



"Veterans in Business - Still Serving America"

MACHINE TOOLS SOUTH

Machine Tools South

3179 Green Valley Road, Birmingham, AL 35243

O: (205) 968-3570 | F: (205)-968-1503

E: guy@machinetoolssouth.com | W: machinetoolssouth.com

- Cage Code: 5LVJ6
- ORCA & Vet Biz Certified
- D&B 789439879
- Primary NAICS Codes 423830 423840 811310

Note: Mild steel = 55 ksi = 55,000 psi How to use this information for bending aluminum or stainless steel: Divide 55 ksi by the tensile strength number associated with the type of aluminum or stainless steel you use. Multiply the mild steel capacity of your machine to get the corresponding capacity of the machine. Be sure to adjust the settings of your machine for the actual metal thickness you are bending.

Tensile Strengths of Stainless Steel:

ASTM / AISI Grade	SAE Number	Material	Tensile Strength Ksi †
303	30303	*Annealed Bar	85/95
304	30304	*Annealed Bar *Sheet/Plate	80/90 75 min
304L	30304L	Sheet/Plate	70 min
309	30309	Sheet	75 min
316	30316	*Annealed Bar *Sheet/Plate	75/90 75 min
316L	30316L	•Sheet/Plate •Annealed Bar	70 min 80/90
321	30321	•Sheet	75 min 100 max
416	51416	•Annealed Bar	80/100
420	51420	•Annealed Bar	95
430	51430	•Sheet	65 min
440F Se	51440F Se	•Annealed Bar	100/120
630 (17 -4) C	_____	Cond-A-Bar••CondH900 Bar ••Cond-H1025 Bar	150200170
		• May be slightly magnetic when cold worked	•• Not stocked-typical properties † 1 ksi = 1000 psi



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Tensile Strengths of Aluminum:

Alloy and Temper	Tensile Strength³ (ksi)
1100-O	13.0
1100-H12	16.0
1100-H14	18.0
1100-H16	21.0
1100-H18	24.0
1100-H19	27.0
2011-T3	55.0
2011-T451	40.6
2011-T8	59.0
2014-O	27.0
2014-T4,-T451	62.0
2014-T6,-T651	70.0
Alclad 2014-O	25.0
Alclad 2014-T3	63.0
Alclad 2014-T4,-T451	61.0
Alclad 2014-T6,-T651	68.0
2017-H13	35.0
2017-O	26.0
2014-T4,-T451	62.0
2024-O	27.0
2024-T3	70.0
2024-T361 ¹	72.0
2024-T4,-T351	68.0
2024-T6	69.0
2024-T81,-T851	70.0
2024-T861 ²	75.0
Alclad 2024-O	26.0
Alclad 2024-T3	65.0
Alclad 2024-T361 ¹	67.0
Alclad 2024- T4,-T351	64.0
Alclad 2024- T81,-T85	65.0
Alclad 2024-T861 ¹	70.0
3003-O	16.0
3003-H12	19.0



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3003-H14	22.0
3003-H16	26.0
3003-H18	29.0
3003-H22	23.0
Alclad 3003-O	16.0
Alclad 3003-H12	19.0
Alclad 3003-H14	22.0
Alclad 3003-H16	26.0
Alclad 3003-H18	29.0

¹ Tempers T361 T861 were formerly designated T36 and T86, respectively.

² For stress-relieved tempers, the characteristics and properties other than those specified may differ somewhat from the corresponding characteristics and properties of material in the basic temper.

³ 1 ksi = 1000 psi

^o Minimum Properties

How to use this information for bending aluminum or stainless steel:

Divide 55 ksi by the tensile strength number associated with the type of aluminum or stainless steel you use. Multiply the mild steel capacity of your machine to get the corresponding capacity of the machine. Be sure to adjust the settings of your machine for the actual metal thickness you are bending.

Below is a conversion chart that converts sheet metal gauge numbers into metal Thickness.

26 gauge	24 ga.	22 ga.	20 ga.	18 ga.	16 ga.	14 ga.	13 ga.	12 ga.	11 ga.	10 ga.	9 ga.	8 ga.	7 ga.	6 ga.
.018 inch	.024"	.030"	.036"	.048"	.060"	.075"	.090"	.105"	.120"	.135"	.150"	.164"	.180"	.194"
.46mm	.61mm	.76mm	.91mm	1.2mm	1.5mm	1.9mm	2.3mm	2.7mm	3mm	3.4mm	3.8mm	4mm	4.6mm	4.9mm

