

Some questions and answers from Ch 11(Material Selection)

1- Name the four major factors in selecting the right materials?

Ans: Properties, Availability, Economics, and Business issues.

2- What are the selection steps for choosing the right materials?

Ans:

- 1- Listing the requirements,
- 2- Selecting candidate material system,
- 3- Selecting specific candidate materials,
- 4- Matching candidate properties to requirements
- 5- Selecting the best match

3- What are the very important parameters in listing the requirements for selection process?

Ans:

- 1- Design constraints
- 2- Mechanical properties
- 3- Physical properties
- 4- Chemical properties
- 5- Cost
- 6- Availability
- 7- Business issues

4- Name six important business issues in material selection.

Ans: 6 out of 8 can be chosen from this list:

- 1- Recyclability
- 2- Health hazards
- 3- Emissions
- 4- Waste disposal
- 5- Product liability
- 6- Code compliance
- 7- Safety data sheets
- 8- Sustainability

5- What are the five questions (as the final short list) which are more common in material selection?

Ans:

1. What are the important properties ("must haves" and "wants")?
2. When must the part be completed (delivery)?
3. How many are needed?
4. How long does the part need to last?
5. How important is cost?