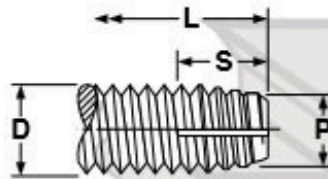


Type 1

Thread Cutting

Self-Tapping Screws



### THREADS AND POINTS FOR TYPE 1 THREAD CUTTING SCREWS

ASME  
B18.6.4-1998

| Nominal Size<br>or Basic<br>Screw<br>Diameter | Threads<br>Per Inch | D                           |       | P                 | S                  |                                     |      |      | L  |                       |  |              | Minimum<br>Torsional<br>Strength,<br>lb.-in. |      |
|---|---------------------|-----------------------------|-------|-------------------|--------------------|-------------------------------------|------|------|--|-----------------------|--|--------------|--|------|
|   |                     | Major Diameter              |       | Point<br>Diameter | Point Taper Length |                                     |      |      | Determinant<br>Length for<br>Point Taper |                       | Minimum Practical<br>Nominal Screw Lengths |              |  |      |
|   |                     | Max                         | Min   | Ref               | Max                | Min                                 | Max  | Min  | 90°<br>Heads                             | Csk<br>Heads          | 90°<br>Heads                               | Csk<br>Heads |  |      |
| 2   | .0860               | 56                          | .0860 | .0813             | .068               | .062                                | .045 | .080 | .062                                     | 5/32                  | 3/16                                       | 5/32         | 3/16   | 5    |
| 4   | .1120               | 40                          | .1120 | .1061             | .087               | .088                                | .062 | .112 | .088                                     | 7/32                  | 1/4  | 3/16         | 1/4  | 13   |
| 6   | .1380               | 32                          | .1380 | .1312             | .107               | .109                                | .078 | .141 | .109                                     | 1/4                   | 5/16                                       | 1/4          | 5/16   | 23   |
| 8   | .1640               | 32                          | .1640 | .1571             | .132               | .109                                | .078 | .141 | .109                                     | 1/4                   | 11/32                                      | 1/4          | 5/16   | 42   |
| 10  | .1900               | 24                          | .1900 | .1818             | .148               | .146                                | .104 | .188 | .146                                     | 11/32                 | 7/16                                       | 5/16         | 13/32  | 56   |
| 10  | .1900               | 32                          | .1900 | .1831             | .158               | .109                                | .078 | .141 | .109                                     | 1/4                   | 11/32                                      | 1/4          | 5/16   | 74   |
| 12  | .2160               | 24                          | .2160 | .2078             | .174               | .146                                | .104 | .188 | .146                                     | 11/32                 | 7/16                                       | 5/16         | 13/32  | 93   |
| 1/4   | .2500               | 20                          | .2500 | .2408             | .200               | .175                                | .125 | .225 | .175                                     | 13/32                 | 17/32                                      | 3/8          | 1/2  | 140  |
| 5/16  | .3125               | 18                          | .3125 | .3026             | .257               | .194                                | .139 | .250 | .194                                     | 15/32                 | 19/32                                      | 7/16         | 9/16   | 306  |
| 3/8   | .3750               | 16                          | .3750 | .3643             | .312               | .219                                | .156 | .281 | .219                                     | 1/2                   | 11/16                                      | 15/32        | 5/8  | 560  |
| 1/2   | .5000               | 13                          | .5000 | .4876             | .423               | .269                                | .192 | .346 | .269                                     | 5/8                   | 25/32                                      | 19/32        | 3/4  | 1075 |
| <b>Tolerance on Length</b>                    |                     | Up to 3/4 in., Incl.: -0.03 |       |                   |                    | Over 3/4 to 1-1/2 in., Incl.: -0.05 |      |      |  | Over 1-1/2 in.: -0.06 |  |              |  |      |

| Description                        | A thread cutting screw with machine screw thread pitch, blunt point, tapered entering threads and a single cutting edge. |   |
|------------------------------------|--|---|
|                                    | Steel  | Stainless   |
| Applications/<br>Advantages        | May be used in steel sheets, structural shapes, special alloy steels, cast iron, brass or plastics.                      | Stainless screws offer greater corrosion resistance than steel screws but have a more limited range of applications due to being a softer metal. When using any thread-cutting screw, the material in which the threads are cut should have a lower hardness by 10-20 Rockwell hardness points. |
| Material                           | AISI 1016 - 1024 or equivalent steel.  | 18-8 stainless steel.   |
| Heat Treatment                     | Screws shall be quenched in liquid and then tempered by reheating to 650°F minimum.                                      | 18-8 thread-cutting screws are not heat-treated.  |
| Surface Hardness                   | Rockwell C45 minimum   | -   |
| Case Depth                         | No. 4 thru 6 diameter: .002 - .007<br>No. 8 thru 12 diameter: .004 - .009<br>1/4" diameter and larger: .005 - .011       | -   |
| Core Hardness<br>(after tempering) | Rockwell C28 - 38  | Rockwell B90 - C20  |
| Plating                            | See Appendix-A for plating information.  |   |

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