

Encyclopedia of Engineering Geology

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Durability

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Synonyms

Resistance to deterioration or wear

Definition

Durability can be defined as the resistance of geomaterials to deterioration caused by physical, chemical, and biological agents acting in a specific environment. Resistant materials maintain their original and distinctive characteristics and appearance over a period of time.

Characteristics

Geomaterials such as natural stones in buildings and historic monuments, concrete aggregate, and road aggregate can deteriorate and disintegrate at different rates when exposed to weathering agents. The decay rate depends on the mineralogical composition and the physical and mechanical properties of rock materials. Geotechnical characteristics are closely related to their geological origins and degree of weathering.

Durability is the capacity of a geomaterial to resist either to weathering processes or the decay caused by anthropogenic activities in a given period of time.

Durability is a time-based concept in which a rock can preserve its...

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