

Abstract: The behaviour of frozen soil is of engineering interest because: 1) frozen soil occurs naturally over an extensive region of the globe; and 2) soil is frozen artificially to permit excavation through otherwise unstable ground. The effects of permanently frozen soil (permafrost) and seasonally frozen ground on a wide range of structures and their construction are described. The rationale for and method of freezing ground in advance of various engineering operations are reviewed, and examples provided.

The known properties of frozen soil are discussed and the implications of the state of freeze/thaw in soils are reviewed. While a great deal is known about frozen soil and the freezing/thawing process, there are still many questions related to the behaviour of frozen soils. These are described and future R&D directions are suggested.

"Behaviour of Buried Pipelines"

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