TABLE III – TENSILE AND SHEAR STRENGTH VALUES, LBF MIN (12)

THREAD SIZE	NOMINAL SIZE	THREAD PITCH AREA AT MAX DIA	ULTIMATE TENSILE STRENGTH /a/ /b/ /c/			SHANK AREA AT NOMINAL DIAMETER	SHEAR DOUBLE /j//k/
			TYPE I /d/	TYPE II /e/ /g/	TYPE III /f/ /g/		
.1120-40	.1120	.0072	1,150	925		.0099	1,880
.1380-32	.1380	.0109	1,740	1,400		.0150	2,850
.1640-32	.1640	.0162	2,600	2,170		.0211	4,010
.1900-32	.1900	.0226	3,620	3,180	1,600	.0284	5,380
.2500-28	.2500	.0404	6,470	5,820	3,200	.0491	9,300
.3125-24	.3125	.0640	10,200	9,260	4,230	.0767	14,600
.3750-24	.3750	.0951	15,200	14,000	6,160	.1105	21,000
.4375-20	.4375	.1288	20,600	19,000	8,320	.1503	28,600
.5000-20	.5000	.1717	27,500	25,600	11,300	.1963	37,300
.5625-18	.5625	.2176	34,800	32,400	14,300	.2485	47,200
.6250-18	.6250	.2724	43,600	40,900	18,000	.3068	58,300
.7500-16	.7500	.3952	63,200	56,900		.4418	83,900
.8750-14	.8750	.5392	86,300	77,700		.6013	114,000
1.0000-12	1.0000	.7027	112,000	101,000		.7854	149,000
1.1250-12	1.1250	.9007	144,000			.9940	189,000
1.2500-12	1.2500	1.1233	180,000			1.2272	233,000
1.3750-12	1.3750	1.3704	219,000			1.4849	282,000
1.5000-12	1.5000	1.6420	263,000			1.7661	336,000

Notes:

/a/ Type I fasteners shall meet Type I minimum tensile values;
Type II fasteners shall meet Type II minimum tensile values;
Type III fasteners shall meet Type III minimum tensile values. (12)

/b/ Tensile tests are not required for fasteners with a thread length less than 1.5 times the nominal diameter.

/c/ Tensile tests are not required for fasteners with the following configurations if they have acceptable hardness and shear test values (see Note /h/):

1. Sizes .1120, .1380, and .1640.
2. Protruding or flush head fasteners having a grip length of less than two (2) times the nominal diameter.
3. Full threaded fasteners with a length less than three times nominal diameter if they have acceptable hardness values.
4. Full threaded fasteners with both a recess drive and drilled holes in the head.
5. Fasteners with drilled threads. User be aware that fasteners with holes drilled in the thread area for lock wire or other applications may exhibit a reduction in tensile value.

/d/ Ultimate tensile values for Type I fasteners are calculated from formula:
$T_{RT} = F_{TU} \times A$, where: T_{RT} = Tensile strength in pounds at Room temperature.
F_{TU} = 160,000 PSI.
A = Area at maximum pitch diameter in square inches as tabulated above.

/e/ Ultimate tensile values for Type II fasteners are based on the following formula:
$T_{RT} = F_{TU} \times$ H28 Federal Handbook stress area where: T_{RT} = Tensile strength in pounds at Room temperature.
F_{TU} = 160,000 PSI.

/f/ The ultimate tensile values for Type III fasteners are based upon empirically determined head strengths at minimum material/minimum heat treat condition.

/g/ Type II and Type III fasteners may be head critical and the actual ultimate tensile values shall not be used to verify thermal treatment values.

/h/ Shear tests not required for:

1. Sizes .1120, .1380, and .1640 if they have acceptable hardness values.
2. Protruding or flush head parts having a shank length of less than two (2) times the nominal diameter, excluding the head bearing surface, fillet radius and shank to thread transition area, if they have acceptable hardness.
3. Full threaded parts.

/j/ Oversize fastener shear tests may be performed using a test specimen or by modifying the shear dies.

/k/ Ultimate double shear values calculated from formula (Single shear values are .5 times double shear values): (12)

(12) $S_{RT} = F_{SU} \times 2A$ where: S_{RT} = Double shear strength in pounds at room temperature
F_{SU} = 95,000 PSI.
A = Area of shank in square inches, as tabulated above.