



ASTM A354

Scope - This specification covers the chemical and mechanical requirements of quenched and tempered alloy steel bolts, studs, and other externally threaded fasteners covering two strength levels, 4" diameter and smaller.

Grades	A354 BC	Alloy Steel, quenched and tempered
	A354 BD	Alloy Steel, quenched and tempered

Mechanical Properties	Grade	Markings	Size	Tensile, ksi, min	Yield, ksi, min	Elong, %, min	RA, %, min	Hardness
	BC	BC	¼ to 2-½	125	109	16	50	C26-C36
			2-5/8 to 4	115	99	16	45	C22-C33
	BD	BD	¼ to 2-½	150	130	14	40	C33-C39
2-5/8 to 4			140	115	14	40	C33-C39	

Recommended Mating Materials	Element	Sizes ¼ to 1-½	Sizes above 1-½
	Carbon	0.30 – 0.53	0.35 – 0.53
	Phosphorus, max	0.035	0.035
	Sulfur, max	0.04	0.05

Recommended Mating Materials	Nuts			Washers
	Grade BC		Grade BD	
	Plain	Galvanized	Plain	
	A563C Heavy Hex	A563DH Heavy Hex	A563DH Heavy Hex	