

A Note on Standards and Codes

Standards are documented specifications for processes, parts, materials, processes and/or products. Their purpose is to ensure sufficient quality, performance, safety and reliability, and are agreed upon by the industry.

Codes are documented specifications or standards that has been enacted into law, so these can be legal requirements of which the designer must be aware.

For Example....

Drafts are made to a drafting standard (*ANSI/ASME Y14*), as are standard-based Commercial-off-the-Shelf mechanical and electrical components and certain manufacturing operations. Students are recertified for project room operations reflecting OSHA 2254-09R safety standard. Your machine design textbook introduces you to standards and specifies the organizations responsible for standards for mechanical components and processes for e.g. welding, gears, rolling contact bearings, etc. *Machinery's Handbook* (Industrial Press) is a reference book for the practicing mechanical engineer that contains significant content from the standards themselves; the handbook's topics are the same as your machine design textbook but presented in the extraordinary level of detail required by a professional engineer. In this class students are required to seek out the standard that are relevant to their project, e.g. EPA, building codes, NFPA and Dept. of Transportation, piping standards, pressure vessel codes, etc, and document in your reports.

A Good Site for a Review of Drafting Symbols

<http://facultyweb.kennesaw.edu/gconrey/documents/CADdeptStandards.pdf>

Document in Reports....

You are expected to address relevant standards in your reports. First, you will *document in the requirements section* of your report any standard or code that is relevant to your product or system design. For example, a team making a pressure vessel needs to address relevant ASME Pressure Vessel Code requirements that will help guide the design. Secondly, in each report's spreadsheet of Bill of Materials, list in a column a manufacturer's standard for purchased COTS components.

Questions....

1. State the a) purpose and b) content of the drafting standard for your Solidworks drafts.
2. For your system (product) or subsystems in your product is there another relevant code or standard, and if so state.
3. Pick a COTS mechanical component that will most likely be in your system and state the standard.