100 | 690 | 0.79 | 510 | 79.0 | 351 | 2.67 | 3.97 |
| #9 | 29 | 1.26 | 32 | 100 | 690 | 1.00 | 645 | 100.0 | 445 | 3.40 | 5.06 |
| #10 | 32 | 1.43 | 36 | 100 | 690 | 1.27 | 819 | 127.0 | 565 | 4.30 | 6.40 |
| #11 | 36 | 1.61 | 41 | 100 | 690 | 1.56 | 1,006 | 156.0 | 694 | 5.31 | 7.90 |
| #14 | 43 | 1.86 | 47 | 100 | 690 | 2.25 | 1,452 | 225.0 | 1,001 | 7.65 | 11.38 |
| #18 | 57 | 2.50 | 64 | 100 | 690 | 4.00 | 2,581 | 400.0 | 1,779 | 13.60 | 20.24 |
| #20 | 63 | 2.72 | 69 | 100 | 690 | 4.91 | 3,168 | 491.0 | 2,184 | 16.70 | 24.85 |

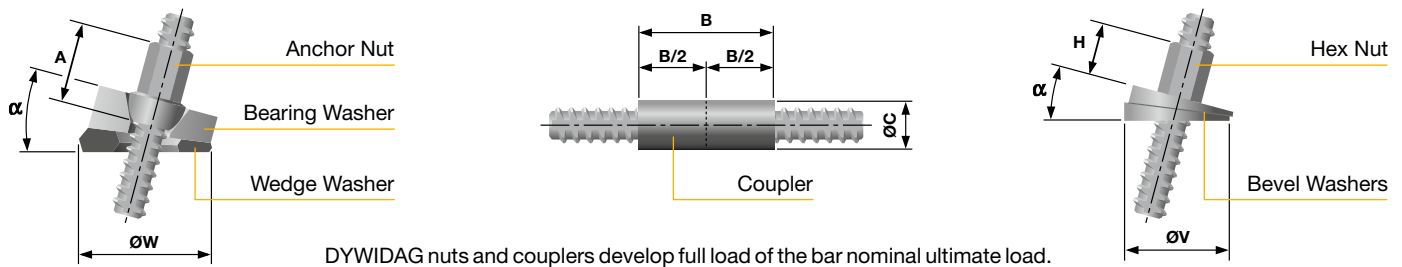
DYWIDAG THREADBAR® Prestressing Steel ASTM A722 (Grade 150)

| THREADBAR® Designation | | Maximum THREADBAR® Diameter | | Minimum Ultimate Tensile Strength (f _u) | | Nominal Cross Section Area (A _s) | | Minimum Ultimate Tensile Load (f _u × A _s) | | Nominal Weight | |
|---------------------------|------|-----------------------------------|------|---|-------|--|-------|--|-------|----------------|--------|
| [in] | [mm] | [in] | [mm] | [ksi] | [MPa] | [in²] | [mm²] | [kips] | [kN] | [lbs/ft] | [kg/m] |
| 1" | 26 | 1.25 | 32 | 150 | 1,034 | 0.85 | 548 | 127.5 | 567 | 3.01 | 4.48 |
| 1 ¼" | 32 | 1.45 | 37 | 150 | 1,034 | 1.25 | 806 | 187.5 | 834 | 4.39 | 6.53 |
| 1 ½" | 36 | 1.63 | 41 | 150 | 1,034 | 1.58 | 1,019 | 237.0 | 1,054 | 5.56 | 8.27 |
| 1 ¾" | 46 | 2.01 | 51 | 155 | 1,069 | 2.58 | 1,665 | 400.0 | 1,779 | 9.23 | 13.73 |
| 2 ½" | 65 | 2.80 | 71 | 150 | 1,034 | 5.16 | 3,329 | 774.0 | 3,443 | 18.20 | 27.08 |
| 3" | 75 | 3.15 | 80 | 150 | 1,034 | 6.85 | 4,419 | 1,027.5 | 4,571 | 24.09 | 35.85 |

Note: Maximum allowable temporary test tension shall not exceed 80% of the Minimum Ultimate Tensile Load; Mill length = 60'-0" for 1", 1 ¼" and 1 ¾" Threadbars and 45'-0" for 1 ½", 2 ½" and 3" bars.

WARNING: DO NOT WELD on or near A722 prestressing bars or their anchorages.

