



## **Grain morphology of greywacke aggregates**

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In the North Moravia region, the quarries of Nizky Jesenik Hill and Oderske Vrchy Hill represent significant producers of aggregates in the Czech Republic. Nowadays the aggregates for concretes and rail beds, stowing material and building stone are produced in these quarries. Traditionally, greywackes of Lower Carboniferous terrigenous flysch have been quarried there. The rocks occur in turbidite bodies with a variable thickness - from several meters to tens of meters. Individual greywacke positions are separated by positions of grey siltstones and claystones. These are removed from the production as a waste material.

The aim of the paper is to present the outcomes of the study of rock fabric influence on morphological parameters of crushed aggregate grains in individual size fractions. The rock fabric was studied by selected analytical methods. Morphology of various size fractions of aggregates was studied using the image analysis method in combination with manual measurements of grains.

Based on results of the presented study, it can be concluded, that the final shape of aggregate grains of individual rock types has been affected (with a different intensity) by morphological anisotropy of rock grains. The reflection of initial anisotropy of morphological orientation of grains in sediment is typical for the polygonal aggregate grains of greywackes. For the aggregate grain morphology of siltstones and claystones, the effect of separation planes along the sedimentary bedding or lamination is typical. An influence of tectonic rock disturbance on the morphology of aggregate grains was not proved.