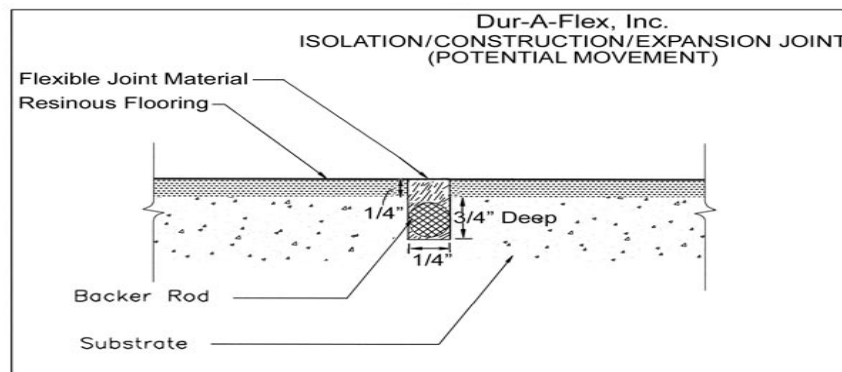


Dur-A-Flex, Inc. has developed this document to help Facility Owners and Contractors gain a better understanding of the importance of how to identify and treat joints in concrete slabs. The two basic joint types are Moving (dynamic) and Non-moving (static).

## Moving Joints

**Construction, Expansion and Isolation** joints are considered moving joints which allow horizontal and vertical movement between the slab and adjoining structures, such as walls and columns, helping to minimize cracking where the two meet.



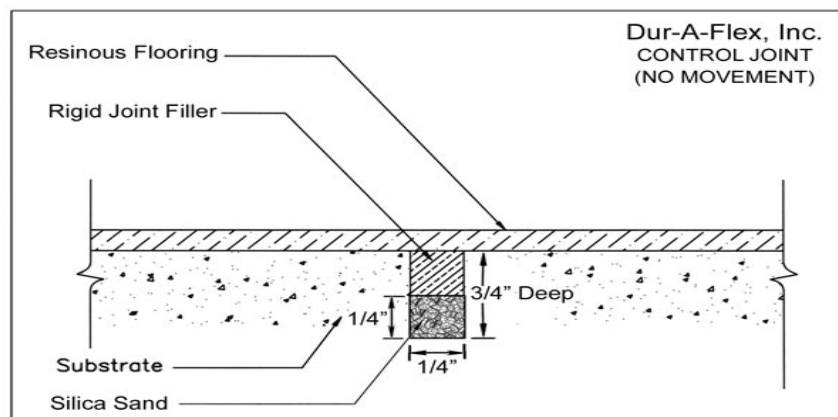
Prior to filling moving joints Dur-A-Flex, Inc. recommends "honoring" these joints by making a saw cut through the finished floor system at a depth of 3/4" deep and 1/4" wide with a diamond blade saw attached to a vacuum. A bond breaker such as backer rod (closed cell) must be added to the bottom of the joint.

**Be sure to mark the location of the joints prior to the installation of the finished floor.**

**Potential cracking and or stress/stretch lines (white lines) may occur on all resinous floor systems over or on either side of moving joints if the joints are not saw cut and properly filled. Also if there is a variance of temperature of 20 degrees or more from the time the joint is filled and coated to its operational temperature, hairline cracking could occur even on non-moving joints.**

