Aluminum 6061-T6 | 3.3211| 65028| AlMg1SiCu

Aluminum 6061-T6 is the most versatile alloy for CNC machining, with excellent machinability and corrosion resistance.

Mechanical properties

Ultimate tensile strength	260-310 MPa
Yield strength	240-270 MPa
Young's modulus (modulus of elasticity)	68 - 74 GPa
Elongation at break	8-11 %

Physical properties

Corrosion resistance	High
Magnetism	Non-magnetic
Weldability	High

Thermal properties

Maximum service temperature	130 - 150 °C
Thermal expansion coefficent	22,7 - 23,9 10^-6/ºC
Thermal conductivity	152 - 169 W/(m·°C)

Electrical properties

Electrical resistivity	3.9 - 4.1 µΩ*cm

Post treatments

Post-Processing	Annealing & Cold working
Anodizing compatibility	Suitable

Common applications

Automotive industry	

Marine industry	
Electrical fittings	
Couplings & valves	

Aluminum 6061-T6 CNC Machining Applications & Parts

As the most versatile aluminum alloy for CNC machining, 6061-T6 offers an exceptional strength-to-weight ratio, excellent corrosion resistance, and superb machinability, making it the ideal choice for everything from rapid prototypes to high-stress aerospace components.

Typical Parts We Machine from Aluminum 6061-T6:

- **Aerospace & Defense:** Aircraft fuselage and wing components, UAV frames, satellite brackets, avionics enclosures, drone motor mounts
- **Automotive & Robotics:** Engine brackets, suspension components, robotic actuator arms, custom motor housings, sensor fixtures
- **Electronics & Enclosures:** Heat sinks, server racks, device chassis, RF shields, waveguide components, front panels
- **Industrial & Consumer Goods:** Jigs and fixtures, hydraulic manifolds, pneumatic cylinders, camera equipment, sporting goods components

Our Machining Advantage:

We excel in **high-speed machining** of 6061-T6, achieving tight tolerances and superior surface finishes that are perfect for anodizing and other finishes. Our **quick-turn service** ensures your prototypes or production parts are delivered faster, without compromising quality.

Get an Instant Quote for your custom Aluminum 6061-T6 parts today.