Alloy steel 4340 | 1.6511 | 36CrNiMo4 | EN24

Alloy Steel 4340 provides high strength and fatigue resistance for heavy-duty parts.

Mechanical properties

Ultimate tensile strength	690 - 1080 MPa
Yield strength	470 - 630 MPa
Young's modulus (modulus of elasticity)	205 - 213 GPa
Elongation at break	15 - 22 %

Physical properties

Corrosion resistance	Moderate to Poor
Magnetism	Semi-Magnetic
UV resistance	Excellent
Weldability	Moderate

Thermal properties

Maximum service temperature	613 - 652 °C
Thermal expansion coefficent	11.5 - 13 10^-6/ºC
Thermal conductivity	35 - 50 W/(m·°C)

Electrical properties

Electrical resistivity	18 - 27 µΩ*cm

Post treatments

Post-Processing	Tempering & Annealing
Anodizing compatibility	Not suitable

Common applications

General engineering parts	
Connecting rods & bolts	
High tensile applications	

Alloy Steel 4340 (1.6511 | 36CrNiMo4 | EN24) CNC Machining Applications & Parts

Alloy Steel 4340 is a high-strength, low-alloy steel renowned for its exceptional toughness, fatigue strength, and good wear resistance, especially after heat treatment. We specialize in machining this robust material for the most demanding applications.

Typical Parts We Machine from Alloy Steel 4340:

- **Aerospace & Defense:** Landing gear components, helicopter rotor shafts, high-strength bolts
- **Oil & Gas:** Drill collars, tool joints, heavy-duty axles and shafts
- **Tooling & Molds:** Die casting molds, plastic injection molds, heavy-duty fixtures

Our Machining Advantage:

Our capability to machine 4340 in both annealed and pre-hardened conditions (up to ~40 HRC) allows us to deliver ready-to-use components or precise preforms for final heat treatment.

Get an Instant Quote for your custom Alloy Steel 4340 parts today.