



Concrete Parking in Practice

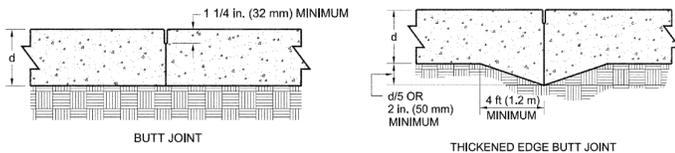
Concrete Parking in Practice is a series of publications from the Maryland Ready Mix Concrete Association (MRMCA) to help specifiers become more familiar with design and benefits of concrete parking lots.

CPIP No. 6

Joints in Concrete Pavement for Parking Lots

Four types of concrete pavement are typically constructed; plain jointed, plain with dowels at the joints, steel reinforced with dowels at the joints, and continuously reinforced. Plain jointed pavement is recommended for parking lots subjected to limited truck traffic. Three types of joints are constructed in plain jointed concrete pavements; construction, isolation, and contraction (control) joints.

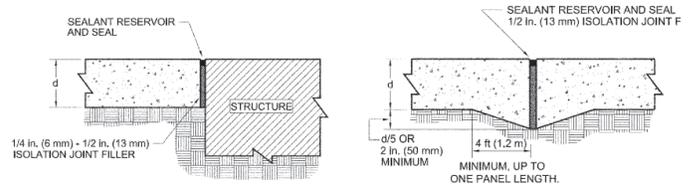
Construction joints exist between areas of pavement constructed at different times. Load transfer devices are used for heavier traffic loads. Butt-type joints are recommended for parking lots carrying light traffic loads. A thickened edge butt joint is recommended where pavements of different thicknesses come together.



ACI 330R-08 Figure C.3

Contraction joints provide a plain for normal volume change cracking. Properly spaced, contraction joints limit stresses caused by warping and curling. The depth of the joint should be $\frac{1}{4}$ of the slab thickness, or 1 inch using early-entry saws. For plane jointed pavement, the maximum spacing is 30 times the thickness of the slab up to a maximum of 15 ft. The length of a panel should not be more than 25% greater than its width.

Isolation joints are provided to separate the pavement from other structures. In addition to normal volume changes in the pavement, adjoining structures can be expected to move. They are provided for the full thickness of the pavement.



ACI 330R-08 Figure C.4

Sawing contraction joints as soon as possible will minimize random cracking. Excessive random cracks occur when contraction joints are cut the day after placement of the concrete. Early-entry dry cut sawed joints should be cut immediately after initial set of the concrete at the joint. Joints formed with conventional dry or wet saws should be cut immediately after the concrete has hardened sufficiently to prevent raveling of the surface.

What is the next step?

The MRMCA provides an AIA-approved parking lot design class that may be used for Professional Development Hours (PDH's). We also participate in a national Design Assistance Program (DAP) and we cover the costs of the first project within the state of Maryland. Depending on project specifics, we will offer additional DAP projects at little or no cost. All we need are the current CAD drawings and a few pieces of project information. Contact us for more details.

Maryland Ready Mix Concrete Association

PO Box 617 • Frederick, MD 21705 • info@MarylandConcrete.com • 866-367-2662 (866-FOR-CONC)