



LHT Mortars: When to Use Them and Why

TDS 295

Large and Heavy Tile mortars (LHT's), previously known as medium bed mortars, are an essential component for certain tile applications, several of which we will discuss below:

When traditional tiles are manufactured, there is inherent warpage that is created, a slight bow due to the manufacturing processes. It may not be noticeable when looking at smaller tiles like 4"x4". But if you were to take a 12"x24" tile and flip it upside down, you will be able to spin that tile freely as the middle will be bowed out. As tiles get longer, the greater the warpage in the middle of the tile, which is why the Tile Council of North America (TCNA) manual notes that for any tiles with an edge over 15" long, the definition of a large format tile, you cannot do 50% offset patterns. The lippage created by this inherent warp at a 50% offset would be too great, it would cause tripping hazards and would look unsightly.

When installing tile, you have to provide full support to avoid cracking and other issues, especially in the middle of said tile. If you were to use a regular thin-set, which has a maximum thickness of a 1/4", you may not be able to build it up enough to provide sufficient support. LHT mortars can be built up to 3/4" with minimal shrinkage as it cures, which will provide adequate support for a large format tile as it will fill in where the inherent warpage is, providing full support for a lifelong installation.

Another reason to use LHT's is their built-in non-sag qualities for vertical and horizontal applications. This is due to the fact that these mortars have a physical property called thixotropy. Thixotropy is a physical property of non-Newtonian fluids, such as quicksand. If one were to fall in quicksand and start moving around, the introduction of vibration through movement makes the quick sand adopt a more fluid consistency which would cause one to sink. But, if one was to stay very still, one would not sink as the quicksand remains solid. Same concept applies to LHT's, they remain soft and fluid while mixing or troweling, but they remain solid once the tile is installed. The tile will not sag down, or very slightly, on a vertical application, and a heavy tile or paver will not sink into an LHT in a horizontal application. This physical quality will allow the installer to install from the top down on a wall, and won't sink and create potential lippage issues on a floor.

Please note that LHT mortars are to be used solely for the installation of tile as an adhesive, these mortars are not meant to be used to fix a bad substrate. Please use the correct products for that function.

These are the current LHT's within the LATICRETE Product line:

[MULTIMAX™ LITE](#)

[TRI-LITE®](#)

[TRI LITE Rapid](#)

[4-XLT](#)

[4-XLT Rapid](#)

[LHT](#)

[LHT Plus](#)

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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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