

### **Weather Blocking on Unicrete Concrete Tile Roofs in the Ridge and Hip Cavities**

Until recently (2006) in the Alberta region, the most popular method of weather blocking the spaces between the top of the field -tile and the bottom of the hip and ridge caps has been to use colour matched mortar. This practice has been in widespread use since around the mid-eighties. A recent improvement (2003) has been to add strips of wire mesh to the 2x2's under the cap. This gives the mortar something stable to bond with, and greatly reduces the common problem of pieces of mortar coming loose and falling off the roof on steep slopes. Before the mid-eighties, the usual method was to use either a black foam closure or brown coloured Swedish putty under the cap. The mortar became popular because of the improved aesthetic look it gives, as well as the resistance it brings to entry by birds, squirrels and other pests.

The use of mortar for weather blocking under caps is not completely unique to Alberta, but is certainly not the most common method of weather blocking. In British Columbia, the use of plastic cement is the most common material being used, and in most of the Southern States where concrete roof tile enjoys a huge market share, there are a number of metal and plastic products that are simply installed underneath the ridge cap. There is a requirement in the code books in both the United States and in Canada, that any hole bigger than 15mm (apx.5/8") be filled to keep out vermin. It is also a requirement that some type of weather-blocking material be installed under ridge caps.

The main problem that can be encountered with the use of mortar is that over time, pieces of it may fall out – especially on the steeper slopes from 8/12 and up, or where not enough mortar has been packed into the under cap area. One other disadvantage is that it does not permit good rain screen ventilation at the top of the roof, as it seals off any air movement. For this reason many roofers in the Alberta area are now using a vented metal starter flashing at both the bottom of the roof and under the hip and ridge caps. This is a very sensible alternative to mortar as it greatly improves the top ventilation of the roof. One popular product called Flex Vent – a vented aluminum roll material with a peel and stick butyl fastening strip on each underside - comes in either 11" wide (for slate profile) or 13" wide (for Estate profile) 25' rolls. It has a free air flow vent specification of 10sq. in. per ft. and so for every 15' of vented ridge area it will satisfy 1 sq. ft. of ventilation requirements. It is often used to replace the more traditional roof vents that give 35" to 40" of free ventilation space and therefore require 3 or 4 vents for each sq. ft. of ventilation area. It has the added advantage of improving the vented rain screen area between the top of the sheathing and membrane and the bottom of the tile and thus helps promote attic area cooling. This also works well for hips where it combines with the bottom vented starter flashing on Estate roofs, or starter air channel built into the slate tiles, to make the rain screen air flow more efficient.

When using a vented or solid ridge tape or solid metal ridge venting system, extra care must be taken to ensure the cap is installed properly. The 2"x2" hip or ridge-board build up, or ridge bracket system must be very well secured at all trusses. If using the 2"x2" build up method all joints should be staggered. The caps must be securely nailed or

screwed in place by hand with a minimum 3 ½” hot dipped galvanized nail or corrosion resistant screw. In addition each cap must be caulked in place by having a 10mm bead of caulking run at the back top of the cap - from the bottom of one side up through the centre of the cap and across the nail hole and back down to the bottom of the opposite side. The next cap is then embedded in place with the underneath front of the cap embedded into this bead of caulking that has been run on the back of the cap underneath. Silicone caulking should not be used on concrete roof tiles, (or any concrete product) as the silicone seal will not last due to dampness wicking under the silicone through the surface of the concrete. Usually a thermo-plast, butyl, or urethane based caulking is the best choice.

As a general observation, the cap portion of the roof is generally the least vulnerable to water intrusion. It has no roof area above it, and therefore does not receive any rain or melting snow water flowing into it from above, and only receives the moisture which may directly hit it during a severe rain-storm. Obviously the cap itself keeps out the vast majority of this moisture. In addition, the usual method of felting the roof would be to wrap the Polypropylene, peel and stick, or 30lb. felt under-tile membrane over the ridge both ways achieving a double protection cover under the 2x2’ supporting the ridge cap. It is therefore quite unlikely that cap tile installed without mortar would present a leakage problem. However, if nothing was used to fill in the space, it is quite likely that bird nests and squirrels could set up nests and become a nuisance.

For further information on Unicrete concrete tile roofs please contact the Unicrete office.

Brent Applegate (Technical Manager) 2002  
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