Geological aspects of materials requirements in road construction specifications

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Economic construction of major engineering projects relies on the optimum utilisation of locally occurring natural construction materials.

Specifications are normally used to stipulate the project requirements and may be based on materials and methods, end products or performance criteria. It is considered that a thorough knowledge of geology and laboratory testing procedures is essential in the development of the material requirements or specifications. The adoption of specifications from other countries, often in different climatic environments, or from different applications is considered inappropriate in some cases.

Warta Geologi (Newsletter of the Geological Society of Malaysia), Vol. 8, No. 6, November-December 1982

The influence of rock type and weathering state and the applicability of results of various laboratory tests on construction materials are reviewed. These influences are considered in the context of their implications on adopted tests, and limiting values imposed in specifications for construction materials.

It is concluded that rock type and weathering play a fundamental role in the behaviour of construction materials in laboratory tests and thus influences the applicability of laboratory tests in specifications for construction materials. Adequate assessment of proposed and existing material sources is proposed.

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