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Commentary

Metallurgy and its Extraction

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DESCRIPTION

Metallurgy is that the field of materials science and engineering, which studies the physical and chemical behavior of the metallic elements, their intermetallic compounds, and mixtures called alloys. Metallurgy includes science and metal technology; that is, how the science is applied to the manufacture of consumer products and metals and engineered metal parts used by the manufacturers. Metallurgy is different from the metallurgical process. A metallurgical practitioner is called a metallurgist. Metallurgy is divided into two types: chemical metallurgy and physical metallurgy. Chemical metallurgy mainly involves the reduction and oxidation of metals and the chemical properties of metals. Chemical metallurgy courses include the mineral processing, metal extraction, thermodynamics, electrochemistry, and chemical mining. In contrast, physical metallurgy focuses on the mechanical properties of metals, the physical properties of metals, and therefore the physical properties of metals. The arguments examined in physical metallurgy include crystallography, material characterization, mechanical metallurgy, phase transitions, and failure mechanisms. Historically, metallurgy has mainly focused on metal production. Metal production begins with mineral processing to extract metals and involves mixing metals to form alloys.

Metal alloys are usually mixtures of at least two different metal elements. However, in order to achieve sufficient application performance, non-metallic elements are usually added to the alloy. The research on metal production is divided into ferrous metallurgy and non-ferrous metallurgy. Ferrous metallurgy includes processes and alliances supported iron, while non-ferrous metallurgy includes processes and alliances supported other metals. Ferrous metal production accounts for 95% of the world's metal production. Modern Metallurgy is part of an interdisciplinary team that collaborates with materials scientists and other engineers in emerging and traditional fields. Some traditional areas include mineral extraction, metal manufacturing, heat treatment, failure analysis and metal joining, including welding, strong welding and welding. The emerging fields of metallurgy include nanotechnology, superconductors, compounds, biomedical materials, electronic materials (semiconductors) and surface engineering.

EXTRACTION

The practice of extracting precious metals of mineral metals and refined raw metals extracted in a purer form is known as extractive metallurgy. The mineral must be physically or electrolytically reduced to convert a metal or sulphur oxide for a purer metal. The extracted metallurgic are mainly interested in three flows: food, concentrate (metal oxide/sulphide) and sterile (residues).

After extraction, the large mineral feeding pieces are broken through crushing or grinding to obtain sufficiently small particles, where each particle is predominantly valuable or mostly. The concentration of particles in a surface support allows you to delete the desired metal waste products. Mining cannot be necessary if the body of mineral and physical environment favor leaching. Sleep dissolves minerals in a mineral body and translates into an enriched solution. The solution is collected and processed to extract precious metals. The mineral bodies often contain more than a precious metal. Records of a previous process are often used as food in another process to extract a secondary product from the first mineral. Furthermore, a concentrate can contain quite a valuable. The concentrate will then be processed to separate precious metals in the individual components.

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