

عنوان مقاله:

An investigation on the effect of particle shape on the shear strength of rockfill materials using the results of large triaxial tests

محل انتشار:

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خلاصه مقاله:

Advantages in using rockfill materials, especially economical aspects, capability to absorb seismic energy in rockfill dams, providing high safety factor and compatibility with different site conditions, have caused great interest in these materials. In this study, the experimental test results of large-scale triaxial test on basalt and dolomite rockfill samples were used to investigate the effect of angularity of particles on shear behavior of rockfill materials. In order to isolate the effect of angularity on the rockfill behavior, the particle size distribution and other sample specifications were kept constant. Comparing the behavior of rockfill materials with round and angular shaped particles indicates that, under the same confining pressure, despite common belief materials with round shaped particles have greater angle of friction and dilation. The effect of particle breakage in rounded rockfill materials is not clear and compared with angular samples it is very negligible. For both types of basalt materials, after maximum deviatoric stress, the ratio of peak to residual strength decreases with confining pressure

کلمات کلیدی:

Rockfills, Particle shape, Triaxial test, Point load test, stress-strain behavior

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