

Elastic Constants

Mechanical Engineering

Stiffness and Poisson ratio for the metals and polymers you meet first.

Typical room-temperature values. Grade and heat treatment shift them.

Material	E (GPa)	Poisson ratio
Mild steel	200	0.29
Stainless 304	193	0.29
Aluminium 6061	69	0.33
Titanium 6Al-4V	114	0.34
Grey cast iron	110	0.26
Polycarbonate	2.3	0.37

Shear modulus $G = E \div 2(1 + \text{Poisson ratio})$; for steel that is about 79 GPa. Educational reference; use certified data.