



| B-7 CONTINUOUS THREAD STUDS | | | | ASME B18.31.2 | |
|-----------------------------|---------------------------|-------------------------|-----------------------|-------------------------------------|-------------|
| Nominal Size | Diameter D | Threads Per Inch | | U _{max} = 2 Thread Pitches | |
| | | UNC | UNF | UNC Threads | UNF Threads |
| 1/2 | 0.5000 | 13 | 20 | 0.154 | 0.100 |
| 5/8 | 0.6250 | 11 | 18 | 0.182 | 0.111 |
| 3/4 | 0.7500 | 10 | 16 | 0.200 | 0.125 |
| 7/8 | 0.8750 | 9 | 14 | 0.222 | 0.143 |
| 1 | 1.0000 | 8 | 12 | 0.250 | 0.167 |
| Tolerance on Length | Nominal Length | | | | |
| | Over 1/2 thru 2.5": ±0.04 | Over 2.5 thru 4": ±0.08 | Over 4 thru 8": ±0.10 | Over 8 thru 16": ±0.12 | |

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|--------------------------------|---|
| Description | An externally threaded fastener without a head that is threaded over its entire length. |
| Applications/Advantages | B7 studs are best suited for use in temperatures between 300° - 400° C. |
| Material | Bolts shall be made from a grade B7 alloy which conforms to the following chemical composition requirements-- <i>Carbon:</i> 0.37-0.49%; <i>Manganese:</i> 0.65-1.10%; <i>Phosphorus:</i> 0.035% maximum; <i>Sulfur:</i> 0.040% maximum; <i>Silicon:</i> 0.15-0.35% ; <i>Chromium:</i> 0.75-1.20% ; <i>Molybdenum:</i> 0.15-0.25% |
| Heat Treatment | Immediately after rolling or forging, the studs are cooled to a temperature below the cooling transformation stage. Parts are then reheated to a minimum tempering temperature of 1100° F and quenched in a liquid medium. |
| Hardness | <i>Studs 2.5" in diameter and smaller:</i> Rockwell C35 maximum |
| Yield Strength | 105,000 psi. minimum |
| Tensile Strength | 125,000 psi. minimum |
| Elongation in 4D | 16% minimum |
| Plating | Studs are typically provided plain without a secondary finish. |