## Non-Moving Joints

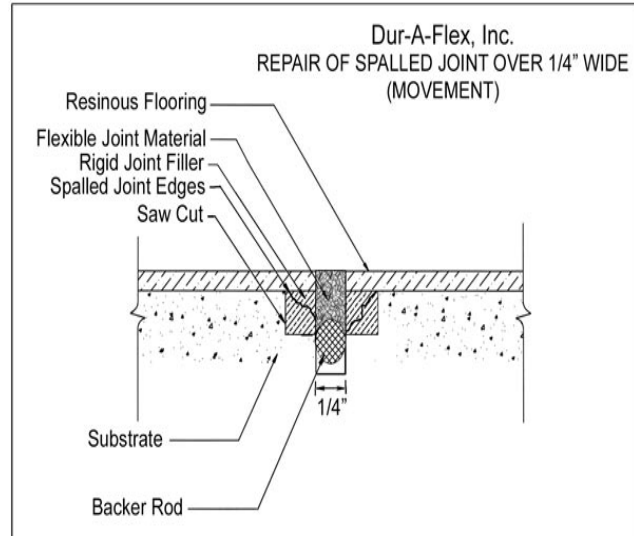
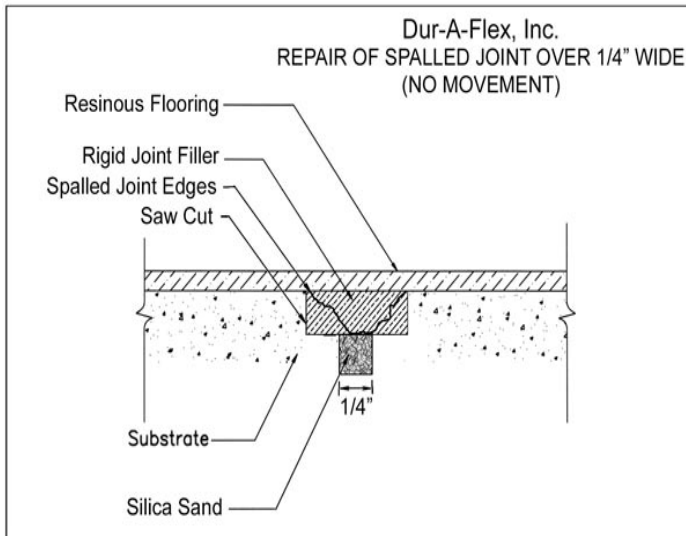
**Control and or Contraction** joints are considered non-moving joints which accommodate shrinkage and relieve internal stresses during the curing process of the concrete.



Prior to filling non-moving joints be sure to prepare them by removing all laitance, debris and sealers to a depth of 3/4" deep and 1/4" wide with a diamond blade saw attached to a vacuum. A bond breaker such as silica sand (30-40 mesh) at 1/4" deep may be added to the bottom. This will stop the joint material from seeping if the concrete is cracked through.

**Repair of damaged/spalled joints**

Saw cut each side of spalled area and chip out the center with a chipping hammer or consider the use of a series of blades to reach the proper width. If using multiple blades, the center blade should reach the depth of the original joint and the outer blades should achieve a cut creating a "T" shape after cutting.



**Installation Timing**

The American Concrete Institute (ACI) recommends that filling of industrial floor joints be deferred 60-90 days after floor slab pour or as long as possible. This is to allow control and construction joints time to open closer to their ultimate width through the concrete shrinkage process. (In freezer/cooler areas, floor should be stabilized at ultimate operating temperature for 7 days prior to installation).

Prior to treatment of joints be sure to contact the facilities owner or manager to determine how long the concrete has cured as well as the location of moving and non-moving joints.

Refer to table below to determine what product is used where:

JOINTS	TYPE	BOND BREAKER	JOINT MATERIAL (1/4 inch wide)	JOINT MATERIAL (over 1/4 inch wide)
Non-moving (Static)	Control/Contraction	Silica Sand (30-40 mesh) at 1/4" deep	<ul style="list-style-type: none"> <li>Epoxy flooring systems use Glaze #4 with Cab-O-Sil (No-Sag #2): Typical mix is 1 pint Glaze #4 hardener, 1 quart Glaze #4 resin, 3 quarts Cab-O-Sil (No-Sag #2)</li> <li>Poly-Crete HF, MD and SL flooring systems typically cover and fill this size crack/joint</li> <li>MMA flooring systems use MMA S/L Filler Mix</li> </ul>	<ul style="list-style-type: none"> <li>Epoxy flooring systems use Glaze #4 with Dur-A-Crete.</li> <li>Poly-Crete flooring systems use Poly-Crete MD or WR</li> <li>MMA flooring systems use SL Filler Mix or Cryl-A-Tex.</li> </ul>
Moving (Dynamic)	Expansion/Construction/ Isolation	Backer Rod 2 X wider than joint	<ul style="list-style-type: none"> <li>Poly-Fill UJF All flooring systems.</li> </ul>	<ul style="list-style-type: none"> <li>Poly-Fill UJF All flooring systems.</li> </ul>

See detailed CAD drawing online at [http://www.dur-a-flex.com/architects\\_center/default.aspx](http://www.dur-a-flex.com/architects_center/default.aspx)

**References:**

- ACI 224 "Joints in Concrete Construction"
- ASTM Standards "C 1193-0 and C-920-02"
- National Ready Mixed Concrete Association "Concrete in Practice"
- Metzger/McGuire, Inc.
- SSPC