

## **Alberta Building Code Requirements for Concrete Tile Roof Installations since 1995**

The CAN/CSA-A220 Series-M91 was issued in May 1991 to cover concrete roofing tile installation in Canada. Although this Standard was published in May 1991 and then had some amendments published in Aug. 1993, it was not officially referenced in the National Building Code of Canada until the 1995 Edition where in section 9.26.2.1 section "r" it is referenced as the Concrete Roof Tile Standard. In the Alberta Building Code of 1997, it is referenced in the same section as in the NBC just quoted.

### **Significant Changes in Installation Practice.**

The method of installation for concrete roof tiles was greatly upgraded in the A-220 Standard. Many of these upgrades (counter-strapping, mortar, etc.) were being phased in as early as 1986, by some private roofing contractors installing Unicrete roof tile.

Following are a few of the notable code upgrades that came in effect in the 1995 NBC:

- 1) The underlayment was upgraded from No.15 felt, to the thicker No 25 (30lb.) felt throughout. Section 4.5.2.2.2 (b) of the A-220.1 states that underlayment shall meet the requirements for organic felt No.25 (30lb.) as specified in the CSA A123.3.
- 2) All applications in Alberta are now required to be over solid roof sheathing (minimum 10mm - 7/16"), and a counter batten method of application shall be followed. Section 4.7.1 in the A-220.1 requires the counter battens to be not smaller than 10 x 38 mm (3/8"x 1 1/2 ") and shall be SPF or better or OSB and meet the CAN3-0437.0 Standard. Section 5.2 (c) of the A-220 requires that the counter battens be nailed through the sheathing and into the roof trusses or rafters in accordance to Clause 7. Clause 7.2 states that counter battens shall be fastened above and run parallel with each truss or rafter, and be installed under each tile batten at all hips, valleys and abutments.
- 3) The A-220.1 Section 4.7.2 requires that tile battens be either a full 25 mm (1") thick by 38mm (1 1/2 ") wide or else be a minimum of 19mm x 88mm (3/4" x 3.5") and be of #4 SPF or better material. In practice the 3/4" x 3.5" (or 1 by 4's) are the only readily available commercial lumber product and are therefore used in almost all applications. There is a further requirement in clause 9.1.3 of the A-220.1 that the tile battens be a minimum of 2.4m ( 8') long and shall span at least 3 trusses or rafters.
- 4) Section 8.3.3 of the A-220.1 requires that a lead saddle be installed across the head of intersecting valleys. Section 8.3.4 requires that any valleys, channel flashings or other flashings that do not drain directly into the eavestrough - but rather drain onto a tile course below the flashing - shall have a lead transition flashing installed. This lead flashing must drain a minimum of 150mm (6") onto the tile below, and have a support block installed under the lead flashing.
- 5) Section 8.5.1 of the A-220.1 requires that all vent protrusions have an under-tile vent flashing at the felt layer installed and then a lead flashing installed over the tiles that extends at least 75mm (3") over all adjacent tiles.
- 6) Section 12.3 requires that any opening larger than 15mm x 15mm (5/8") be filled with a suitable material for vermin screening.

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