



Movement Joints in Residential and Light Commercial Applications

TDS 256

Have you ever wondered why the grout in your tiled kitchen backsplash keeps cracking, or, why the interior corners of your tiled shower walls keep cracking and leaking? The answer, in most cases, is a lack of properly installed allowance for movement (e.g. movement joints).

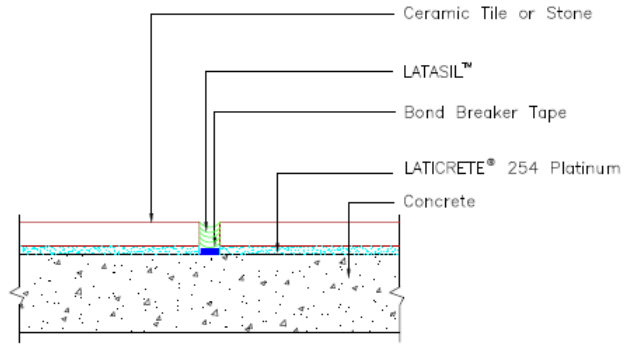
Some people find it hard to believe, but ALL buildings move; regardless of size, shape, construction, location, climate, or quality of materials. All building materials are affected by temperature, moisture, loads, and more... all of which can and will cause movement to occur.

What are movement joints? Movement joints are soft joints, typically filled with a soft material (e.g. LATASIL™ or Premium Acrylic Caulk), that are placed within tile installations to eliminate cracking of grout joints and in extreme cases, lifting of the tile from the substrate. The Tile Council of North America (TCNA) recommends that interior applications have these movement joints placed every 20-25 ft (6.1 – 7.6m) in each direction. However, other areas where known movement will occur should be treated as movement joints regardless of the square footage of the area to be tiled. These would include changes in plane, floor/wall intersections, wall/wall intersections, areas where different surfaces meet (i.e. tile to hardwood transitions, where tiles and tubs meet), in between door jambs, or where tile meets cabinets or countertops. It is also recommended, at a minimum, that the areas where the tiles and walls meet be left open or filled with a flexible sealant to prevent tenting of the tiles. Additionally, rooms that have lots of windows or which receive lots of direct sunlight may require more allowance for movement due to the increased thermal movement that the installation can experience.

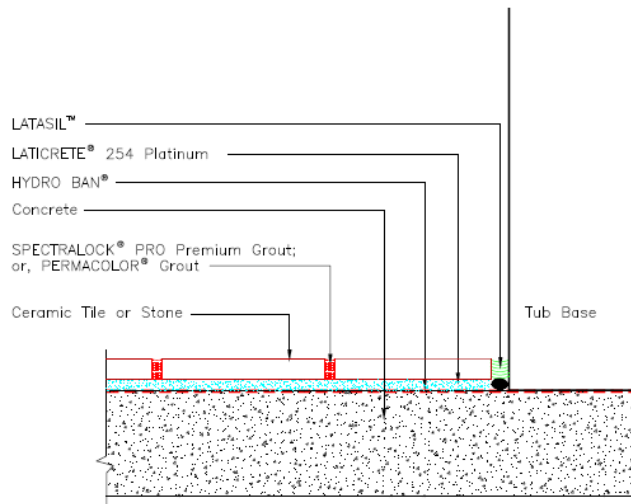
Why do I need movement joints? There are usually several different types of materials involved in a tile installation; the substrate (the hard surface to which the tile is adhered), the tile adhesive and the tile itself. All of these materials contract and expand at different rates which can create stress on a tile installation. Walls and floors, as well as different wall planes move independently of each other, creating the need for flexible joints at these locations. This applies to the other areas previously mentioned as well.

How do I install movement joints? Movement joints should be constructed by installing a flexible foam backer rod or a bond breaker tape at the bottom of the open movement joints. The joints should then be filled with a flexible sealant such as LATASIL, a 100% silicone sealant that provides long life and great flexibility. Inserting the backer rod or bond breaker tape ensures that the sealant between the two surfaces (e.g. tile/tile, tile/wall, wall/wall, etc...) is bonded only on two sides, thus allowing for the sealant to achieve maximum performance. Movement joints are typically a minimum of ¼" (6mm) in width, but may require that they be even wider. For maximum effectiveness, sealants should comply with ASTM C920 "Standard Specification for Elastomeric Joints", which designates sealants according to Type, Grade, Class and uses.

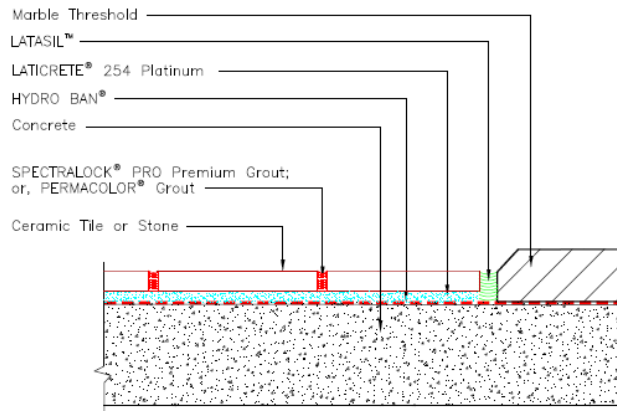
For interior, exterior and commercial applications, architects and engineers usually calculate the anticipated movement based on live and dead loads, construction type, location, wind loads, thermal exposure, moisture exposure, type of finish material, and more to which a structure will be subjected. They will calculate the expected movement and make any subsequent movement joints capable of handling 4 times the expected movement. However, for residential applications and remodels, where an architect or engineer might not be required, making sure that movement joints are used, properly placed and properly constructed can help to ensure a long lasting tile installation. More information on movement joints can be found in the TCNA Handbook for Ceramic, Glass, and Stone Tile Installation Handbook Method EJ-171.



Generic Movement Joint



Floor / Wall (or Tub Base)



Floor / Threshold

Technical Data Sheets are subject to change without notice. For latest revision, check our website at www.laticrete.com
TDS 256.doc

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LATICRETE INTERNATIONAL, INC. ▪ 1 LATICRETE Park North ▪ Bethany, CT 06524-3423 USA
800.243.4788 ▪ support@laticrete.com ▪ www.laticrete.com

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