Mild steel 1045 | 1.0503 | C45 | EN8

Mild Steel 1045 is a medium-carbon steel for shafts, gears and general parts.

Mechanical properties

Ultimate tensile strength	600 - 630 MPa
Yield strength	310 - 320 MPa
Young's modulus (modulus of elasticity)	190 - 205 GPa
Elongation at break	16 %

Physical properties

Corrosion resistance	Poor
Magnetism	Semi-magnetic
Weldability	High

Thermal properties

Thermal expansion coefficent	11.2 - 12 10^-6/ºC
Thermal conductivity	51 W/(m·°C)

Electrical properties

Electrical resistivity	16 - 19 µΩ*cm

Post treatments

Post-Processing	Annealing & Cold working
Anodizing compatibility	Not suitable

Common applications

Axles	
Bolts	

Crankshafts	
Forged connection rods	
Torsion bars	

Mild Steel 1045 CNC Machining Applications & Parts

Mild Steel 1045 is a medium-carbon steel that offers higher strength and wear resistance compared to low-carbon steels while maintaining good machinability. It can be heat treated to enhance its mechanical properties, making it suitable for more demanding applications. Our precision machining capabilities ensure accurate components from this versatile material.

Typical Parts We Machine from Mild Steel 1045:

- **High-Strength Components:** Axles, shafts, gears, bolts, and studs
- **Industrial Machinery:** Spindles, connecting rods, hydraulic components, machinery parts
- **Tooling Applications:** Jigs, fixtures, dies, and other tooling components

Our Machining Advantage:

We expertly machine 1045 steel in both annealed and heat-treated conditions, utilizing appropriate tooling and techniques to achieve precise tolerances and excellent surface finishes for high-stress applications.

Get an Instant Quote for your custom Mild Steel 1045 parts today.