



Gary Porter, Executive Director of the Masonry Advisory Council is called upon with questions about construction concerns and for masonry advice from a variety of Architects, Engineers, Contractors, Developers and Distributor sources. He is dedicated to ongoing education of masonry and shares helpful tips from his professional experience that may be beneficial to you.

Control Joints and Expansion Joints in Masonry

As a mason contractor our company installed numerous control joints in buildings we constructed. On occasion, even though not illustrated on the plan, we would place a control joint where it was convenient for the location of our scaffolding. Was this a good idea?

For starters, a control joint is a vertical joint in a concrete masonry wall that reduces cracking as the wall shrinks. A control joint includes a flexible material that provides a bond break. Materials made with concrete will shrink over time. If control joints are not provided, a concrete masonry wall will probably exhibit vertical cracking. The National Concrete Masonry Association, (ncma.org), is a great resource for concrete masonry questions. [NCMA Technical Note #10 – Movement Control](#), provides guidelines for locating control joints in masonry walls, such as regular intervals along the wall's length, near corners, wall returns, changes in wall heights or changes in support or stiffness.

The tek note doesn't mention anything about being "convenient for the location of our scaffolding". That was probably not the best idea!

At a recent structural engineering seminar, we learned that if reinforced concrete masonry is used as the back-up material, control joints may not be required! Didn't know that! Just another bonus for using reinforced concrete masonry.



This older painted clay brick wall is showing signs of settlement and lacks properly located expansion joints.

In masonry we talk about concrete masonry units and think of these units shrinking over time, thus control joints are installed to control the shrinkage. When we talk about clay brick, we talk about expansion joints to accommodate what clay products do, as they expand over time. The clay brick expands over time due to the presence of moisture and temperature changes. The expansion joint is a vertical or horizontal joint, clear of mortar but filled with a compressible filler or elastomeric sealant to help keep water out.

Like control joints, expansion joints should be located at regular intervals, near corners, wall returns, changes in wall heights or changes in support or stiffness. The Brick Industry Association, (gobrick.com), is another great resource for brick related questions. BIA Technical Note 18A – Accommodating Expansion of Brickwork, provides the guidelines for location of expansion joints.

The location of expansion joints in brickwork needs to be shown on the plans by the architect of record. The location of the control joints in the structural backup need to be located by the structural engineer of record.



Do you have more questions about control joints or expansion joints?
Call us at **847-297-6704** or visit our website and [ASK MAC!](#)