

Movement Joints

Movement

1) Definition

- Movement joints are used in structures to allow for movement and to avoid cracking
- Movements in a building are due to change in the volume of building material, volume changes due to change in temperature
- Movement joints must be properly designed for load bearing & non load bearing components.

Types of Movement Joints

Movement joints are of following types

1. Expansion joints
2. Control joints(contraction joints)
3. Building expansion (isolation) joints
4. Construction joint (cold joints)

Expansion Joints

Expansion joints are provided to accommodate movement. And it prevents crackling due to

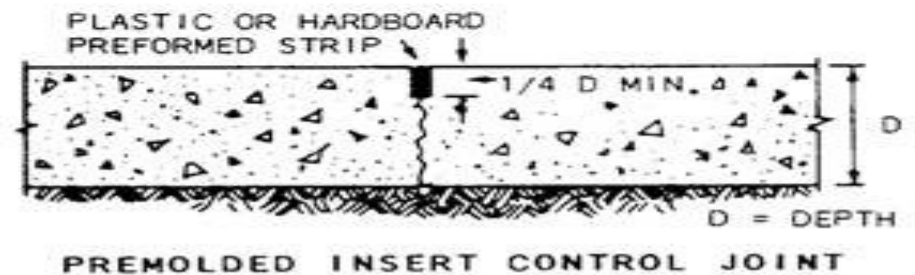
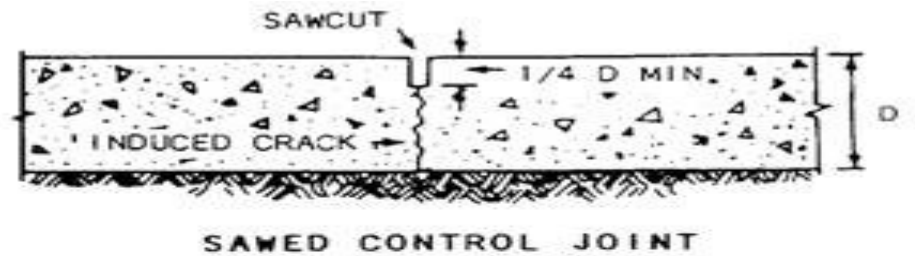
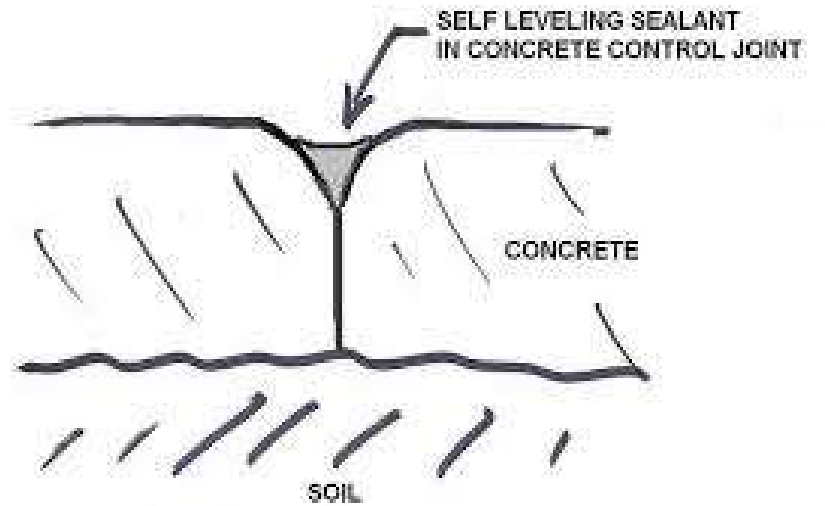
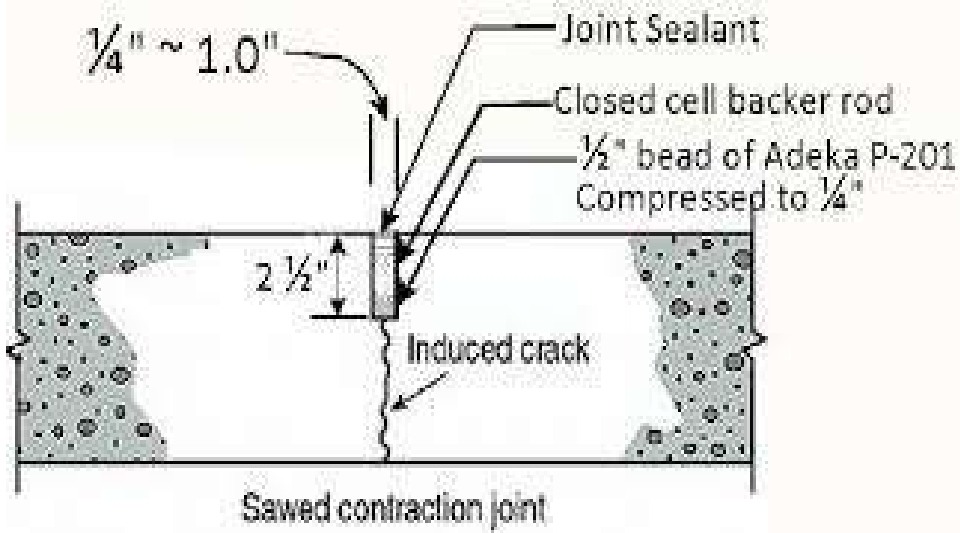
- 1.Changes in temperature
- 2.Elastic deformation due to loads
- 3.Creep

