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## **Technical Bulletin** No. 1014

### **- PITCH PANS -**

Pitch pans are not a preferred method of sealing roof penetrations but quite often are used and accepted by most manufacturers for warranty situations, BITEC, INC. included.

Since pitch pans are a sheet metal accessory item not manufactured by BITEC, INC. they are not covered by our warranties.

When pitch pans are used they should meet the following requirements as a guide to provide an adequate seal:

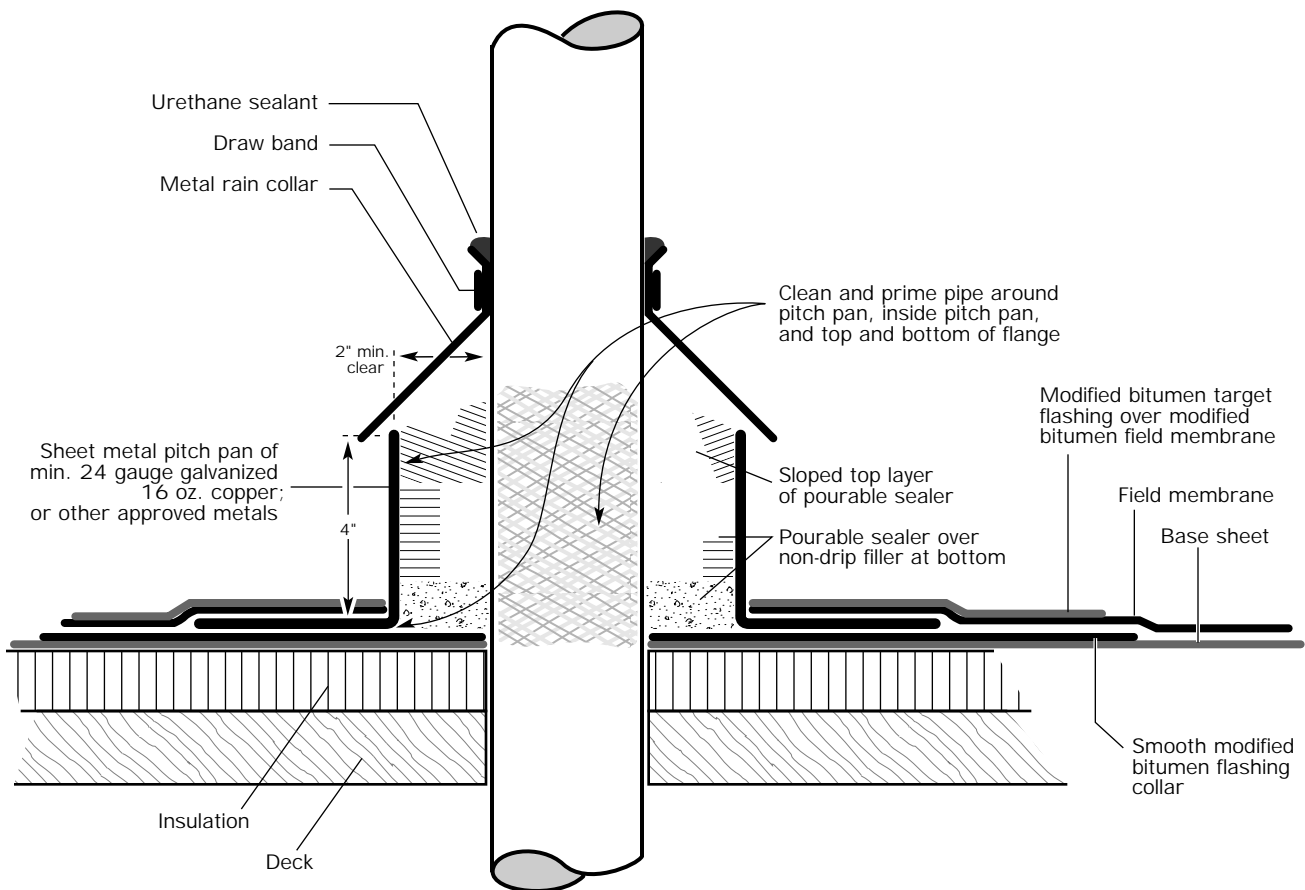
- 1) Only one item should be allowed to pass through each pitch pan. Multiple penetrations should be avoided if at all possible.
- 2) Rain collars or storm collars should always be installed.
- 3) Provide a minimum of 2" clearance between the sides of the pitch pan and the penetration item. When multiple penetrations are an absolute necessity, maintain the same 2" clearance between penetrations.
- 4) Using ASTM D-41 Asphalt Primer, pitch pan flanges must be primed top and bottom. Also the inside of the pitch pan must be primed as well as the penetration item after it has been properly cleaned of oil, old mastics and asphalt, scale, rust, etc. The primer should be allowed to dry thoroughly, preferably 24 hours or at least overnight, or adhesion may be compromised. Different primers may be required with certain pourable sealers.
- 5) When insulated refrigerant lines are run through pitch pans the insulation must be removed where it passes through the pitch pan filler. The insulation can be continued above the rain collar and below the deck.
- 6) Roof flanges should be set in modified bitumen mastic on a smooth surface flashing collar before an SBS cap sheet membrane is installed. For APP applications where mastic may not be used, the flange can be set on the smooth surface collar flashing after heating the collar enough to soften it, providing in effect the same seal as setting it in mastic. This same heating technique can also be used with SBS products but the heat application must be used sparingly. After the cap sheet membrane is installed around the pitch pan on top of the flange, a target flashing of the field membrane previously fitted dry, must be installed to cover all the seams and joints adjacent to the pitch pan.
