

Crack Isolation and Uncoupling

The following should provide information for comparing the effectiveness of crack isolation with uncoupling membranes. Uncoupling membranes are defined in the *2007 Tile Council of North America (TCNA) Handbook* as follows:

"A plastic membrane system geometrically configured to provide air space between the tile and the substrate to allow independent movement between the two and limit the transfer of stresses."

Manufacturers say that their uncoupling membranes system protects tile, but there are no standards or performance requirements.

Crack Isolation Membranes are also defined in the TCNA Handbook:

"Crack isolation membranes (ANSI A118.12) for thin-set ceramic tile and dimensional stone installations act to isolate the tile or stone from minor in-plane substrate cracking."

ANSI A118.12 is the standard for crack isolation membranes. It includes a performance measurement titled "System Crack Resistance". Following are the two performance levels:

1. Standard Performance requires the membrane to prevent tile from cracking with horizontal substrate movement of 1/16" or more.
2. High Performance requires protection for movement of 1/8" or more.

Uncoupling systems have no performance requirements. Crack isolation membranes have standards of performance. NobleSeal sheets are crack isolation membranes (that meet High Performance requirements).

There is also disagreement between the mortar manufacturers and some uncoupling membrane producers regarding latex modified thin-sets. Some uncoupling producers recommend that dry sets be used with their polyethylene sheets. Thin-set producers recommend latex modified products and require them for bonding porcelain tile. Noble Company agrees with the thin-set producers and has required latex modified thin-set for over 2 decades.