



Free mica grains in crushed rock aggregates

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Enrichment of free mica (i.e. as monomineralic grain) in the fine fraction of crushed rock aggregates effect the quality of the aggregate end product. Previous studies on the behaviour of monomineralic grains of mica in the fine fraction of crushed rock aggregates have shown a result that is partly not in agreement. The rock samples used in this study belongs to the Svecofennian Province granitoids and is representative for the common crushed rock aggregates for construction purposes. The content of free mica was calculated for, dry sieved, and narrow grain size fractions (< 1 mm) by using stereoscopic microscope and polarizing microscope. The results reveal a general trend of enrichment of mica for finer fractions. For the coarse grained rock a peak occurs at 0.25-0.5 mm followed by a decrease in the amount of free mica and then again follows an increase for grains < 0.063 mm. The general trend and peak is correlated to the microstructural characteristics of the samples. Thus this study provides complementary understanding on how the amount of free mica varies within granitic crushed rock aggregates.