

# Stresses, Strains, and Elastic Moduli

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Type	Stress	Strain	Elastic Modulus
Tensile	$F_n/A$	$\Delta L/L_0$	$Y = F_n L_0 / A \Delta L$
Compressional	$F_n/A$	$\Delta L/L_0$	$Y = F_n L_0 / A \Delta L$
Translational	$F_t/A$	$\phi$	$S = F_t \ell / A d$
Torsional	$F_t/A$	$\theta$	$S = 2\tau \ell / \theta \pi r^4$
Volume	$p$	$-\Delta V/V_0$	$B = -p / (\Delta V/V_0)$