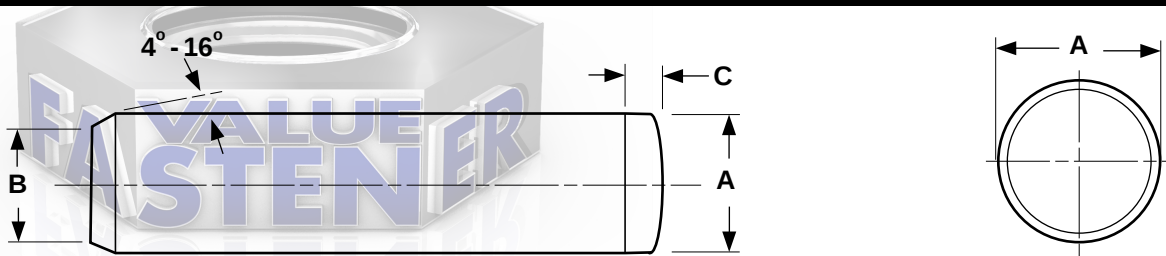


# Pins

## Dowel Pins

Alloy Steel



| DOWEL PINS, STANDARD SERIES                                                         |              |        |        |                |                                    |                 |                 |                                                    | ASME B18.8.2-2000          |        |        |
|-------------------------------------------------------------------------------------|--------------|--------|--------|----------------|------------------------------------|-----------------|-----------------|----------------------------------------------------|----------------------------|--------|--------|
| Nominal Size or<br>Nominal Pin Diameter                                             | A            |        |        | B              |                                    | C               | R               | Single<br>Shear Load<br>- Carbon or<br>Alloy Steel | Suggested Hole<br>Diameter |        |        |
|                                                                                     | Pin Diameter |        |        | Point Diameter |                                    | Crown<br>Height | Crown<br>Radius |                                                    |                            |        |        |
|                                                                                     | Basic        | Max    | Min    | Max            | Min                                | Max             | Min             |                                                    | lb.                        | Max    | Min    |
| 1/8                                                                                 | .1250        | 0.1252 | 0.1253 | 0.1251         | 0.120                              | 0.110           | 0.041           | 0.016                                              | 1,600                      | 0.1250 | 0.1245 |
| 3/16                                                                                | .1875        | 0.1877 | 0.1878 | 0.1876         | 0.180                              | 0.170           | 0.062           | 0.023                                              | 3,600                      | 0.1875 | 0.1870 |
| 1/4                                                                                 | .2500        | 0.2502 | 0.2503 | 0.2501         | 0.240                              | 0.230           | 0.083           | 0.031                                              | 6,400                      | 0.2500 | 0.2495 |
| 5/16                                                                                | .3125        | 0.3127 | 0.3128 | 0.3126         | 0.302                              | 0.290           | 0.104           | 0.039                                              | 10,000                     | 0.3125 | 0.3120 |
| 3/8                                                                                 | .3750        | 0.3752 | 0.3753 | 0.3751         | 0.365                              | 0.350           | 0.125           | 0.047                                              | 14,350                     | 0.3750 | 0.3745 |
| 7/16                                                                                | .4375        | 0.4377 | 0.4378 | 0.4376         | 0.424                              | 0.409           | 0.146           | 0.055                                              | 19,550                     | 0.4375 | 0.4370 |
| 1/2                                                                                 | .5000        | 0.5002 | 0.5003 | 0.5001         | 0.486                              | 0.471           | 0.167           | 0.063                                              | 25,500                     | 0.5000 | 0.4995 |
| 5/8                                                                                 | .6250        | 0.6252 | 0.6253 | 0.6251         | 0.611                              | 0.595           | 0.208           | 0.078                                              | 39,900                     | 0.6250 | 0.6245 |
| 3/4                                                                                 | .7500        | 0.7502 | 0.7503 | 0.7501         | 0.735                              | 0.715           | 0.250           | 0.094                                              | 57,000                     | 0.7500 | 0.7495 |
| 7/8                                                                                 | .8750        | 0.8752 | 0.8753 | 0.8751         | 0.860                              | 0.840           | 0.293           | 0.109                                              | 78,000                     | 0.8750 | 0.8745 |
| 1                                                                                   | 1.0000       | 1.0002 | 1.0003 | 1.0001         | 0.980                              | 0.960           | 0.333           | 0.125                                              | 102,000                    | 1.0000 | 0.9995 |
|  |              |        |        |                |                                    |                 |                 |                                                    |                            |        |        |
| Tolerance on Length                                                                 |              |        |        |                | ±0.010 in. (all sizes and lengths) |                 |                 |                                                    |                            |        |        |

|                                     |                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>                  | A solid headless straight pin with a closely controlled diameter. One end is chamfered with the other end radiused to form a crown.                                                                                                                                                                                                                          |
| <b>Applications/<br/>Advantages</b> | Wide variety of uses, including as a plug gage, hinge or shaft. Precise tolerances of dowel pins make them excellent for achieving proper alignment of parts in high-speed assemblies, or as roller bearings in bus/truck wheel housings. <b>Important Note:</b> Dowel pins should be installed by being pressed in, <b>not</b> struck with an impact force. |
| <b>Material</b>                     | Pins shall be made from any alloy steel capable of achieving the proper hardness requirements listed herein, having sulfur content of 0.05% maximum, and phosphorus content of 0.04% maximum.                                                                                                                                                                |
| <b>Heat Treatment</b>               | Pins shall be hardened by quenching in oil from austenitizing temperature and tempering to meet the proper Rockwell hardness and case depth.                                                                                                                                                                                                                 |
| <b>Core Hardness</b>                | Rockwell C 47 - 58                                                                                                                                                                                                                                                                                                                                           |
| <b>Case Hardness</b>                | Rockwell C 60 minimum                                                                                                                                                                                                                                                                                                                                        |
| <b>Case Depth</b>                   | 5/32 diameter & smaller: 0.010 in., minimum.<br>3/16 diameter and larger: 0.015 in. minimum.                                                                                                                                                                                                                                                                 |
| <b>Finish</b>                       | See Appendix-A for information about the various finishes for dowel pins.                                                                                                                                                                                                                                                                                    |