

# technical specifications

## WEDGE ANCHORS // LARGE DIAMETER CONCRETE SCREWS

Last updated 6.15.23

### Conquest Wedge Anchors // Carbon Steel

| Diameter | Minimum Embedment Depth | Tension Load (single section) |           |          |           | Shear Force (single section) |           |          |           |
|----------|-------------------------|-------------------------------|-----------|----------|-----------|------------------------------|-----------|----------|-----------|
|          |                         | (lbs)                         |           | (kN)     |           | (lbs)                        |           | (kN)     |           |
|          |                         | Ultimate                      | Allowable | Ultimate | Allowable | Ultimate                     | Allowable | Ultimate | Allowable |
| 1/4"     | 1 1/8"                  | 1,078                         | 270       | 4.8      | 1.2       | 1,558                        | 390       | 6.9      | 1.7       |
|          | 1 3/4"                  | 1,947                         | 487       | 8.7      | 2.2       |                              |           |          |           |
| 3/8"     | 1 5/8"                  | 2,143                         | 536       | 9.5      | 2.4       | 5,781                        | 1,445     | 25.7     | 6.4       |
|          | 2 3/8"                  | 3,051                         | 763       | 13.6     | 3.4       |                              |           |          |           |
| 1/2"     | 2 1/4"                  | 5,106                         | 1,277     | 22.7     | 5.7       | 9,616                        | 2,404     | 42.7     | 10.7      |
|          | 3 3/8"                  | 5,723                         | 1,431     | 25.4     | 6.4       |                              |           |          |           |
|          | 4 1/2"                  | 7,942                         | 1,986     | 35.3     | 8.8       |                              |           |          |           |
| 5/8"     | 2 3/4"                  | 5,987                         | 1,497     | 26.6     | 6.7       | 13,678                       | 3,420     | 60.8     | 15.2      |
|          | 3 3/8"                  | 6,929                         | 1,732     | 30.8     | 7.7       |                              |           |          |           |
|          | 5 1/8"                  | 7,800                         | 1,950     | 34.7     | 8.7       |                              |           |          |           |
| 3/4"     | 3 3/8"                  | 11,084                        | 2,771     | 49.3     | 12.3      | 21,549                       | 5,387     | 95.8     | 24.0      |

Allowable values based on 4:1 safety factor. Values represent the shear force of the anchor alone, not installed in concrete. For highly corrosive environments and/or continuous extreme low temperature applications, use stainless steel.

### Conquest Wedge Anchors // 304 and 316 Stainless Steel

| Diameter | Minimum Embedment Depth | Tension Load (single section) |           |          |           | Shear Force (single section) |           |          |           |
|----------|-------------------------|-------------------------------|-----------|----------|-----------|------------------------------|-----------|----------|-----------|
|          |                         | (lbs)                         |           | (kN)     |           | (lbs)                        |           | (kN)     |           |
|          |                         | Ultimate                      | Allowable | Ultimate | Allowable | Ultimate                     | Allowable | Ultimate | Allowable |
| 1/4"     | 1 1/8"                  | 1,452                         | 363       | 6.5      | 1.6       | 2,673                        | 668       | 11.9     | 3.0       |
|          | 1 3/4"                  | 1,904                         | 476       | 8.5      | 2.1       |                              |           |          |           |
| 3/8"     | 1 5/8"                  | 2,466                         | 616       | 11.0     | 2.7       | 4,938                        | 1,235     | 21.9     | 5.5       |
|          | 2 3/8"                  | 3,183                         | 795       | 14.1     | 3.5       |                              |           |          |           |
| 1/2"     | 2 1/4"                  | 4,240                         | 1,060     | 18.8     | 4.7       | 11,039                       | 2,760     | 49.1     | 12.3      |
|          | 3 3/8"                  | 4,264                         | 1,066     | 19.0     | 4.7       |                              |           |          |           |
|          | 4 1/2"                  | 7,840                         | 1,960     | 34.8     | 8.7       |                              |           |          |           |
| 5/8"     | 2 3/4"                  | 7,139                         | 1,784     | 31.7     | 7.9       | 16,848                       | 4,212     | 74.9     | 18.7      |
|          | 3 3/8"                  | 9,558                         | 2,389     | 42.5     | 10.6      |                              |           |          |           |
| 3/4"     | 3 3/8"                  | 12,337                        | 3,084     | 54.8     | 13.7      | 29,458                       | 7,365     | 131      | 32.8      |

Allowable values based on 4:1 safety factor. Values represent the shear force of the anchor alone, not installed in concrete. For highly corrosive environments and/or continuous extreme low temperature applications, use stainless steel.



