

MSET - THREE POINT FLEXURE

Purpose

Develop an understanding of geometry, material properties, and problem formulation.

Beams

Beams are one of the fundamental components used in engineering. A bridge for example is fabricated with a number of beams configured, and sized to support vehicles.

Theory

A beam loaded at its center will deflect a distance "d". The amount of deflection depends on the magnitude of force "P", beam span "L", stiffness "E", and beam combined geometric shape "I"

$$d = \frac{PL^3}{48EI}$$

Setup



MSET Result for Flexure with Three Spans

