Pickup Magnet Differences

Magnetic pickups utilize permanent magnets, wrapped in coil.

A pickup is a magnetic device used on musical instruments, to change one kind of energy into another kind. It receives vibrations, and then converts them into electrical signals. Pickups are most often used on electric guitars, but they are also found on other instruments, such as electric violins. The magnets inside the pickups can affect the tonal quality of the sound. According to Rock Monkey Guitars, there are seven different types.

AlNiCo

- AlNiCo, or alnico, is an acronym for aluminum, nickel, cobalt. In combination with iron, these metals form an alloy from which AlNiCo magnets are manufactured. Other metals are also sometimes added too. Rock Monkey Guitars specifies five different AlNiCo magnets, which are AlNiCo II, III, IV, V and VIII.
    - AlNiCo II magnets give a thick, smooth tone.
    - AlNiCo III magnets produce a mellower sound.
    - AlNiCo IV magnets have a bright tone.
    - AlNiCo V has the most aggressive sound.
    - AlNiCo VIII (relatively recently introduced) has a tone that is bright and powerful.

Neodymium

- According to Armstrong Magnets Inc., neodymium magnets are made from a dark-gray alloy of neodymium, iron and boron. They are the most powerful of any magnetic materials, Armstrong claims. In pickups, they produce a wider dynamic range, with a great deal of power. The notes produced have a quick attack, which means the note sounds synchronously with the plectrum striking the string. Some pickups have more of a delay factor, although it's imperceptible to many players.

Ceramic

- Ceramic permanent magnets are manufactured from two key ingredients. These are strontium carbonate and iron oxide. In terms of color, they are charcoal gray. In pickups, they tend to have a strong treble range, meaning that the higher notes sound more clearly. But this is not at the cost of muddy bass notes, as they tend to be tight and balanced. The mid-range notes are also clear and well sculpted.