

Writing 2E Product Study: Assignment #5

Material Study (individual)

Your product is made from materials that span the world, from polymers to metals to glasses and refractories. For this exercise, you will select a specific part from your product and compose a short report on the material it is made from. Material characteristics include the following:

- Appearance (color and texture)
- Availability and cost
- Strength (compressive, tensile and sheer)
- Melting point
- Density
- Ductility
- Hardness (Brinell or Rockwell)
- Young's modulus
- Electrical conductivity
- Thermal conductivity

Tasks

- Select a part from your product that is made from a single material. For example, a plastic cover, a journal bearing, a wire, etc. Identify the material used to make the part (1 paragraph).
- Describe the characteristics of the material you have selected, including those listed above (1 paragraph).
- Explain how the material was formed to make the part. Examples might include casting, molding, stamping, rolling, milling, lathing, etc. Try to be specific about the exact process used during formation (1–2 paragraphs minimum).
- Explain why the part you have selected was made of the studied material. What choices influenced the selection of this material? What are the strengths and weaknesses of the selected material? Could the part have been made from something better (1–2 paragraphs minimum)? What new materials might be used to replace the old?

Use a short report format, with headings and subheadings. Be certain to reference your sources. Graphics and tables should be labeled and captioned (e.g., “Figure 1. Bronze journal bearing.”).

Due Date

See course website schedule for due date.