

# Mineral Engineering



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## *Abstract*

Natural raw materials of mineral origin only exceptionally have properties which enable their direct application to various practical purposes. These, however, are quite distant from functional features. From the very beginning of man's interest in them this fact required certain introductory operations to be performed which utilized the gained mineral. Consequently, proper raw materials were obtained. The set of these operations constitutes processing of minerals and more precisely, taking into consideration processing of materials which have already been processed, i.e. recyclable materials and wastes, processing of mineral raw materials. Starting from the most primitive activities of manual selecting (straight from the deposit) of useful parts of the mineral the technology of these operations underwent a very intensive development, transforming gradually into a completely distinct technological discipline, situated between mining and processing technologies of any type, resulting finally in raw materials or useful products. At present there are practically no minerals and especially recyclable materials which would not require the application of initial processing in the utilisation process. The variety of useful components occurring in primary materials and their properties evoked the need to apply the complex set of technological procedures incorporated from different areas of process engineering and adapted to unrepeatable characteristics of the discussed raw materials and also the need of working out of completely separate technological solutions, applying the achievements of practically all basic sciences many of which are, in turn, inspired by the needs of mineral processing. The contemporary development of this discipline is so much different from traditionally perceived mineral processing, especially from the prima range of the so-called mechanical processing, that justifies an assumption that a new discipline has already appeared, i. e. mineral engineering.