Expansion joints may be horizontal or vertical



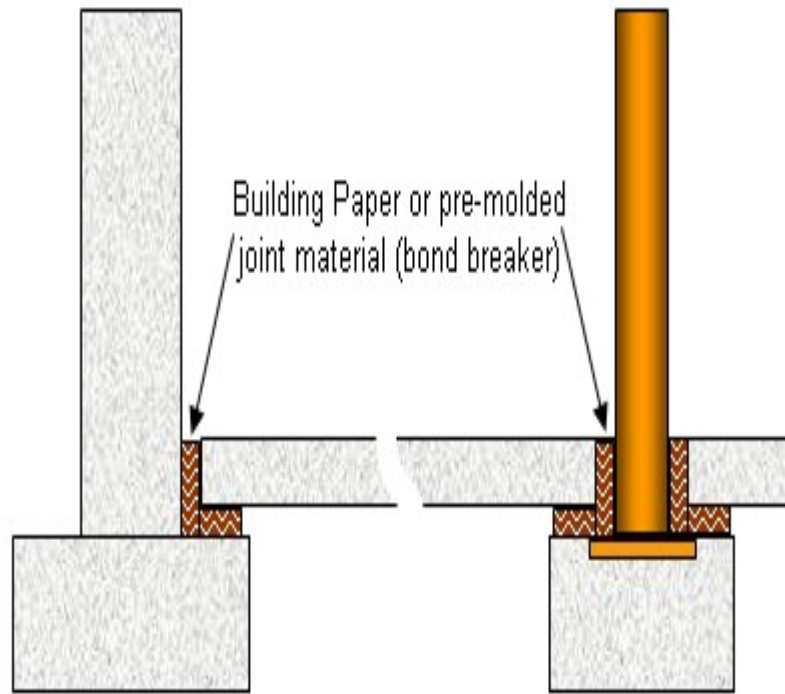
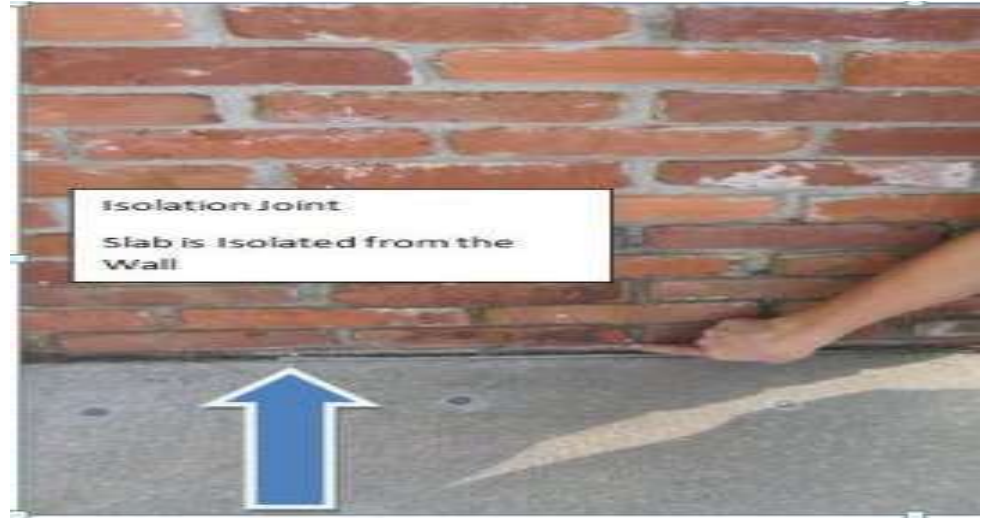
2) Control Joints

- These joints are provided to create a plane of weakness.
- **Control joints are planned cracks** which allow for movements caused by temperature changes and shrinkage.



3) Building Expansion (Isolation) Joints

These joints are provided where it separates a portion of a building from the rest of building. Stress developed due to loading in that section will not effect the rest of the building



Wall isolation joint

Column isolation joint



4) Construction Joint (Cold Joint)

It is mainly used in concrete construction where construction work is required to stop these joint are provided.

Construction Joint (Cold Joint)



Expansion Joints Materials

Typical detail of an expansion joint is given

- Sealants are used on exterior side.
- And foam pad, neoprene pad or lopper water stop is used from inside
- Sealant must conform **ASTM C 920**

Many sealants are available in market but elastomeric sealants are the best they are Highly elasticity & have high resistance to weather