TECHNICAL BULLETIN #129

Regarding: Installation of Geometrically Shaped Membranes, often called Uncoupling Membranes

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The use of a decoupling, debonding or most known uncoupling membrane has become more common in recent years. This is due to multiple problems often encountered in substrates, when tiling a floor. There many different types of these often plastic membranes, it is very important to follow the membrane manufacturer's directions when selecting mortars for use with these membranes.

While the TCNA Handbook does have methods incorporating uncoupling membranes, there currently are no product standards for these membranes. These commonly plastic, uncoupling membranes offer multiple features like reducing the affect of moisture vapor transmission from the substrate to the tile installation. Also, tiling difficult to bond substrates like plywood and young concrete. While many crack isolation membranes may perform in some of the above instances while still maintaining a low profile, uncoupling membranes will also perform well. Still one of the best ways to accommodate these issues is with an unbonded wire reinforced mortar bed. When height is an issue and a mortar bed can't be installed, uncoupling membranes can be an attractive alternative.

Most of these plastic sheets membranes have a fleece mesh or mat attached to them on both sides allowing a bond for the thinset. Careful attention should be paid to the uncoupling or plastic membrane manufacturer's recommendations for thinset. Each manufacturer seems to have a preferred type of mortar and method of application.

When installing the plastic membrane over wood substrates like OSB (Oriented Strand Board) or plywood, most plastic membrane manufacturers suggest the use of a mortar intended to bond to wood substrates, like an ANSI A 118.11 Latex-Portland Cement for EGP (Exterior Grade Plywood). Most prefer a fast setting mortar meeting those 118.11 requirements, we agree. One of the difficulties of bonding a plastic mat over a plywood substrate is the moisture in the thinset cannot escape as expected, due to being under a plastic membrane. This can cause a delayed set of the mortar. Merkrete has done testing in our R & D (research and development) facilities and have found our best bond for installing these plastic membranes to a wood substrate is Merkrete's 750 RS thinset. 750 RS is a rapid setting mortar offering flexibility and higher strengths while exceeding ANSI A118.4 and ANSI A 118.11 standards. While our 118.4 and ANSI A 118.11 latex Portland cement mortars will work, the more polymer used, the slower the set, justifying some plastic membrane manufacturer's recommendations for a non modified thinset. When an ANSI A 118.4 or an A 118.11 latex Portland cement thinset that is not rapid setting is used, additional time should be allowed for the membrane to set to the substrate, before allowing traffic or the installation of tile.

When bonding tile to the top of the membrane, again please follow the membrane manufacturer's recommendation. The different plastic membrane manufacturers typically have recommendations for mortars when using their membrane. Those recommendations should be followed. We still receive requests on our Technical phone line for our best recommendation and when not specified by the manufacturer, we found our best bond with a rapid setting thinset like Merkrete's 750 RS thinset. When following our recommendations for Merkrete's rapid setting thinset and the plastic membrane manufacturer's directions, you should have an beautiful tile installation with excellent durability.

The installation of tile must be done following installation standards published in the current (TCNA) Tile Council of North America handbook, ANSI (American National Standards) A108 specifications, any local building codes and our data sheets. For additional information, see our product data sheets at the Merkrete website www.merkrete.com For additional technical assistance please call our Technical Department at 800-266-2424 or email us at technicalservice@parexusa.com.

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