

# ANSYS AIM - Stress Due to Gravity

Author(s): Joshua Wallace, ANSYS

## Problem Specification

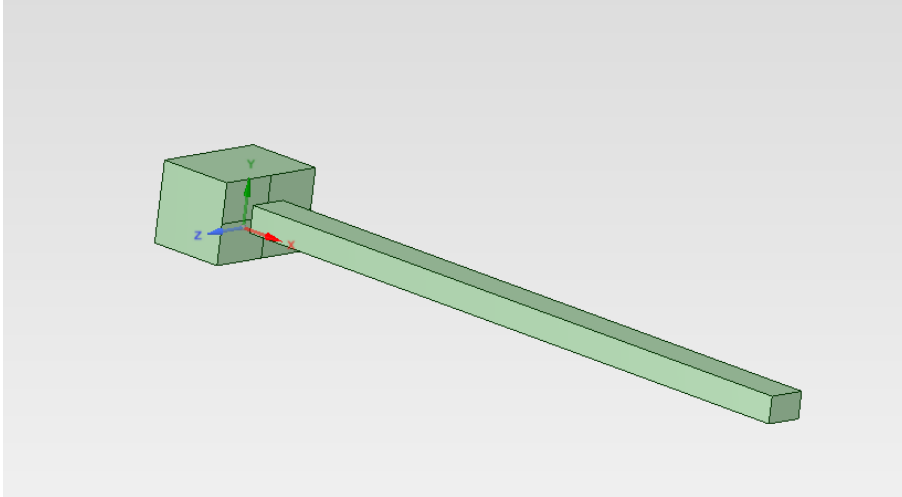
- [1. Pre-Analysis & Start-Up](#)
- [2. Geometry](#)
- [3. Mesh](#)
- [4. Physics Setup](#)
- [5. Numerical Solution & Results](#)

## Stress Due to Gravity

Created using ANSYS AIM 17.1

### Problem Specification

Consider the geometry in the figure below. The slender bar is 3 inches wide, 2 inches tall, and 50 inches long. The large block on the end of the bar is 9 inches wide, 6 inches tall, and 6 inches long. Both are made of structural steel with a Young's modulus of  $2.90075 \times 10^7$  and a poisson's ratio of .3. The left end of the bar is fixed to a wall, and the geometry is subjected to standard earth gravity. Calculate the maximum equivalent stress in the geometry.



[Go to Step 1: Pre-Analysis and Start-Up](#)

[Go to all ANSYS AIM Learning Modules](#)