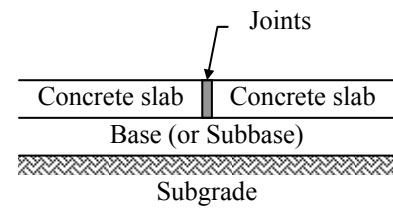


Rigid Pavement



Function of Base (or Subbase):

- 1) Drainage purpose
- 2) Reduce the effect of subgrade volume change on concrete layer
- 3) Prevent pumping of fines through joints & edges
- 4) Increase "K" modulus of subgrade reaction

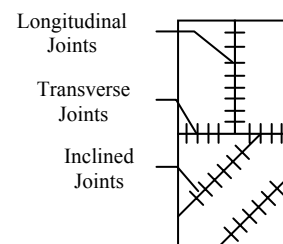
Rigid Pavement Characteristics:

- Can resist unlimited loading
- Minor defects are not reflected.
- More skid resistance, safe.
- More economical for same projects at certain location.
- Concrete layer is less thickness than other layers.

Rigid Pavement Types:

a) Plain concrete pavement:

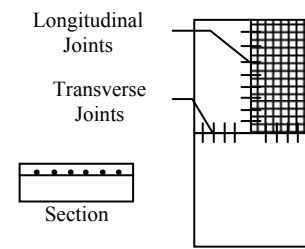
1. No reinforcement except of using tie bars
(for longitudinal joints)
2. Closer spacing between contractions joint
(as transverse joints)
3. Inclined joints may be used
(for better load transfer)
4. Very limited use



b) Simply reinforced concrete pavement:

1. Temperature (wire-mesh, B. R. C.) reinforcement between joints to control cracking (close to the upper surface)
2. Dowel bars across transverse joints

3. Tie bars across longitudinal joints to control warping
4. Wider spacing between joints (from 3-6m to 12-14m)
5. Widely used



c) *Continuously reinforced concrete pavement:*

1. No joints except some expansion joints & may be some contraction joints
2. Heavy reinforcement ($\approx > 0.6\%$ of cross sectional area)
3. High cost
4. Used in very-weak subgrade & high traffic load

d) *Pre-stressed concrete pavement:*

1. Fewer joints
2. More expensive