

Material type

Metal

Material name

Mild steel 1018 | 1.1147 | C18 |16Mn

Process compatibility

CNC machining**Mechanical properties**

Ultimate tensile strength	380 - 450 MPa
Yield strength	220 - 350 MPa
Young's modulus (modulus of elasticity)	190 - 205 GPa
Elongation at break	13 - 25 %

Thermal properties

Thermal expansion coefficient	11.5 - 12 $10^{-6}/^{\circ}\text{C}$
Thermal conductivity	52 W/(m $\cdot^{\circ}\text{C}$)

Post treatments

Post-Processing	Cold working
Anodizing compatibility	Not suitable

Physical properties

Corrosion resistance	Poor
Magnetism	Semi-magnetic
Weldability	Excellent

Electrical properties

Electrical resistivity	16 - 18 $\mu\Omega\cdot\text{cm}$
ESD Safety	No

Common applications

Industrial applications requiring more wear-resistance and strength

Gears & Pins

Rams & Shafts

Rolls & Sockets

Axles

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