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# Establishment of database for mechanical characteristics of the common rock materials used for aggregate production

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The quality of rock materials used as aggregates is the most important variable concerning the costs for maintenance and lasting of road constructions and also the important factor concerning environmental impact. The choice of rock material is therefore of main significance for production of high quality aggregates for infrastructural constructions such as roads, railroads and bridges.

Mechanical properties of different rock types are determined by their petrographical variables such as mineral composition of the rock and the rock fabric (preferred orientation of the minerals, grain size, grain distribution, grain boundaries, and distribution of micro cracks). Previous research verifies that mechanical properties of each rock type are influenced by different petrographical variables. This knowledge has significant importance not only for the road construction but for the production technology of aggregates and natural stone such as drilling, blasting and crushing.

The aim of the database is to give information about the particular rock type concerning its mechanical properties and its suitability for its intended use. The prediction of the rock quality is needed for projecting and maintenance of the roads and railways and for prospecting and establishment of quality quarries. In order to establish the data base for mechanical characteristics of commune rock materials used as raw materials for production of aggregates and natural stones it is necessary to perform the studies on petrographical and mechanical properties of the selected rock types. The content of the study is suggested to be:

- Presentation of petrographical parameters that theoretically can influence the

mechanical properties of the different rock types.

- Estimation and development of methods for description of petrographical and mechanical parameters.
- Studies of the petrographical and mechanical properties of the selected rock types used as aggregates and natural stones. The selection of samples for data base will be based on the petrographical variables that influence the mechanical properties of the certain rock type.
- Establishment of data base for prediction of mechanical properties of the commune rock materials.

Due to the similarity of geological origin of the rocks the importance of the data base will be of global importance for engineering geology.