



A method for estimation of free mica particles in aggregate fine fraction by image analysis of grain mounts

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The need to evaluate free mica grains in fine fraction of aggregate products has initiated the development of a statistically and scientifically acceptable method. The proposed method is based on a modified point counting approach using digital micro photos of thin sections of aggregate grains and a software package to sustain sample analysis. A thin section of aggregate grains provides permanent sample documentation readily available for complimentary or other analysis. Statistical analysis, together with a repeatable analysis of samples (permanent mounts), confirms the robustness of the method.

The method is appropriate as a complementary assessment tool to estimate and trace changes or variations in quality of rock aggregate. Though, the estimation of free mica particles in fine fraction needs to be combined with other analyses, e.g. petrographic analysis and analyses of mechanical properties, to assess the quality of any rock material. As the samples can be collected from drill cuttings, i.e. an accessible residual product obtainable from surveying or production, the present method is particularly useful as a surveying tool and in prospecting and projecting activities.