



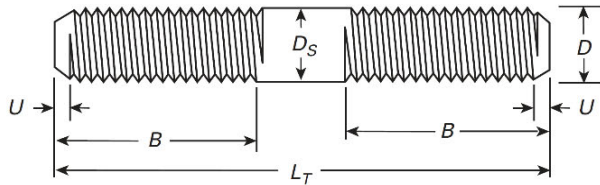
# Double End Studs



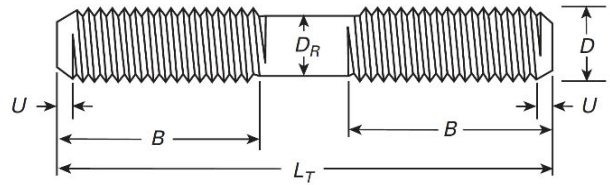
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Full Body



Reduced Body

ASME B18.31.2-2014

| Nominal Size | D<br>Diameter | B<br>Nut End Minimum Full Thread Length |                  |          | $U_{max} = 2 \text{ Thread Pitches}$ |                |                |
|--------------|---------------|---|------------------|----------|--------------------------------------|----------------|----------------|
|              |               | $L \leq 10$                             | $10 < L \leq 16$ | $L > 16$ | UNC<br>Threads                       | UNF<br>Threads | 8UN<br>Threads |
|              |               |   |                  |          |                                      |                |                |
| 1/4          | 0.2500        | 0.750                                   | 1.000            | 1.500    | 0.100                                | 0.071          | ...            |
| 5/16         | 0.3125        | 0.875                                   | 1.125            | 1.625    | 0.111                                | 0.083          | ...            |
| 3/8          | 0.3750        | 1.000                                   | 1.250            | 1.750    | 0.125                                | 0.083          | ...            |
| 7/16         | 0.4375        | 1.125                                   | 1.375            | 1.875    | 0.143                                | 0.100          | ...            |
| 1/2          | 0.5000        | 1.250                                   | 1.500            | 2.000    | 0.154                                | 0.100          | ...            |
| 9/16         | 0.5625        | 1.375                                   | 1.625            | 2.125    | 0.167                                | 0.111          | ...            |
| 5/8          | 0.6250        | 1.500                                   | 1.750            | 2.250    | 0.182                                | 0.111          | ...            |
| 3/4          | 0.7500        | 1.750                                   | 2.000            | 2.500    | 0.200                                | 0.125          | ...            |
| 7/8          | 0.8750        | 2.000                                   | 2.250            | 2.750    | 0.222                                | 0.143          | ...            |
| 1            | 1.0000        | 2.250                                   | 2.500            | 3.000    | 0.250                                | 0.167          | ...            |
| 1-1/8        | 1.1250        | 2.500                                   | 2.750            | 3.250    | 0.286                                | 0.167          | 0.250          |
| 1-1/4        | 1.2500        | 2.750                                   | 3.000            | 3.500    | 0.286                                | 0.167          | 0.250          |
| 1-3/8        | 1.3750        | 3.000                                   | 3.250            | 3.750    | 0.333                                | 0.167          | 0.250          |
| 1-1/2        | 1.5000        | 3.250                                   | 3.500            | 4.000    | 0.333                                | 0.167          | 0.250          |
| 1-5/8        | 1.6250        | 3.500                                   | 3.750            | 4.250    | ...                                  | ...            | 0.250          |
| 1-3/4        | 1.7500        | 3.750                                   | 4.000            | 4.500    | 0.400                                | ...            | 0.250          |
| 1-7/8        | 1.8750        | 4.000                                   | 4.250            | 4.750    | ...                                  | ...            | 0.250          |
| 2            | 2.0000        | 4.250                                   | 4.500            | 5.000    | 0.444                                | ...            | 0.250          |
| 2-1/4        | 2.2500        | 4.750                                   | 5.000            | 5.500    | 0.444                                | ...            | 0.250          |
| 2-1/2        | 2.5000        | 5.250                                   | 5.500            | 6.000    | 0.500                                | ...            | 0.250          |
| 2-3/4        | 2.7500        | 5.750                                   | 6.000            | 6.500    | 0.500                                | ...            | 0.250          |
| 3            | 3.0000        | ...                                     | 6.500            | 7.000    | 0.500                                | ...            | 0.250          |
| 3-1/4        | 3.2500        | ...                                     | 7.000            | 7.500    | 0.500                                | ...            | 0.250          |
| 3-1/2        | 3.5000        | ...                                     | 7.500            | 8.000    | 0.500                                | ...            | 0.250          |
| 3-3/4        | 3.7500        | ...                                     | 8.000            | 8.500    | 0.500                                | ...            | 0.250          |
| 4            | 4.0000        | ...                                     | 8.500            | 9.000    | 0.500                                | ...            | 0.250          |

**Notes:** (1) All Dimensions are in inches. (2) LT is the nominal threaded bolt length. For common nominal sizes, full thread studs are typically stocked in 1/8" increments up to 1" long, in 1/4" increments from 1" to 6" long & in 1/2" increments from 6" to 10" long. (3)  $U_{max} = 2P$  where P equals thread pitch.

