

AISI 1020 Steel

Composition

Element	Weight %
C	0.18-0.23
Mn	0.30-0.60
P	0.04 (max)
S	0.05 (max)

Mechanical Properties

Properties		Conditions	
		T (°C)	Treatment
Density ($\times 1000 \text{ kg/m}^3$)	7.7-8.03	25	
Poisson's Ratio	0.27-0.30	25	
Elastic Modulus (GPa)	190-210	25	
Tensile Strength (Mpa)	394.7		
Yield Strength (Mpa)	294.8		
Elongation (%)	36.5	25	annealed at 870°C more
Reduction in Area (%)	66.0		
Hardness (HB)	111	25	annealed at 870°C more
Impact Strength (J) (Izod)	123.4	25	annealed at 870°C more

Thermal Properties

Properties		Conditions	
		T (°C)	Treatment
Thermal Expansion ($10^{-6}/^{\circ}\text{C}$)	14.8	20-700 more	annealed