

**Table 2 - Mechanical Properties of ASTM A182**

Grade Symbol	Tensile Strength, min, ksi [MPa]	Yield Strength, min, ksi [MPa] <sup>B</sup>	Elongation in 2 in. [50 mm] or 4D, min, %	Reduction of Area, min, %	Brienell Hardness Number, HBW, unless otherwise indicated
<b>Low Alloy Steels</b>					
F5	70 [485]	40 [275]	20	35	143-217
F9	85 [585]	55 [380]	20	40	179-217
F91	90 [620]	60 [415]	20	40	190-248
F92	90 [620]	64 [440]	20	45	269 max
F11, Class 1	60 [415]	30 [205]	20	45	121-174
F11, Class 2	70 [485]	40 [275]	20	30	143-207
F11, Class 3	75 [515]	45 [310]	20	30	156-207
F12, Class 1	60 [415]	32 [220]	20	45	121-174
F12, Class 2	70 [485]	40 [275]	20	30	143-207
F21	75 [515]	45 [310]	20	30	156-207
F22, Class 1	60 [415]	30 [205]	20	35	170 max
F22, Class 3	75 [515]	45 [310]	20	30	156-207
<b>Austenitic Stainless Steels</b>					
F304	75 [515] <sup>C</sup>	30 [205]	30	50	...
F304L	70 [485] <sup>D</sup>	25 [170]	30	50	...
F316	75 [515] <sup>C</sup>	30 [205]	30	50	...
F316L	70 [485] <sup>D</sup>	25 [170]	30	50	...
F321	75 [515]	30 [205]	30	50	...

C. For sections over 5 in. [130 mm] in thickness, the minimum tensile strength shall be 70 ksi [485 MPa].

D. For sections over 5 in. [130 mm] in thickness, the minimum tensile strength shall be 65 ksi [450 MPa].