

# Abstract

Concrete pavement is typically modeled as beam (or, slab) resting on spring foundation. However, for a given expected response of the structure (say, deflection) the spring constant used in such models is dependent on the geometry of the structure. In the present study, comparisons are made between the analyses results of (i) a beam resting on spring foundation and (ii) a beam resting on elastic solid foundation. Both infinite and finite beams are studied. The relationship between the spring constant ( $k$ ) and elastic modulus ( $E$ ) are obtained using equivalency criteria as maximum deflection and maximum bending moment.

Keywords: Concrete pavement, Beam, Deflection, Winkler foundation, Elastic solid foundation