The most often heard contractor phrase:
No one else makes me do that, so why do I have to ...

Violation : Shower pan liner installed improperly
Code Section : 2010 FBC-R SECTION P2709 SHOWER RECEPTORS and 2010 FBC-P SECTION 417 SHOWERS
Comments : Contractor shall properly complete shower pan liner installation (pre-slope floor under liner, blocking between studs around liner perimeter, extending liner beyond shower entry threshold/curb/dam, etc.)

Here are a few frequently found shower pan liner installation issues (things missing, not done, created by installer):

- Floor surface, concrete slab or wood subfloor, not pre-sloped minimum of 1/4" per foot from shower pan perimeter to the shower drain under the shower pan liner.

  The shower pan liner is required to have a pre-sloped surface under the liner so that the liner is not laid level; the liner is to be laid with a minimum 1/4" per foot slope to the drain. This screen capture from an Oatey video shows a mortar bed being installed – the mortar bed is sloped a minimum of 1/4" per foot to the drain.

- Blocking not installed between studs around perimeter where shower pan liner is to be installed.

  This blocking is to support the liner material between studs. The blocking may also be used to for attaching the top of the liner to keep the liner upright on the wall. This screen capture from a Noble Company's Chloraloy video shows blocking installed between the studs to support the liner material.

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- The liner is frequently stopped at the inside edge of the shower entry dam, and, frequently, the liner is either not run over the top of the dam, or it is only run part way onto the top of the dam and fastened through to the top of the dam.

  This screen capture from an Oatey video shows in-progress installation of a shower pan liner, however, this photo is representative of shower pan liners not being installed over the top of, and beyond, the shower entry dam – this is shows one which is not even installed to the entry opening at the dam (I have seen liners installed as shown).

  This screen capture from the Oatey video shows the pan liner continued over the dam as is required. However, there is now an open leak joint where the liner on the wall meets the liner on the top of the dam – this can be addressed by either gluing on various pieces of liner material trying to make the corner water tight, or, a corner dam can be installed. I've included some links to dam corner at the end of this newsletter (corner dams are not required, they are just a nice, neat, easy way to meet the code for various corner configurations).

- The liner is seldom run beyond the front of the threshold/curb/dam as required by the code. The FBC-Residential requires that the shower liner be extended a minimum of 3" beyond the dam, and a minimum of 3" around the corner and face of the wall if the wall is that configuration – see configuration in above photo.

  The 3" beyond the opening, and around the corner where applicable, is a FBC-Residential requirement, it is not in the FBC-Plumbing.

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From the 2010 Florida Building Code - Residential

- *SECTION P2709 SHOWER RECEPTORS*

  - *P2709.1 Construction.*
    Shower receptors shall have a finished curb threshold not less than 1 inch (25 mm) below the sides and back of the receptor. The curb shall be not less than 2 inches (51 mm) and not more than 9 inches (229 mm) deep when measured from the top of the curb to the top of the drain. The finished floor shall slope uniformly toward the drain not less than 1/4 unit vertical in 12 units horizontal (2-percent slope) nor more than 1/2 inch (13 mm), and floor drains shall be flanged to provide a water-tight joint in the floor.
  - *P2709.2 Lining required.*
    The adjoining walls and floor framing enclosing on-site built-up shower receptors shall be lined with one of the following materials:
    1. *Sheet lead,*
    2. *Sheet copper,*
    3. *Plastic liner material that complies with ASTM D 4068 or ASTM D 4551,*
    4. *Hot mopping in accordance with Section P2709.2.3 or*
    5. *Sheet-applied load-bearing, bonded waterproof membranes that comply with ANSI A118.10.*

    The lining material shall extend not less than 3 inches (76 mm) beyond or around the rough jambs and not less than 3 inches (76 mm) above finished thresholds. Sheet-applied load bearing, bonded waterproof membranes shall be applied in accordance with the manufacturer's installation instructions
    - *Exceptions:*
      1. *Floor surfaces under showerheads provided for rinsing laid directly on the ground.*
      2. *Shower compartments where the finished shower drain is depressed a minimum of 2 inches (51 mm) below the surrounding finished floor on the first floor level and the shower recess is poured integrally with the adjoining floor.*

From the 2010 Florida Building Code - Plumbing

- *SECTION 417 SHOWERS*

  - *417.5.2 Shower lining.*
    Floors under shower compartments, except where prefabricated receptors have been provided, shall be lined and made water tight utilizing material complying with Sections 417.5.2.1 through 417.5.2.5. Such liners shall turn up on all sides at least 2 inches (51 mm) above the finished threshold level. Liners shall be recessed and fastened to an approved backing so as not to occupy the space required for wall covering, and shall not be nailed or perforated at any point less than 1 inch (25 mm) above the finished threshold. Liners shall be pitched one-fourth unit vertical in 12 units horizontal (2-percent slope) and shall be sloped toward the fixture drains and be securely fastened to the waste outlet at the seepage entrance, making a water-tight joint between the liner and the outlet. The completed liner shall be tested in accordance with Section 312.9.
    - *Exceptions:*
      1. *Floor surfaces under shower heads provided for rinsing laid directly on the ground are not required to comply with this section.*
      2. *Where a sheet-applied, load-bearing, bonded, waterproof membrane is installed as the shower lining, the membrane shall not be required to be recessed.*
      3. *Shower compartments where the finished shower drain is depressed a minimum of 2 inches (51 mm) below the surrounding finished floor on the first floor level and the shower recess is poured integrally with the adjoining floor.*

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Additional information for shower pan liners, dam corners, installation instructions and videos:

Oatey shower pan liner video

Oatey shower pan liner installation instructions

Oatey shower pan corner dams

Noble Chloraloy shower pan liner video

Noble Chloraloy shower pan dam video

IPS shower pan liner installation instructions

PASCO shower pan corner dams

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All contributors will be acknowledged and given credit for their contributions … please help others by sharing the items, issues, and tips you have found in the field or during plan reviews.

I look forward to all contributions.

Respectfully submitted,

Jerry Peck
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