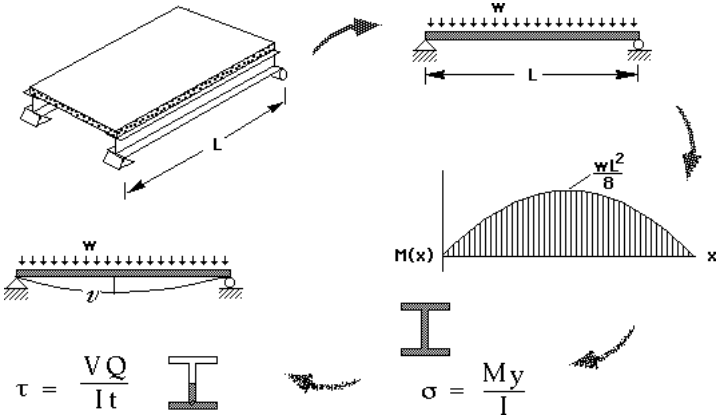
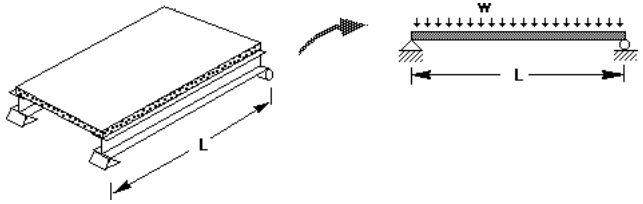
Summary of Beam Analysis and Design



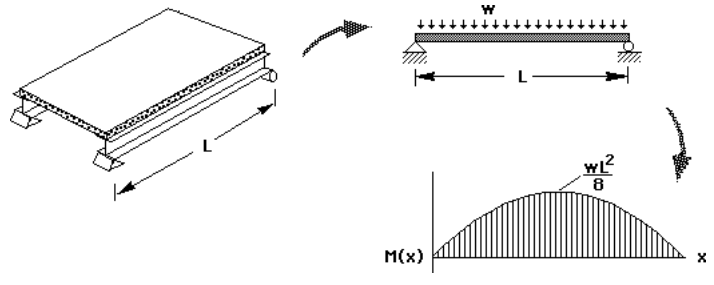
Hide Text

Idealization/Modeling



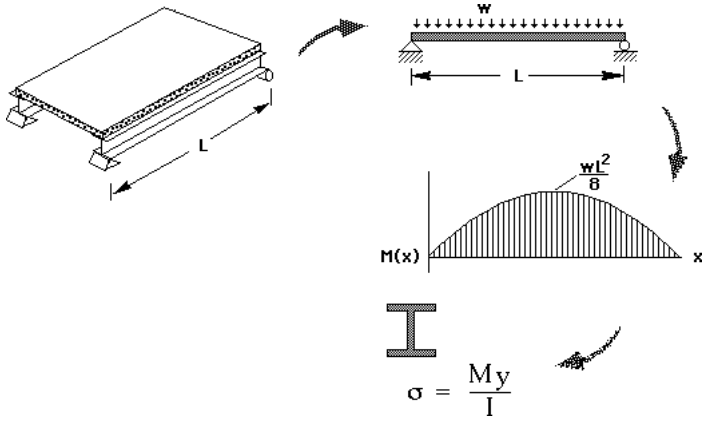
Hide Text

Moment and Shear Diagrams



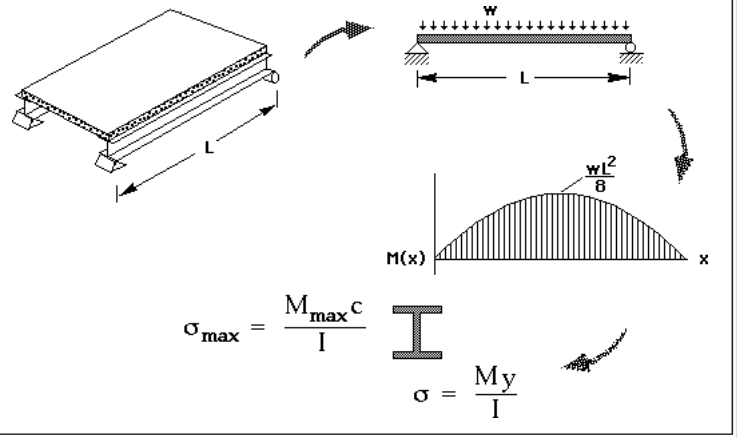
Hide Text

Bending Stresses



Hide Text

Bending Stresses/Member Selection

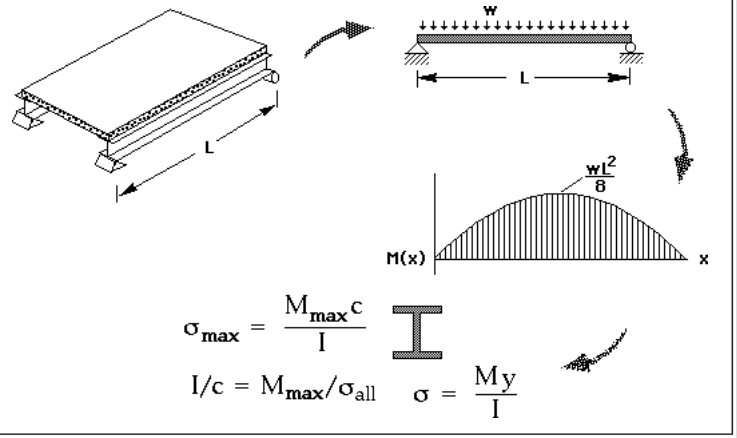


$$\sigma_{max} = \frac{M_{max} c}{I}$$

$$\sigma = \frac{My}{I}$$

Hide Text

Bending Stresses/Member Selection

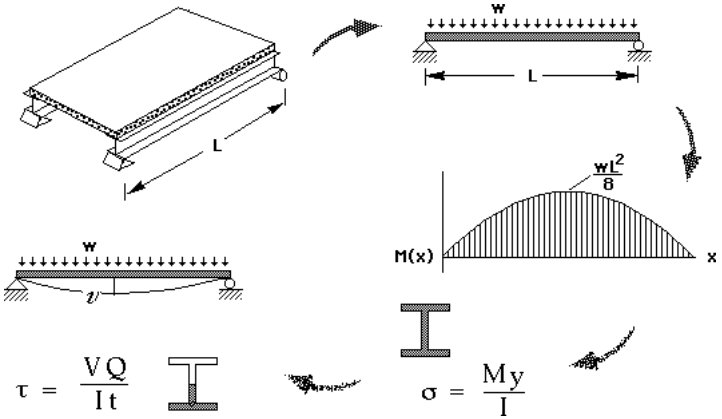


$$\sigma_{max} = \frac{M_{max} c}{I}$$

$$I/c = M_{max}/\sigma_{all} \qquad \sigma = \frac{My}{I}$$

Hide Text

Check Deflections & Shear



$$\tau = \frac{VQ}{It}$$

$$\sigma = \frac{My}{I}$$

Hide Text

What else is there?

Hide Text

What else is there?

- Unsymmetric Cross-sections
- Inelastic Behavior
- Stability / Buckling
- Assemblages
- Various Methods of Analysis
- Composite Sections
- (Large Displacements)

Hide Text