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### Conquest Wedge Anchors (continued)

#### HEAD MARKINGS

| Head Marking | LENGTH |                          |
|--------------|--------|--------------------------|
|              | From   | Up to, but not including |
| A            | 1 1/2" | 2"                       |
| B            | 2"     | 2 1/2"                   |
| C            | 2 1/2" | 3"                       |
| D            | 3"     | 3 1/2"                   |
| E            | 3 1/2" | 4"                       |
| F            | 4"     | 4 1/2"                   |
| G            | 4 1/2" | 5"                       |
| H            | 5"     | 5 1/2"                   |
| I            | 5 1/2" | 6"                       |
| J            | 6"     | 6 1/2"                   |
| K            | 6 1/2" | 7"                       |
| L            | 7"     | 7 1/2"                   |
| M            | 7 1/2" | 8"                       |
| N            | 8"     | 8 1/2"                   |
| O            | 8 1/2" | 9"                       |
| P            | 9"     | 9 1/2"                   |
| Q            | 9 1/2" | 10"                      |
| R            | 10"    | 10 1/2"                  |



#### WEDGE-ALL ANCHOR INSTALLATION

| Wedge-All Diameter | Drill Bit Size (in.) | Min. Fixture Hole (in.) | Wrench Size (in.) |
|--------------------|----------------------|-------------------------|-------------------|
| 1/4"               | 1/4"                 | 5/16"                   | 7/16"             |
| 3/8"               | 3/8"                 | 7/16"                   | 9/16"             |
| 1/2"               | 1/2"                 | 9/16"                   | 3/4"              |
| 5/8"               | 5/8"                 | 11/16"                  | 15/16"            |
| 3/4"               | 3/4"                 | 7/8"                    | 1 1/8"            |
| 7/8"               | 7/8"                 | 1"                      | 1 5/16"           |
| 1"                 | 1"                   | 1 1/8"                  | 1 1/2"            |
| 1 1/4"             | 1 1/4"               | 1 3/8"                  | 1 7/8"            |

### Conquest Large Diameter Concrete Screw // Hardened Carbon Steel

| Diameter | Effective Embedment Depth | Tension Load (single section) |           |          |           | Shear Force (single section) |           |          |           |
|----------|---------------------------|-------------------------------|-----------|----------|-----------|------------------------------|-----------|----------|-----------|
|          |                           | (lbs)                         |           | (kN)     |           | (lbs)                        |           | (kN)     |           |
|          |                           | Ultimate                      | Allowable | Ultimate | Allowable | Ultimate                     | Allowable | Ultimate | Allowable |
| 1/4"     | 1 5/8"                    | 3,465                         | 866       | 15.4     | 3.9       | 4,871                        | 1,218     | 21.6     | 5.4       |
| 3/8"     | 2 1/2"                    | 8,219                         | 2,055     | 36.5     | 9.1       | 13,150                       | 3,288     | 58.5     | 14.6      |
|          | 3 1/4"                    | 10,838                        | 2,710     | 48.2     | 12.0      |                              |           |          |           |
| 1/2"     | 2"                        | 4,365                         | 1,091     | 19.4     | 4.9       | 21,428                       | 5,357     | 95.3     | 23.8      |
|          | 3 1/2"                    | 9,202                         | 2,301     | 40.9     | 10.2      |                              |           |          |           |
|          | 4 1/2"                    | 15,304                        | 3,826     | 68.0     | 17.0      |                              |           |          |           |
| 5/8"     | 3 1/2"                    | 8,945                         | 2,236     | 39.8     | 9.9       | 30,537                       | 7,634     | 135.8    | 34.0      |