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| Nominal Size | Nominal Diameter, D, & Maximum Full Body Diameter, D <sub>S</sub> | Minimum Body Diameter, D <sub>S</sub> , for Full Body Studs & Maximum Body Diameter, D <sub>R</sub> , for Reduced Body Studs |             |             | Minimum Body Diameter, D <sub>R</sub> , for Reduced-Body Studs |             |             |
|--------------|---|--|-------------|-------------|--|-------------|-------------|
|              |   | UNC & NC-5 HF Threads  | UNF Threads | 8UN Threads | UNC & NC-5 HF Threads  | UNF Threads | 8UN Threads |
| 1/4          | 0.2500  | 0.241  | 0.243       | ...         | 0.213  | 0.223       | ...         |
| 5/16         | 0.3125  | 0.303  | 0.304       | ...         | 0.271  | 0.281       | ...         |
| 3/8          | 0.3750  | 0.364  | 0.367       | ...         | 0.329  | 0.343       | ...         |
| 7/16         | 0.4375  | 0.426  | 0.428       | ...         | 0.385  | 0.400       | ...         |
| 1/2          | 0.5000  | 0.488  | 0.491       | ...         | 0.444  | 0.462       | ...         |
| 9/16         | 0.563   | 0.550  | 0.552       | ...         | 0.502  | 0.521       | ...         |
| 5/8          | 0.6250  | 0.611  | 0.615       | ...         | 0.559  | 0.583       | ...         |
| 3/4          | 0.7500  | 0.735  | 0.739       | ...         | 0.677  | 0.703       | ...         |
| 7/8          | 0.8750  | 0.859  | 0.863       | ...         | 0.795  | 0.822       | ...         |
| 1            | 1.0000  | 0.983  | 0.987       | ...         | 0.910  | 0.938       | ...         |
| 1-1/8        | 1.1250  | 1.106  | 1.112       | 1.108       | 1.023  | 1.063       | 1.035       |
| 1-1/4        | 1.2500  | 1.231  | 1.237       | 1.233       | 1.148  | 1.188       | 1.160       |
| 1-3/8        | 1.3750  | 1.354  | 1.362       | 1.358       | 1.256  | 1.313       | 1.284       |
| 1-1/2        | 1.5000  | 1.479  | 1.487       | 1.483       | 1.381  | 1.438       | 1.409       |
| 1-5/8        | 1.6250  | ...  | ...         | 1.608       | ...  | ...         | 1.534       |
| 1-3/4        | 1.7500  | 1.727  | ...         | 1.733       | 1.609  | ...         | 1.659       |
| 1-7/8        | 1.8750  | ...  | ...         | 1.858       | ...  | ...         | 1.784       |
| 2            | 2.0000  | 1.975  | ...         | 1.983       | 1.843  | ...         | 1.909       |
| 2-1/4        | 2.2500  | 2.225  | ...         | 2.233       | 2.093  | ...         | 2.158       |
| 2-1/2        | 2.5000  | 2.473  | ...         | 2.483       | 2.324  | ...         | 2.408       |
| 2-3/4        | 2.7500  | 2.723  | ...         | 2.733       | 2.574  | ...         | 2.658       |
| 3            | 3.0000  | 2.973  | ...         | 2.982       | 2.824  | ...         | 2.908       |
| 3-1/4        | 3.2500  | 3.223  | ...         | 3.232       | 3.073  | ...         | 3.158       |
| 3-1/2        | 3.5000  | 3.473  | ...         | 3.482       | 3.323  | ...         | 3.407       |
| 3-3/4        | 3.7500  | 3.723  | ...         | 3.732       | 3.573  | ...         | 3.657       |
| 4            | 4.0000  | 3.973  | ...         | 3.982       | 3.823  | ...         | 3.907       |

**NOTE:** (1) All dimensions are in inches. (2) All dimensions before plating.