Fastening Requirements for the Installation of Polypropylene Membranes (Feltex and RoofTopGaurdII), Ice &Water shield (peel and stick) membranes, and Organic felt No.25 (30 lb. felt) under-lays under Unicrete Roof Tile.

The following outlines the proper A-220 Standard installation method for installing underlay systems under concrete roof tile. The A-220 Standard for "Installation of Concrete Roof Tiles" states on page 42:

Section 6. Underlayment System
6.1 General 6.1.1
"The underlayment and eave and valley protection shall
c) Minimize the number of fasteners exposed to water by positioning fasteners to be covered by successive layers of underlayment or battens
Note: *Underlayment materials should be nominally fastened to maintain the required position before battens are installed.*

6.1.2
All damaged areas of the underlayment system shall be repaired before installation of the tiles."

There should be **NO** exposed fasteners in the underlayment. All fasteners should be:

- Lapped with the next layer of underlay (keep the majority of the fasteners in the top 4" area) **also**
- Carefully positioned so that they are installed down the truss line and then covered immediately (before it rains) with the counter-batten strip. OSB is the preferred material for counter-strapping as it does not crack and split like lathe does. These cracks can then form dams and reservoirs for the water to sit in during an extended period of rain, and eventually saturate the sheathing and wick down the fastener that cracked the lathe causing a leak.
- One additional fastener may be installed between the counter-battens at the bottom of the membrane (through both membrane layers) if it is tabbed with caulking.

The worst situation occurs when staples are poorly (not flush) installed at the bottom of the underlay material. This causes the underlay to dimple, which then retains water around the staple, and wicks water down the staple leg. Roofing nails are preferable to staples for attaching underlay material. Staples are more prone to damage the underlayment, especially when being installed with a hammer-tacker type tool. In addition staples, due to the thinness of the metal are more subject to corrosion and may rust away over time - especially if exposed to a roof leak. The membrane will then be more prone to leaking through the hole created by the rusted away staple.

Please also be aware that whereas polypropylene membranes have a 6 month exposure rating (must be covered with tile within 6 months of installing); felt and ice and water shield manufacturers state that their product must be covered and protected from moisture and the sun as soon as possible. IKO has stated that their Armour Guard product may be left exposed for: "…up to 30 days…" as it is: "…not designed for direct exposure to the elements."

For further clarification of installation details contact the Unicrete office.

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