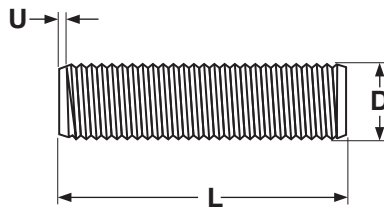


B7 Alloy

# Continuous Thread Studs Bolts & Cap Screws



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	

<b>Description</b>	An externally threaded fastener without a head that is threaded over its entire length.
<b>Applications/ Advantages</b>	B7 studs are best suited for use in temperatures between 300° - 400° C.
<b>Material</b>	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%
<b>Heat Treatment</b>	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.
<b>Hardness</b>	<i>Studs 2.5" in diameter and smaller</i> : Rockwell C35 maximum
<b>Yield Strength</b>	105,000 psi. minimum
<b>Tensile Strength</b>	125,000 psi. minimum
<b>Elongation in 4D</b>	16% minimum
<b>Plating</b>	Studs are typically provided plain without a secondary finish.