



The effect of the rock mass strength factors on superficial blast waves propagation in the tunnel (Case study of Pooneh double tunnel, Khoramabad, Iran)

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One of the most important minatory factors in underground buildings is external dynamic load. This can cause by projectile blast or superficial blast waves. Urban tunnels are the buildings can be used as safe buildings. Then checking the security of them before its using is necessary. In this thesis the effects of rock strength factors on propagation of superficial waves have been investigated on pooneh tunnel (Khoramabad). Rock strength factors were the UDEC software inputs. After tunnel drilling and calculating of shock wave factors, we applied the dynamic load to the model. Results of displacements amounts show that tunnel is stable at the depth of 120m. Modeling at the depth of 10 and 15m for determining the least depth to drilling the stable tunnel shows that the stable depth is 15m.

With probing the rock strength factors (ϕ , c) on propagation of explosive waves it is concluded that there is a relationship between these factors and the amount of displacement on the tunnel roof. The most displacement is related to the increasing of C and the least is related to ϕ increasing. The maximum and minimum of pressure stress is related to c and ϕ increasement respectively.