

## CTU Online Anytime Module 1.6 – Role of Membranes: Crack Isolation

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### Key Takeaways

- Choosing a membrane
  - Identify why and when a membrane is used
  - Understand ANSI categories and performance characteristics of each class
  - Fit the membrane to the performance needed in the service conditions
- Membrane Uses
  - Waterproofing
  - Crack isolation
  - Impact sound transmission
  - Thermal break
  - Interface non-standard substrate
  - Moisture vapor transmission reduction
  - Improved warranty terms through added performance
- Facts to remember about membranes
  - Membranes are not always specified when they should be
  - They are often listed as optional in the TCNA handbook as conditions vary
  - Different membranes have different service ratings
  - When being specified, cost vs. risk of not using a membrane is evaluated
- ANSI A118.12: Specification for crack isolation membranes. Key points to remember:
  - Isolate tile or stone from minor in-plane substrate cracking
  - Membranes cannot prevent substrate movement
  - Standard performance grade:  $>1/16"$  up to  $<1/8"$
  - High performance grade:  $\geq 1/8"$  up to manufacturer limit
- Membrane installation is detailed in TCNA F125 and describes partial and full coverage methods
  - Partial installation method
    - Install only over existing crack. Tile that spans the crack is supported by the membrane.
    - Movement joints required for both grout joints on tile that spans crack
  - Full coverage method (entire substrate)
    - Best option for large format tile (LFT) or shrinkage cracks
      - Benefits of full coverage over partial coverage can be seen in reduced labor, more robust protection and overall better performance
    - Design professional needs to identify Full or Partial coverage method
  - Either treatment must be used in conjunction with TCNA EJ171 for movement joints

- Crack Buster® Pro is an example of a best-in-class crack isolation membrane
  - Installed using peel and stick backing in conjunction with a primer
  - Isolates crack up to 3/8"
  - Achieves an extra heavy duty service rating
  - Exceeds ANSI A118.12 high performance requirements
  - Meets ANSI A118.3 to reduce impact sound transmissions
- A crack isolation membrane should not be used in the following situations:
  - Concrete is displaced or heaved
  - Cracks in concrete are over 1/8" wide, as they can be structural in nature

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