

## 5052 Aluminum Material Grade

**Principal Design Features:** This is a non-heat treatable alloy that is weldable. It is hardened by cold work. It has good forming characteristics and good corrosion resistance, including resistance to salt water.

**Partial List of Applications:** Commonly used in the manufacture of hydraulic tubes, kitchen cabinets, small boats, home freezers, milk crates, aircraft tube, fencing, and appliances. Commonly used in sheet metal work and in sheet metal parts.

**Machinability:** This alloy has relatively fair machinability. It is easier to machine in the hard temper than as annealed and the quality of finish is better if machined in the hard condition. Oil lubricants should be used for machining, except that very light cuts may be done dry.

**Welding:** This alloy is readily welded by conventional methods. When filler rod is required it should be aluminum alloy 5356 as filler. Either tungsten or consumable electrode inert gas shielded arc welding is preferred method.

### Aluminum 5052 Chemistry Data

Aluminum	Balance
Chromium	0.15 – 0.35
Copper	0.1 max
Magnesium	2.2 – 2.8
Manganese	0.1 max
Remainder Each	0.05 max
Remainder Total	0.15 max
Silicon + Iron	0.45 max
Zinc	0.1 max

### Aluminum 5052 Physical Data

Density (lb / cu. in.)	0.097
Specific Gravity	2.68
Melting Point (Deg F)	1130
Modulus of Elasticity Tension	10.2
Modulus of Elasticity Torsion	3.8

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