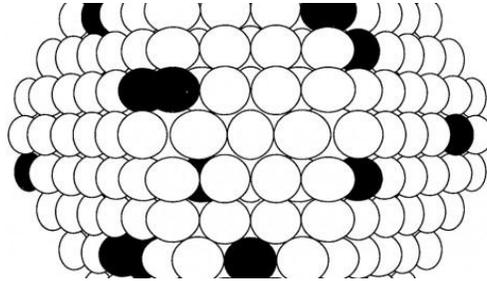
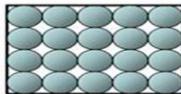


THE SOLID STATE OF MATTER



The “solid state” of matter refers to the state of a substance of condensed energy by heat loss, with a relatively high density, a large cohesion between its particles which is greater than the repulsion of the electromagnetic charge among them and a greater resistance to change its rest state with a defined shape and volume while not confined.

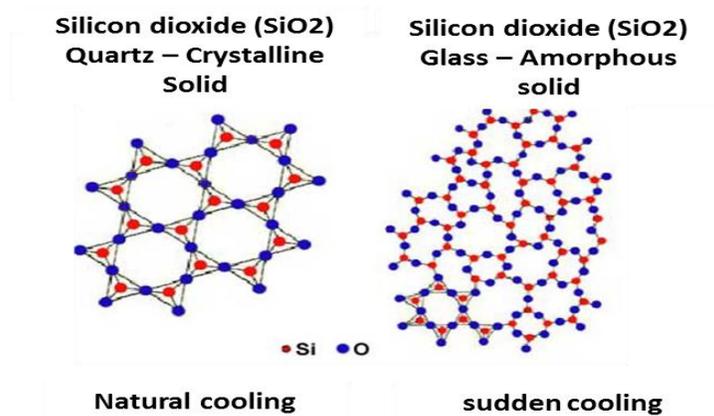


Solid state
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Solids are formed when highly energized molecules with a strong oscillation speed in melting state lose heat.

Solids molecules interact with other molecules of the solid with an intense force. These interactions can be organized into a “regular crystalline structure” (monocrystalline or polycrystalline) or might not have a definite form which then are called “amorphous” solids.

During the solidification the heat loss causes a slow change in the state of particles, the molecules tends to organize in a coherent form by adopting a geometric structure or “crystalline”. On the other hand, if instead the solidification occurs suddenly, the particles might arrange in an “amorphous” way since it may be placed evenly as in the case of glass.



Solids aggregate in a rigid form, unable to be compressed. They are hard and tough materials which are not disseminated. If a solid is deformed, it can recover its original shape or can be broken into many fragments.

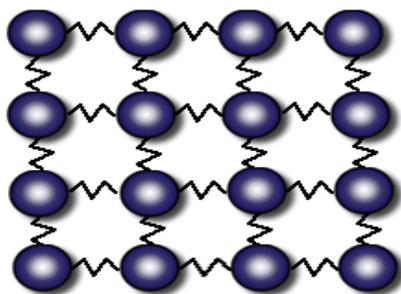


Solids have a definite relatively rigid form and do not flow as liquids or gases.

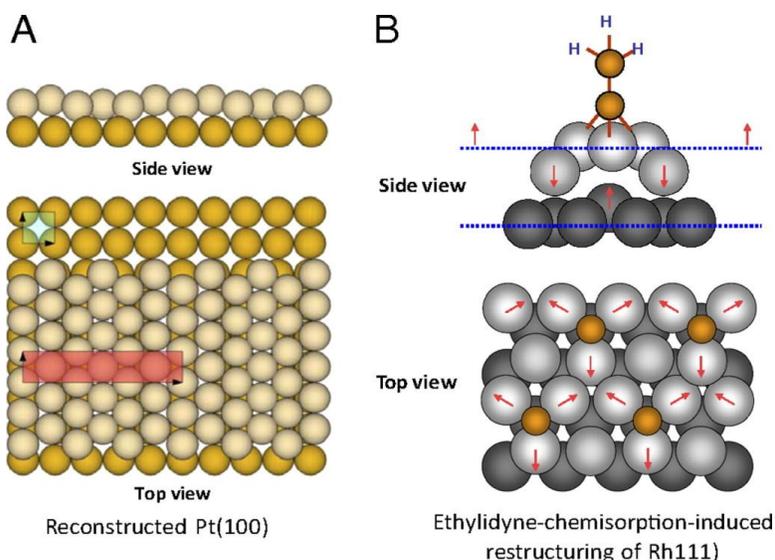


The forces which affect each molecule in a solid material are different inside the material than on the surface.

Within the solid material, each molecule is subjected to all possible attraction forces with its neighboring molecules, thus affirming that the particles within the solid are in a lower energy state.



On the other hand, molecules on the surface are net forces into the material and interaction possibilities; therefore we can affirm that surface particles are in a higher energy state than particles inside the material.



Due to gravity, the volume of the material causes a tendency to decrease the system total energy of the body or substance.

Source: <http://www.artinaid.com/2013/04/the-solid-state-of-matter/>