



Technical Bulletin #6

HIGH WIND FASTENING PER UBC

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The Uniform Building Code defines the fastening requirements for concrete roof in Table 15-D-2. The basic requirements are specified for wind speeds up to and including 80 mph. Fastening requirements for wind speeds above 80 mph are defined in footnote 1. High wind requirements include the fastening of each field tile, installation of wind clips on all eave course tiles and the use of adhesive between each hip, ridge and rake tile.

While these provisions are normally effective in the prevention of wind damage, occasionally roofs may be subjected to gusts of wind that exceed those expected in any given locale and some city or county building departments will designate certain portions of their jurisdictions as special wind zones. Since the UBC does not differentiate wind speeds above 80 mph, the fastening charts contained on Pages 79-85 of the TRI Installation Guide dated March 2010.

These charts were developed to satisfy the requirements for the hurricane regions of Florida per the Standard Building Code (SBC). All recommendations are based on extensive wind tunnel and static uplift tests for a variety of applications and roof slopes. While the charts display the limits of effectiveness for a variety of fastening options, there are certain basic issues that should be understood by designers wishing to ensure superior wind uplift resistance.

- Typically, thicker roof decking will provide better uplift resistance than thinner material. Designers should consider 5/8" or 19/32" as high wind upgrades.
- Plywood seems to be better than OSB for nail fasteners but screws hold comparably through either substrate.
- A single screw provides approximately twice the resistance value of a single nail.
- Tiles fastened directly to the deck exhibit higher uplift resistance than tiles applied to battens. This is due to the fact that battens typically raise the anchor lug off the deck which alters the resistance dynamics.
- Wind clips designed with two nail holes must utilize both holes unless the nail is secured through the hole closest to the clip shank.
- An alternate method of enhancing uplift resistance on the eave course of direct to deck applications is to install 3/8" lath as a batten. This thickness is not high enough to raise the tile off the deck but it will provide additional thickness for the fasteners to penetrate.