- 7) The deck opening around the penetration may need to be initially closed with a metal closure. At the deck and/or insulation levels, the pan should be sealed with; a cementitious mixture, plastic cement, BITEC PMA 2000 or similar product, or a combination of the above. The pan should then be filled approximately 2/3 to 3/4 full with BITEC PMA 186, PMA 2000 or other similar or suitable pourable elastomeric fillers. **DO NOT USE PLASTIC CEMENT.** After the first layer has settled, finish filling the pan with the same filler, mounding the filler up around the penetration to provide a sloped top surface that will not hold water.
- 8) No matter who furnishes the pitch pans, they must be properly fabricated and there are several different designs that are acceptable but the following basic design principles should be followed for the best results:
  - a) Pitch pan material can be 24 to 20 gauge galvanized metal, 16 oz. to 24 oz. copper or 26 ga. stainless steel. Softer materials like lead should be avoided as should aluminum and prefinished materials unless there is an absolute necessary requirement for them. These less desirable materials should be preap-

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proved when necessary.

- b) Depth of the pan should be a minimum of 4" unless there is a special detail requirement for a shorter pan. Special conditions may require preapproval.
  - c) Roof flanges should be 4" wide and continuous with corner pieces either spot welded or soldered in. All but one vertical corner should be solid with the fourth corner formed so as to be opened for fitting around the penetration item. After installation the open corner can be locked tight by a folded tab and or soldered. Round pitch pans can also be used when the pan can be installed down over an item without having to be opened. Oversize lead jacks should never be used for pitch pans.
  - d) Two piece or otherwise multiple piece pitch
- pans should be avoided and screw or pop rivet fasteners should not be allowed. Only soldering of lock formed corners or pieces should be used for joining when multiple part pans are needed.
- e) Rain collars can be installed with or without draw bands. Forming collars with a flat area for the band and a sealant receiver at the top is not easy and requires special equipment. Simple collars tightly fitted around the penetration, lapped and screwed together are acceptable when properly installed and sealed to the penetration with a urethane type sealant. These collars are easily removed to check the pan for need of maintenance and can easily be reinstalled. Only urethane type sealants should be used.



**TYPICAL PITCH PAN DETAIL**