

High-tech metal resources of NSW

Glossary and references

Glossary

alloy

a physical mixture of a metal with one or more other elements (usually including other metals). This mixing is generally done at very high temperatures where the elements and metals are melted, mixed, and left to cool.

catalytic activity

the increase in the rate of a chemical reaction caused by the presence of a catalyst.

catalytic converter

a device that converts pollutants in exhaust emissions into less-toxic pollutants.

ceramic capacitor

a device used to store an electric charge, consisting of one or more pairs of conductors separated by a ceramic/porcelain insulator.

conductivity

the property of conducting heat, electricity or sound.

ductile

able to be drawn out into wire or threads e.g. gold.

emissions

a discharge, especially of pollutants such as greenhouse gases, into the environment.

fusible

able to be fused or melted.

igneous rocks

formed from molten material which has cooled and solidified either at Earth's surface (volcanic rock) or deep within Earth's crust (plutonic rock). Common examples include basalt, granite, dolerite and pumice.

ilmenite

a black iron-titanium oxide mineral (FeTiO_3) commonly found in igneous rocks, sediments, and sedimentary rocks. Apollo astronauts found abundant ilmenite in lunar rocks.

kilowatt (kW)

one kW = one thousand (1000) watts.

laterite

a red iron- and aluminium-rich soil or rock formed in tropical regions by the decomposition of the underlying rock.

malleable

able to be shaped by hammering or applying pressure.

megawatt (MW)

one MW = one million (1 000 000) watts.

metamorphic rocks

sedimentary, igneous, or earlier metamorphic rocks that have been modified by heat, pressure, and chemical processes, usually while buried deep below Earth's surface. Common examples include gneiss, schist, slate and marble.

monazite

a phosphate mineral ($(\text{Ce, La, Nd, Th})(\text{PO}_4)$) that usually occurs in very small amounts in igneous and metamorphic rocks. It is resistant to weathering and becomes concentrated in soils and sediments, which may be mined for rare earth elements.

periodic table

a diagram in which the chemical elements are arranged in rows and columns so that elements with similar chemical properties lie in the same column.

rutile

a red-brown titanium oxide mineral (TiO_2) most commonly found in igneous and metamorphic rocks. It is also found in sand, made from weathered rocks, that are dredged for magnetite and ilmenite.

sedimentary rocks

rocks formed at or near Earth's surface by the accumulation of sediments or pieces of once-living organisms. Common examples include mudstone, sandstone, conglomerate, limestone and shale.

sediments

loose pieces of minerals and rock (silt, sand and gravel) that are moved by water, ice or wind.

ultramafic rocks

dense, dark coloured igneous rocks, rich in iron and magnesium, that also contain minor concentrations of nickel, copper, cobalt and scandium.

zircon

a zirconium silicate mineral (ZrSiO_4) that is found in igneous, metamorphic and sedimentary rocks. Crystals of zircon are often used to determine the age of the rocks.

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