

ABSTRACT

In most models used previously, the dynamic effect on a plate is only accounted by inertia of its plate. Concerning the soil, inertia is neglected in dynamic modeling of pavement structure. As time goes by, the research showed that the calculation of the dynamic response using classical methods provide results that it is too much when compared with the reality so this method need to be revised by adding the inertia factor of the soil. In this research, the author analyzes the dynamic response of a pavement plate on the ground due to the local step triangular dynamic blast load. This research will be analyzed with the assumption is orthotropic plate with the semi rigid boundaries at the Pasternak elastic foundation. Dynamic response of a pavement plate due to the local blast load will be influenced by several factors among others: the effective soil depth of plate, spring stiffness modulus, shear modulus of the Pasternak foundations, soil mass reduction factor and the position of the load. From the analysis can be seen how the influence of these factors against the dynamic response of a pavement plate due to step triangular dynamic blast load. Dynamic response of a pavement plate that will be analyzed include maximum absolute deformation of plate, moment and shear force.

Key words : *Inertial soil, blast load, dynamic response of a pavement plate, orthotropic, semi rigid, Pasternak, maximum absolute deformation, moment, shear force.*