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6061 Aluminum Material Grade

Principal Design Features: Probably the most commonly available, heat treatable aluminum alloy. Commonly used in the manufacture of heavy-duty structures requiring good corrosion resistance, truck and marine components, railroad cars, furniture, tank fittings, general structural and high pressure applications, wire products, and in pipelines.

Partial List of Applications: Commonly used in the manufacture of heavy-duty structures requiring good corrosion resistance, truck and marine components, railroad cars, furniture, tank fittings, general structural and high pressure applications, wire products, and in pipelines.

Machinability: Machinability in the harder T4 and T6 tempers is good. It is notably less easy to machine in the annealed temper.

Forming: Easily cold worked and formed in the annealed condition. Stamping, bending, spinning, deep drawing are all readily accomplished using standard methods.

Welding: This alloy has very good welding characteristics and may be welded by all of the common welding techniques. Gas tungsten arc welding is generally used for thin sections (less than 0.032″) and gas metal arc welding is used for heavier sections. Use alloy 4043 filler wire for best results, although a decrease in T 6 properties will result.

Aluminum 6061 Chemistry Data

Aluminum	Balance
Chromium	0.04 – 0.35
Copper	0.15 – 0.4
Iron	0 – 0.7
Magnesium	0.8 – 1.2
Manganese	0.15 max
Other	0.15 max
Remainder Each	0.05 max
Silicon	0.4 – 0.8
Titanium	0.15 max
Zinc	0.25 max

Aluminum 6061 Physical Data

Density (lb / cu. in.)	0.098
Specific Gravity	2.7
Melting Point (Deg F)	1090
Modulus of Elasticity Tension	10
Modulus of Elasticity Torsion	3.8