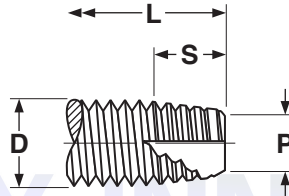


THREAD CUTTING

Type 23



VICTORY INNOVATIVE

| THREADS AND POINTS FOR TYPE 23 THREAD CUTTING SCREWS |                  |                             |       |                |                    |                                     |             |      |                                    |                       |   |           |  | ASME<br>B18.6.3-2013 |
|--|------------------|-----------------------------|-------|----------------|--------------------|-------------------------------------|-------------|------|------------------------------------|-----------------------|---|-----------|--|----------------------|
| Nominal Size or Basic Screw Diameter                 | Threads Per Inch | D                           |       | P              | S                  |                                     |             |      | L                                  |                       |   |           | Minimum Torsional Strength, lb.-in. (STEEL parts only) |                      |
|  |                  | Major Diameter              |       | Point Diameter | Point Taper Length |                                     |             |      | Determinant Length for Point Taper |                       | Minimum Practical Nominal Screw Lengths |           |  |                      |
|  |                  | Max                         | Min   | Ref            | Short Screws       |                                     | Long Screws |      | 90° Heads                          | Csk Heads             | 90° Heads                               | Csk Heads |  |                      |
| 2  | .0860            | 56                          | .0860 | .0813          | .068               | .062                                | .045        | .080 | .062                               | 5/32                  | 3/16                                    | 5/32      | 3/16   | 5                    |
| 3  | .0990            | 48                          | .0990 | .0938          | .078               | .073                                | .052        | .094 | .073                               | 3/16                  | 7/32                                    | 5/32      | 7/32   | 9                    |
| 4  | .1120            | 40                          | .1120 | .1061          | .087               | .088                                | .062        | .112 | .088                               | 7/32                  | 1/4                                     | 3/16      | 1/4  | 13                   |
| 5  | .1250            | 40                          | .1250 | .1191          | .100               | .088                                | .062        | .112 | .088                               | 7/32                  | 9/32                                    | 3/16      | 1/4  | 18                   |
| 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                  |
| Tolerance on Length                                  |                  | 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 |   |           |  |                      |

|                                 |  |
|---------------------------------|--|
| <b>Description</b>              | A thread cutting screw with machine screw thread pitch, a blunt point, tapered entering threads, a single wide cutting edge, and a chip cavity.  |
| <b>Applications/ Advantages</b> | Steel type-23's are well-suited for cast iron and zinc, aluminum die castings, and plastics. The type-23 design provides excellent chip clearing with minimum tightening torques. 18-8 stainless screws offer additional resistance to corrosion. When using any thread-cutting screw, the material in which the threads are cut should have a lower hardness by at least 10 to 20 Rockwell hardness points. |
| <b>Material</b>                 | <b>Steel:</b> AISI 1016 - 1024 or equivalent steel; <b>Stainless:</b> 18-8 stainless steel.  |
| <b>Heat Treatment</b>           | <b>Steel:</b> Screws shall be quenched in liquid and then tempered by reheating to 650°F minimum.  |
| <b>Surface Hardness</b>         | <b>Steel:</b> Rockwell C45° minimum  |
| <b>Case Depth (steel)</b>       | No. 2 thru 6 diameter: .002 - .007<br>No. 8 thru 12 diameter: .004 - .009<br>1/4" diameter and larger: .005 - .011   |
| <b>Core Hardness</b>            | <b>Steel (after tempering):</b> Rockwell C28 - 38<br><b>Stainless:</b> Rockwell B90 - C20 (approx.)  |
| <b>Plating</b>                  | See Appendix-A for plating of steel thread-cutting screws.   |