

---

---

## Classification of excavated material based on laboratory testing

MOHD FOR MOHD AMIN

Jabatan Geoteknik & Pengangkutan  
Fakulti Kej. Awam  
Universiti Teknologi Malaysia  
Skudai

During the past decade the norm of contract specification on earthwork is to classify the method of excavation based on two categories of materials, either soil or rock. The problem arises from an unclassified intermediate material which does not fit the description as documented in the contract specification. Failure to address this problem in the contract document may result in delays and an increase in project cost is unavoidable. Thus, there is an urgent need for a more detailed and comprehensive contract specification, particularly pertaining to the engineering properties of excavated material.

Three types of tests are proposed to assess the engineering properties of the material which are related to the mode of excavation. The tests consist of Schmidt rebound hammer test, sonic velocity test and point-load test.

Data obtained from these tests were plotted against standard charts used by the construction machinery supplier and the plotted values may serve as guidelines in selecting the suitable method of excavation.

*May–Jun 1993*