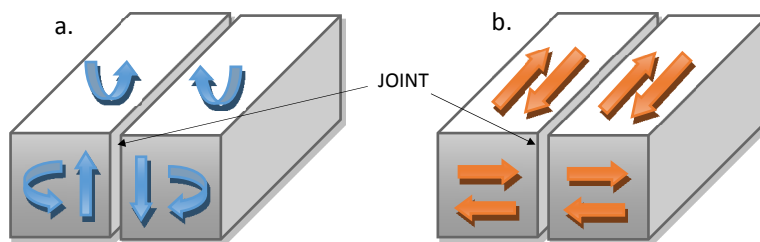


## EXPANSION JOINTS

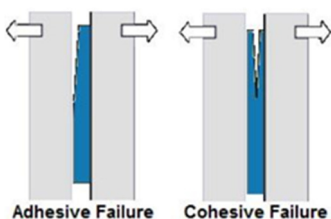
Expansion joints or movement joints are designed to absorb the thermal expansion and contraction of the concrete substrate. The concrete expands and contracts due to warming and cooling from seasonal variation or due to other heat or cooling sources. If not for expansion joints, the concrete substrates would crack randomly under the stress induced.

*Control joints (often confused with expansion joints) are cut into the concrete, and are different from expansion joints. Control joints are cut into the pavement at regular intervals to allow cracking to occur in a controlled fashion during the curing process of the concrete.*

A proper expansion joint must allow the substrate to expand and contract evenly and horizontally.



Relative movements must be b. allowed and a. not allowed by a construction joint for concrete slabs

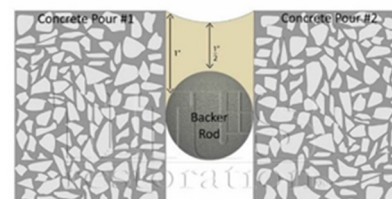


Elastomeric sealers are used to seal the expansion joints on concrete sports courts. There are many adhesive and cohesive failures that break the seal and allow moisture to ingress the substrate.

**Cohesive failures** is the internal shearing of a joint sealant that is weaker cohesively than the adhesion bond to the concrete.

**Adhesive failure** is when debonding occurs between the sealant and the concrete.

**Solution:** The correct method to using elastomeric sealers to keep expansion joints watertight is to ensure the joint is clean and free of any foreign and loose materials. Insert a bond breaker or backer rod evenly at half the depth to that of the width and apply the sealant and tool off.



Expansion joints are filled with elastic material so they will stretch or compress when the slab moves. The formula is typically = sides are twice as deep as the center. Expansion joint cracking is considered a failure.