岩盤節理面之剪力破壞機制

The failure mechanism of rock joints includes the effects of joint friction resistance, dilatancy due to joint roughness, and shear-off of rock asperity strongly depending on the level of normal stress. Based on the study of the relationship between the geometry of joint roughness and the stresses responded during shearing, three types of failure mechanism are drawn: (1) friction and dilation occurred when the normal stress is less than 1/12 of JCS; (2) shear-off through the rock asperity when the normal stress is greater than 1/3 of JCS; (3) combination of the joint friction, partial dilation and shear-off effect when the normal stress is between the above two stress levels. The parameters of true residual shear strength are also discussed in this paper.