



‡Length of a step bolt is measured from the underhead bearing surface to the extreme end of the bolt.

| STEP BOLTS   |               |       |               |       |             |       |              |       |              | ANSI/ASME B18.5 |  |
|--------------|---------------|-------|---------------|-------|-------------|-------|--------------|-------|--------------|-----------------|--|
| Nominal Size | E             |       | A             |       | H           |       | O            |       | P            |                 |  |
|              | Body Diameter |       | Head Diameter |       | Head Height |       | Square Width |       | Square Depth |                 |  |
|              | Max.          | Min.  | Max.          | Min.  | Max.        | Min.  | Max.         | Min.  | Max.         | Min.            |  |
| 10           | 0.199         | 0.182 | 0.656         | 0.625 | 0.114       | 0.094 | 0.199        | 0.185 | 0.125        | 0.094           |  |
| 1/4          | 0.260         | 0.237 | 0.844         | 0.813 | 0.145       | 0.125 | 0.260        | 0.245 | 0.156        | 0.125           |  |
| 5/16         | 0.324         | 0.298 | 1.031         | 1.000 | 0.176       | 0.156 | 0.324        | 0.307 | 0.187        | 0.156           |  |
| 3/8          | 0.388         | 0.360 | 1.219         | 1.188 | 0.208       | 0.188 | 0.388        | 0.368 | 0.219        | 0.188           |  |

  

| Tolerance on Length | Nominal Bolt Size |  | Nominal Bolt Length |                                |                                |
|---------------------|-------------------|--|---------------------|--------------------------------|--------------------------------|
|                     |                   |  | Up to 1 in., incl.  | Over 1 in. to 2-1/2 in., incl. | Over 2-1/2 in. to 4 in., incl. |
|                     | No. 10 thru 3/8   |  | +0.02, -0.03        | +0.02, -0.04                   | +0.04, -0.06                   |

|                                 |                                                                                                                                                                                                                  |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>              | Similar to a carriage bolt in bearing surface and square-neck design, but with a wider, lower-profile, round head.                                                                                               |
| <b>Applications/ Advantages</b> | Preferred for use where wood is bolted down as decking--the larger diameter head of the step bolt will not pull through the soft wood. Smooth, low, rounded head permits unrestricted movement over the surface. |
| <b>Material</b>                 | AISI 1006 - 1050 or equivalent steel.                                                                                                                                                                            |
| <b>Hardness</b>                 | No. 10 through 3/8 in. diameter, all lengths: Rockwell B70 - B100                                                                                                                                                |
| <b>Proof Load</b>               | No. 10 through 3/8 in. diameter, all lengths: 33,000 psi.                                                                                                                                                        |
| <b>Yield Strength</b>           | No. 10 through 3/8 in. diameter, all lengths: 36,000 psi. minimum                                                                                                                                                |
| <b>Tensile Strength</b>         | No. 10 through 3/8 in. diameter, all lengths: 54,000 psi. minimum                                                                                                                                                |
| <b>Elongation</b>               | 18% minimum (all sizes)                                                                                                                                                                                          |
| <b>Reduction of Area</b>        | 35% minimum (all sizes)                                                                                                                                                                                          |
| <b>Minimum Thread Length</b>    | The minimum length of thread shall be equal to twice the basic bolt diameter plus 0.25 in..                                                                                                                      |
| <b>Plating</b>                  | See Appendix-A for plating information.                                                                                                                                                                          |