

AEROSPACE BOLT INTERCHANGE

The following charts detail material specifications, strength and temperature ratings, nominal thread lengths and updates/interchanges of the most commonly used aerospace bolt series.

HEX HEAD –

☞ 125,000 psi tensile / 75,000 psi shear

AN3: Alloy steel, 450°F

AN3C: Stainless steel, 450°F

☞ 160,000 psi tensile / 95,000 psi shear

NAS 1103: Alloy steel, 450°F

NAS 6203: Alloy steel, 450°F

NAS 1303: Alloy steel, 450°F

NAS 6603: Alloy steel, 450°F

NAS 6303: A286 Stainless, 1200°F

NAS 6703: A286 Stainless, 1200°F

NAS 653: Titanium Alloy, 500°F

NAS 673: Titanium Alloy, 500°F

NAS 6403: Titanium Alloy, 500°F

NAS 6803: Titanium Alloy, 500°F

Supersedence:

NAS 1103 to NAS 6203

NAS 1303 to NAS 6603

Commonly Accepted Interchanges:

NAS 1103, 6203

NAS 1303, 6603

12 POINT HEAD/INTERNAL WRENCHING HEAD –

☞ 160,000 psi tensile / 96,000 psi shear

NAS 144: Alloy steel, 450°F (internal wrenching)

MS 20004: Alloy steel, 450°F (internal wrenching)

☞ 180,000 psi tensile / 108,000 psi shear

NAS 624: Alloy steel, 450°F (12 point)

MS 21250: Alloy steel, 450°F (12 point)

Supersedence:

NAS 144 to MS 20004

Commonly Accepted Interchanges:

NAS 624 and MS 21250

NAS 144 and MS 20004

Thread Sizes and Nominal Thread Lengths

DIA NO.	THREAD SIZE	ALLOY STEEL				A286 STAINLESS		6AL4V TITANIUM ALLOY				ALLOY STEEL			
		11xx	62xx	13xx	66xx	63xx	67xx	65x	67x	64xx	68xx	ANx	MS2000x	MS21250	NAS62x
3	.190-32	.276	.323	.338	.345	.323	.345	.276	.338	.323	.345	.406	N/A	.420	N/A
4	.250-28	.316	.370	.425	.425	.370	.425	.316	.425	.370	.425	.469	.475	.492	.485
5	.3125-24	.375	.438	.469	.469	.438	.469	.375	.469	.438	.469	.531	.537	.579	.572
6	.375-24	.391	.454	.578	.578	.454	.578	.391	.578	.454	.578	.641	.662	.625	.619
7	.4375-20	.453	.528	.594	.694	.528	.694	.453	.594	.528	.694	.656	.787	.721	.694
8	.500-20	.453	.528	.735	.735	.528	.735	.453	.735	.528	.735	.781	.787	.768	.741
9	.563-18	.511	.594	.840	.840	.594	.840	-	-	.594	.840	.906	.850	.852	.826
10	.625-18	.543	.626	.902	.902	.626	.902	-	-	.626	.902	.953	.912	.899	.873
12	.750-16	.572	.666	1.041	1.041	.666	1.041	-	-	.666	1.041	1.093	1.037	1.036	.993

Note: X or XX represents diameter number; all dimensions are in inches