

$$\frac{525 \text{ MPa}}{8.53} = 62 \text{ MPa}$$

For the AZ31B (extruded) magnesium alloy

$$\frac{262 \text{ MPa}}{1.77} = 148 \text{ MPa}$$

For the annealed Ti-5Al-2.5Sn titanium alloy

$$\frac{790 \text{ MPa}}{4.48} = 176 \text{ MPa}$$

(b) The longitudinal specific modulus is just the longitudinal tensile modulus-specific gravity ratio. For the glass-fiber reinforced epoxy, this ratio is

$$\frac{45 \text{ GPa}}{2.1} = 21.4 \text{ GPa}$$

For the carbon-fiber reinforced epoxy

$$\frac{145 \text{ GPa}}{1.6} = 90.6 \text{ GPa}$$

And, for the aramid-fiber reinforced epoxy

$$\frac{76 \text{ GPa}}{1.4} = 54.3 \text{ GPa}$$

The specific moduli for the metal alloys (Tables B.1 and B.2) are as follows:

For the cold rolled 17-7PH stainless steel

$$\frac{204 \text{ GPa}}{7.65} = 26.7 \text{ GPa}$$

For the normalized 1040 plain-carbon steel

$$\frac{207 \text{ GPa}}{7.85} = 26.4 \text{ GPa}$$