often less than 0.3, a% max theoretical
Should be > 1%
- Stress concentrations in design
  depends on surface roughness, cracking
dia. for caution, consider,
  16g CCA for certain ordinals
  standard or to prevent
  the condensation of the
  condensation on the
  microchip, so E departs on
  linear elastic, and
  Silicon is brittle, not ductile
  49°C and above, 50°C more

\[ E = \frac{7}{3} \]
cork, foams here 2.01
very little area change on
tension or compression

\[ G = \frac{E}{2(1+\nu)} \]

\[ \frac{dV}{V_0} = (1-2\nu)\varepsilon_x \]

permanant deformation exists
for aluminum, this happens a little at
remore force 1

\[ \varepsilon_x = \frac{2\Delta L}{2L} \]

\[ \frac{\varepsilon_x}{\varepsilon_y} = \frac{L}{2} \]

Euler-Bernoulli beam theory

\[ \mu = \frac{E}{2(1+\nu)} \]

\[ \frac{\Delta L}{L} \]
In order to solve this problem, we must apply the concept of a moment (torque). To keep forces about the mid-length axis, which is the beam's neutral axis, we must determine the moment of inertia about the neutral axis. Given a rectangular section, we then know the section modulus:

\[ W = \frac{I}{c} \]

where \( I \) is the moment of inertia and \( c \) is the distance from the neutral axis to the outermost fibers.

The moment of inertia can be calculated using the formula:

\[ I = \frac{bh^3}{12} \]

where \( b \) is the width and \( h \) is the height of the rectangular section.

The section modulus is then:

\[ W = \frac{\frac{bh^3}{12}}{c} = \frac{bh^2}{12c} \]

Given the dimensions of the beam and the required moment of inertia, we can solve for the necessary section modulus to ensure the beam will not fail under the applied load.