Hardware Properties



DYWIDAG THREADBAR® Reinforcing Steel Hardware Properties (Grade 75 & 80)

| THREADBAR® Designation | Hex Nut Length H | | Coupler Length B | | Coupler Outer Diameter ØC | | Maximum Angle Compensation* α | Bevel Washer Diameter ØV | |
|---------------------------|------------------------|------|------------------------|------|---------------------------------|------|-------------------------------------|--------------------------------|------|
| | [in] | [mm] | [in] | [mm] | [in] | [mm] | | [in] | [mm] |
| #6 | 1.43 | 36 | 3.12 | 79 | 1.22 | 31 | 17 | 1.78 | 45 |
| #7 | 1.71 | 43 | 3.73 | 95 | 1.41 | 36 | 19 | 2.26 | 57 |
| #8 | 1.84 | 47 | 4.03 | 102 | 1.59 | 40 | 17 | 2.56 | 65 |
| #9 | 2.30 | 58 | 5.02 | 128 | 1.79 | 46 | 18 | 2.88 | 73 |
| #10 | 2.56 | 65 | 5.70 | 145 | 2.02 | 51 | 19 | 3.20 | 81 |
| #11 | 2.89 | 73 | 6.37 | 162 | 2.25 | 57 | 18 | 3.27 | 83 |
| #14 | 3.55 | 90 | 7.82 | 199 | 2.65 | 67 | 18 | 3.25 | 83 |
| #18 | 4.23 | 107 | 9.35 | 238 | 3.50 | 89 | 18 | 4.00 | 102 |
| #20 | 4.85 | 123 | 10.38 | 264 | 3.86 | 98 | | | |
| #24 | 4.10 | 104 | 9.19 | 233 | 4.75 | 121 | | | |
| #28 | 4.80 | 122 | 10.61 | 270 | 5.38 | 137 | | | |

* using two washers in a set. Solutions for large bars and larger angles are available – please consult your local DSI Sales Engineer
Couplers and hex nuts develop the bar ultimate strength.

DYWIDAG THREADBAR® Reinforcing Steel Hardware Properties (Grade 100)

| THREADBAR® Designation | Hex Nut Length H | | Coupler Length B | | Coupler Outer Diameter ØC | | Maximum Angle Compensation* α | Bevel Washer Diameter ØV | |
|---------------------------|------------------------|------|------------------------|------|---------------------------------|------|-------------------------------------|--------------------------------|------|
| | [in] | [mm] | [in] | [mm] | [in] | [mm] | | [in] | [mm] |
| #6 | 2.88 | 73 | 6.25 | 159 | 1.25 | 32 | 17 | 1.78 | 45 |
| #7 | 3.13 | 79 | 7.00 | 178 | 1.50 | 38 | 19 | 2.26 | 57 |
| #8 | 3.38 | 86 | 7.13 | 181 | 1.75 | 45 | 17 | 2.56 | 65 |
| #9 | 3.50 | 89 | 7.25 | 184 | 1.88 | 48 | 18 | 2.88 | 73 |
| #10 | 3.50 | 89 | 7.50 | 191 | 2.13 | 54 | 19 | 3.20 | 81 |
| #11 | 3.88 | 98 | 8.00 | 203 | 2.38 | 60 | 18 | 3.27 | 83 |
| #14 | 4.50 | 114 | 8.25 | 210 | 2.75 | 70 | 18 | 3.25 | 83 |
| #18 | 5.25 | 133 | 10.50 | 267 | 3.63 | 92 | 18 | 4.00 | 102 |
| #20 | 6.00 | 152 | 12.25 | 311 | 4.00 | 102 | | | |

* using two washers in a set. Solutions for large bars and larger angles are available – please consult your local DSI Sales Engineer
Couplers and hex nuts develop the bar ultimate strength.

DYWIDAG THREADBAR® Prestressing Steel Hardware Properties (Grade 150)

| THREADBAR® Designation | Nut Length A / H | | Coupler Length B | | Coupler Outer Diameter ØC | | Maximum Angle Compensation* α | Wedge Washer Diameter ØW | |
|---------------------------|------------------------|------------|------------------------|-------|---------------------------------|------|-------------------------------------|--------------------------------|-----------|
| | [in] | [mm] | [in] | [mm] | [in] | [mm] | | [in] | [mm] |
| 1" | 2.36 / 2.63 | 60 / 67 | 6.25 | 159 | 2.00 | 51 | 20 | 4.55 | 116 |
| 1 ¼" | 3.15 / 2.88 | 80 / 73 | 6.75 | 171 | 2.38 | 60 | 20 | 4.55 / 5.50 | 116 / 140 |
| 1 ½" | 3.53 / 3.88 | 90 / 99 | 8.75 | 222 | 2.75 | 70 | 20 | 5.50 | 140 |
| 1 ¾" | 3.50 / 4.00 | 89 / 101.6 | 6.80 | 172.7 | 3.1½ | 79.4 | 20 | 7.26 | 184 |
| 2 ½" | – / 5.00 | – / 127 | 10.75 | 273 | 4.50 | 114 | | | |
| 3" | – / 5.00 | – / 127 | 11.00 | 279 | 5.25 | 133 | | | |

* using two washers in a set. Solutions for large bars and larger angles are available – please consult your local DSI Sales Engineer
Couplers and hex nuts develop the bar ultimate tensile load.