

SE104 Homework 2

1. What are the main parameters that determine the structural (mechanical) properties of a material? Briefly describe what type of mechanical behaviors that each parameter describes.
2. Some materials have high stiffness but relatively low strength; some materials have low stiffness but relatively high strength. Show one example for each case.
3. Why is cost an important material parameter?
4. We are searching for a material that must be heavier than 10 Mg/m^3 . In addition, it is desirable that the material is as flexible as possible (i.e. it should have the lowest possible modulus). What can this material be?