



## TECHNICAL BULLETIN #121

### Regarding: Fracture Guard Membrane over 19.2 Joists

---

#### Recommended Uses:

- Over single layer of structurally sound, and clean; plywood or oriented strand board subfloors subject to residential traffic with 19.2" o.c. joist spacing.
- Interior dry areas only.

#### Limitations:

- Joist spans should not exceed 15'.
- Ceramic and porcelain tiles must be 20" or smaller.
- Not recommended for dimensional stone tiles.
- Maximum Deflection for tile is  $l/360$  and for Stone  $l/720$

#### Requirements:

- It is critical the Fracture Guard membrane be installed following the product data sheet and at proper thickness. Consult the Merkrete website for the current information.
- Maximum spacing of floor trusses or I-joists is 19.2" on center.
- Floor systems, including the framing system and subfloor panels, over which tile will be installed shall be in conformance with the IRC for residential applications, the IBC for commercial applications, and local building codes.
- Plywood or oriented strand board floor – clean and free of dirt, dust, paint, and bond inhibiting coatings.
- The length of the plywood or OSB must run perpendicular to joists for maximum stiffness.
- Wood subfloor installation must be done to comply with ANSI 108.01 General Requirements: Subsurfaces and preparations by Other Trades and the American Plywood Association.

- Subfloor – minimum of 23/32" tongue and groove exterior glue plywood or OSB with 1/8" gap between sheets.
- Unacceptable substrates include; luan, waferboard, Masonite, particle board, hardwood flooring, and pressure treated plywood, fire-treated plywood and interior grade plywood.
- Maximum variation in plywood or OSB surface shall not exceed  $1/4$ " in 10' and  $1/16$ " in 1' from required plane. Adjacent edges of sheets  $1/32$ " above or below each other maximum.
- Vapor barrier on crawl space floors according to local building codes.
- Coverage of the thinset adhesive must be 95% or greater, between the Fracture Guard membrane and the tile.
- Movement joints required – in accordance with TCNA Handbook method EJ171

We have had excellent results and many years experience using Merkrete Fracture Guard or Fracture Guard FD; crack isolation membranes over wood subfloors with 19.2" joist spacing. When height will allow it; we always recommend a cement backer unit, or additional layer of subfloor for added strength to the overall tile flooring system.

Moisture and exposed weathering can cause problems with wood substrates. The wood substrates must be in good condition, not weather beaten or delaminated. If these conditions exist the subfloor must be properly overlaid with a cement backer unit, or additional layer of subfloor.

The installation of ceramic tile must be done following installation standards published in the current TCNA (Tile Council of North America) handbook, ANSI (American National Standards) 108 specification and Merkrete data sheets.