

# Unicrete Roof Tile Quick Guide For Tile Installation\*

(For Canadian CSA/A220 Series 06 Installations in Non-coastal Regions – solid deck sheathing)\*\*

<b>Roof Deck Sheathing</b>	<ul style="list-style-type: none"> <li>- min. 9.5mm thick (3/8") on 2 ft. center trusses; - 7.5 mm thick (5/16") on 16" center trusses</li> <li>- min. 2mm spacing between panels, edges supported, H-clips installed, grain perpendicular to truss line</li> </ul>	
<b>Underlayment</b>	<p><b>Roof Slope 2 ½ /12 to 4 /12</b></p> <ul style="list-style-type: none"> <li>- minimum Bakor RF 200 Blueskin self seal membrane over entire roof; or full approved low slope roofing system installed under the tile.</li> </ul>	<p><b>Roof Slope 4 in 12 and up</b></p> <ul style="list-style-type: none"> <li>- approved ice and water protection in valleys min. 1 ft. into eave heated section. (usually peel &amp; stick)*</li> <li>- main roof underlay: min. #30 felt as per CSA 123.3 or upgrades such as approved: polypropylene, base sheet, peel and stick, etc.</li> <li>- extend underlayment 20mm (3/4") past eaves, 100mm (4") head lap, 150mm (6") side laps, 200mm (8") up abutment walls (on new construction), lap all ridges and hips min. 150mm(6").</li> <li>- mark location of all trusses on every membrane layer for counter-strapping.</li> </ul>
<b>Fastener Type and Placement</b>	<ul style="list-style-type: none"> <li>- corrosion resistant fasteners for all strapping, tiles, and fittings; no exposed fasteners;</li> <li>- roofing nails or cap nails preferred for underlay; 3.5" treated deck screws preferred for fittings and screw snug.</li> <li>- 1-1/2" HDG roofing nails or treated deck screws for regular or lightweight Estate (leave fastener up 1/8").</li> <li>- 1-3/4" HDG roofing nails or treated deck screws for Slate and Split shake profile (leave fastener up 1/8").</li> <li>- nailing patterns for both profiles: one fastener per tile for two rows around perimeter on all slopes;</li> <li>- 2.5/12 to 7/12 every third row fastened : 7/12 to 12/12 every 2<sup>nd</sup> row fastened : 12/12 &amp; up every row fastened.^</li> </ul>	
<b>Counter-Battens</b>	<ul style="list-style-type: none"> <li>- counter-battens minimum: 10x38mm (3/8"x1.5") SPF or OSB; but may be thicker for increased air flow.</li> <li>- shall be installed in such a manner that the under-tile drainage plane drains freely to the eaves trough.</li> <li>- shall be installed directly in line with the truss/rafter and under tile battens at hips, valleys, and abutments.</li> <li>- may be installed underneath or on top of the roof membrane, and need not be treated wood.</li> <li>- fasteners shall be corrosion resistant, but counter-battens may be nominally fastened until main strapping installed.</li> </ul>	
<b>Tile Battens</b>	<ul style="list-style-type: none"> <li>- tile battens shall be minimum of 19x88mm (3/4"x3.5" - 1x4's) SPF #4 or better.</li> <li>- battens shall be fastened with 2 corrosion resistant 62mm (2.5") fasteners that go in 25mm (1") at each truss/rafter.</li> <li>- tile battens shall be staggered so that not more than 1 row in 4 is joined on the same truss/rafter line.</li> <li>- battens shall be a minimum of 2.4 m (8ft.) long and shall be butt joined only at a counter-strap/truss location.</li> <li>- eave, gable, hip and ridge build up 2"x2"'s shall use 87mm (3.5") corrosion resistant fasteners that go 1" into truss/rafter; - hip and ridge 2"x2" build ups shall have joints spliced so not to line up above each other.</li> </ul>	
<b>Field Tile</b>	<ul style="list-style-type: none"> <li>- 75mm (3") minimum head lap is required, so 345mm (13.5") maximum tile exposure (tile are 420mm – 16.5" long).</li> <li>- generally flat tile will be laid in either a staggered course or a random spacing pattern.</li> <li>- estate (S-profile) tile are usually laid in a direct bond - soldier course (rain seals all lined up).</li> <li>- valley cuts shall be a minimum of 50mm (2") from valley center line on each side and cut straight.</li> <li>- all cut tile on abutment sites shall have the bottom rain seal left in place.</li> <li>- all tile pieces that are cut shall be re-drilled and fastened or adhered with urethane based tile adhesive.</li> </ul>	
<b>Tile Fittings</b>	<ul style="list-style-type: none"> <li>- ridge and hip cap tile shall be supported on 2"x2" build-up - not on field tile.</li> <li>- hip/ridge apex on cottage and gazebo type roofs shall be properly water-proofed under the apex with a malleable saddle and then fitting tiles properly cut in and caulked/mortared in place. (ensure cap tiles are even at apex).</li> <li>- topside of the back of each cap is to be caulked the front underside of the next cap (use tile compatible caulking).</li> <li>- if mortaring; a wire roll shall be attached under the cap and mortar pushed fully up to the ridge board.</li> <li>- rake tile shall not ride up on field tile rows, but butt under each row evenly. Rake tiles shall be properly secured into the side of the 2"x2" gable batten with 2 fasteners. Rakes may be caulked to each other and to the roof field tile</li> </ul>	
<b>Flashings</b>	<ul style="list-style-type: none"> <li>- flashings shall be a minimum of 30 ga. galvanized Z275 (G90) metal – pre-painted preferred.</li> <li>- all flashings (except starter flashings) shall be over-lapped a minimum of 150mm (6") when joining two flashings.</li> <li>- valley flashing is minimum 450mm (18") deep trough type with a 20mm (3/4") step and a 300mm (12") trough.</li> <li>- valley flashing shall extend over eaves by minimum of 20mm (3/4") and have a saddle at valley top intersection.</li> <li>- all flashings shall be counter-flashed by either the cladding material or a second caulked counter-flashing.</li> <li>- any valley or channel flashing that drains onto field tile rather than into the eave trough shall have a properly supported transition flashing installed, with enough transition space to ensure good positive drainage.</li> </ul>	

\* This is not meant to be a comprehensive guide. For full technical guidance, use: CAN/CSA A220 Series 06. For more complete tile installation instructions see the Unicrete Installation Notes, Installation video, and Technical Bulletins

\*\* Direct to deck tile applications are not permitted anywhere in Canada and spaced sheathing is not permitted for most of Canada.

\* High snow load areas (5 kPa or more) require additional treatment, snow management systems, etc. ; see CAN/CSA A-220 Series 06

^ High Wind areas (.8 kPa or greater; 1/50 chart Appendix C of NBC) special treatment required as per CAN/CSA A220 Series 06.