

The use of segmental paving in walkways and roadways does not necessarily negate the use of the expansion jointing in the pavement.

There are detailing issues which need careful consideration when designing the pavement in large format paving. In particular the use of expansion joints in large paved areas.

Generally for small format segmental paving any expansion and contraction that takes place due to changes in atmospheric temperature is taken up by the jointing sand in the joints between each individual paving unit. However, as the unit dimension is increased, the number of joint gaps in the pavement will decrease proportionally. For this reason special attention needs to be given to this area of pavement design for large format pavers.

Concrete segmental paving can expand and contract up to 1mm for every two lineal metres of paving. So for a pavement 10 metres long it can expand and contract up to 5mm.

This expansion would need to be taken up in the pavement joints. However due to the size of the movement it is advisable to allow for expansion joints in the segmental paving to accommodate the excessive movement that will not be fully taken up by the jointing sand in the joints. For every eight lineal metres of large format concrete segmental pavers, it is advisable to incorporate a 10mm wide filled expansion joint.

The laying pattern does play an important part in movement of the pavers. Large format paving in the best laid in an interlocking pattern, such as herringbone, staggered bond or 45 degree stagger bond.

The use of these patterns avoids direct expansion/contraction paths.

