Crack isolation membranes have been used in various forms and systems for more than 25 years. Today there is a proliferation of options, all dubbed with a different name – anti-fracture membrane, cracks isolation membrane, crack suppression system and more.

Because of the many options, it has become increasingly difficult to choose which crack isolation system to use. Here's how to select a system for successful, crack-free installation:

Service level: The service level of the system must meet the requirements of the job. If this criterion is not met, failure will be certain.

Down time requirements: How much down time is required to install the membrane system? High traffic areas in malls and airports require constant access. Choose a membrane system that is compatible with rapid-set mortar systems that allow overnight installation.

Difficulty of installation: If the crack isolation membrane is too difficult to install, chances are that shortcuts will be taken and the installation specifications will not be followed.

Installed cost: If the system is too costly, the owner will find less desirable methods of installation, or possibly choose flooring other than ceramic tile.

Manufacturer's experience: How much experience does the manufacturer have with crack isolation systems? If the manufacturer does not have a track record of successful installations and a field service department to back it up, problems may arise. An understanding of how crack isolation membrane systems work and knowledge of field applications is critical to the success of the system.

Test results: Make sure any and all claims made by field representatives are backed up by independent testing from organizations like the Tile Council of North America. These tests are now necessary to meet ANSI Standard for Crack Isolation Membranes A118.12. Meeting this standard is critical for the long-term success.

- **4.0 Test for Material Properties** (fungus and microorganism resistance): Does it support mold growth? Be careful of membranes that attract and maintain moisture.
- **5.0 Test for System Performance** (shear strength): Seven day wet and dry, 28 day, 12 week and 100 day water emersion. What is the shear strength of the membrane under long-term use and water emersion?
- **5.1.6 Shear Strength After Accelerated Aging**: Does it withstand the temperatures of 150 degrees Fahrenheit for 28 days and meet a minimum of 50 psi? This can be critical in exterior applications or warm climates.
- **5.2 Point Load Test**: After a 28-day cure to a tile assembly, can the membrane withstand a 1,000 lb. load from a 1.2-inch diameter probe? This is important to know when placing a tree planter in a mall or setting a refrigerator on a newly tiled floor.
- **5.3 Robinson Floor Test**: This test is necessary for classifying the composite system when used in shopping malls, airports, factories, schools, homes, etc. It represents the live load resistance of rolling wheels on tile assemblies. The highest rating is "Extra Heavy Duty." The lowest is "Residential."
- **5.4 System Crack Resistance Test**: This test is simply a tile/membrane assembly bonded to a device that opens up 1/ 8 inch. If the assembly passes the 1/16 inch mark but breaks before reaching 1/8 inch, it is classified as "standard performance." If it reaches the 1/8 inch mark without failing, it is considered "high performance." Find out the exact crack bridging capability whenever possible. Some may have a 1/8 inch limit. Others can go as high as 3/8 inch.

Specifying a membrane proven to meet the ANSI A118.12 standard with actual test results is critical to assuring a successful installation for years.