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RECYCLING OF QUARTZ AND FELDSPAR MINE WASTES IN THE BUILDING AND CONSTRUCTION INDUSTRIES

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Abstract

Among the primary environmental problems to be solved by the exploitation of mineral resources, is the stabilization of mining wastes and the reducing of waste quantities through recycling for reuse. This paper presents the research work performed in order to use the quartz - feldspar waste, generated during the feldspar, mica and quartz mine exploitation, in the building and in the construction industries. On base of results from experimental tests performed on aggregates, mortars, normal concrete or lightweight concrete, multiple applications of quartz – feldspar waste were found, such as: aggregate substitute up to 50% for plaster mortar, aggregate substitute up to 25% for masonry mortar, aggregate substitute up to 10 % for normal concrete, or as exclusive aggregate in lightweight concrete. In the range of construction process, numerous use possibilities for the quartz - feldspar waste have also been identified: as elastic support layer for pavements or floorings, as road bed for public roads, streets, or railway, even as fill-up or in mixture with other soils.

Key words: construction, environmental protection, mine exploitation, quartz-feldspar waste

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