

GEOMECHANICAL AND PETROGRAPHICAL PROPERTIES OF THE FRUSCA GORA LATITES (SERBIA)

MATOVIC, V., Faculty of Mining and Geology, Department of Petrology, Džusina 7, 11000 Belgrade, Yugoslavia

Latites are exposed in the central part of the Fruska Gora Mt. (southern part of the Pannonian basin). They occur as concordant sills intruded into the Upper Cretaceous flysch and serpentinites. Their age was determined (K/Ar) around 35 Ma. Two active quarries are opened in sub-volcanic latites. Although they are rarely fresh, mainly hydrothermally altered and weathered, they are the most frequently used raw material in the production of stone chipping. Mineral composition of latites is the following: sanidine, plagioclase (andesine, oligoclase), pyroxene (diopside), hornblende (Mg-hastingsite) and biotite as major compounds; accessories - apatite, sphene, magnetite; secondary minerals - calcite, neobiotite, chlorite and limonite. The groundmass is composed of microlites sanidine and plagioclase rarely mafic minerals. Their geomechanical features depend of heterogeneity in composition and fabric (noticed within sample), as well as of post-volcanic alteration, weathering and discontinuity patterns (noticed in whole rock masses). The data of numerous laboratory tests of latites and their aggregates show that their physical-mechanical properties (compressive strength, abrasive resistance, crushing and abrasive resistance - Los Angeles test, bulk density, water suction, stability under freezing and increased temperature, sticking to bitumen) are very appropriate for civil engineering purposes. They could be used as crushed and broken stone and high-quality aggregates for dams, highways, railroad-ballasts, pavements and littoral - shoreline barriers.