

Ch 5

Sec 5.2A

obj: What is the difference between a conductor and an insulator?

Conductor

- A conductor is any material that allows thermal energy to pass through it easily.
 - * In general solids are better conductors than liquids + gases.
 - * Metals are the best conductors of thermal energy.

Insulators

- Any material that slows down the transfer of thermal energy.
 - * Insulators do not stop the transfer of thermal energy.
- In general liquids + gases are good insulators.
 - * Solids like glass, rubber + plastics are also good insulators.
- A thermal insulator is a material that is developed to slow down the transfer of thermal energy.
 - * Clothes are thermal insulators.

Controlling Thermal Energy

- When you design a device that uses thermal energy you must consider three things.

- 1) What is the purpose?
- 2) What materials will work best?
* Conductors + Insulators.
- 3) How do we control the Thermal Energy?
* How to control conduction, convection and radiation.