



## Developing Design Specifications

Quantifying objectives, constraints, and requirements

Taken from *engineering design: a project-based introduction* by dym & little

Design specifications are just that - specific.  
Quantify values that can be quantified.

- Design specifications apply to the form and function of the designed object.
  - Specifications may apply to the size, shape, and weight of the designed object.
  - There will generally be a number of specifications related to how the object performs its various functions.
- Values or ranges of values must be determined before associated components can actually be designed.
- The Questions List that you develop early in the EDP should help identify the design specifications.
- Try to think through every aspect that will need to be specified at the beginning of the EDP!

Sample Design Specifications for the Ladder project.

- Extended length of 8 feet
- Unextended length of 5 feet
- Support 350 pounds with a deflection of < 0.1 inches
- Total weight not to exceed 20 pounds
- Outside width of 20 inches
- Inside width of at least 16 inches
- Production cost < \$200