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Dispersed weathering products of carbonate rock: Features and formation conditions from the construction's point of view (by the example of Kazan, Russia)

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Abstract

Geological conditions of the Kazan city area are typical for East European Platform: alluvial sandy-claysediments overlay the eroded surface of Permian, mainly carbonate section. Dispersed products of carbonate rock weathering appear at interfacial contact of these two associations. They can be attributed to a group of problem soils, because of their considerable inhomogeneity, irregular variability of physical-mechanical properties, internal instability, susceptibility to suffosion and solubility. All of these properties suggest the difficulties in implementation of field tests and in sampling, as well as in measurement of physical-mechanical properties in laboratory conditions. This paper presents laboratory test results on dispersed products of carbonate rock weathering sampled on the Kazan city area. A series of triaxial compression tests was conducted to understand the mechanical properties of these samples. The spatio-temporal model of carbonate weathering crust formation process is proposed. The recommendations are made for organization the engineering- geological research in the regions, where dispersed products of carbonate rock weathering. © 2013 Taylor & Francis Group, London.
