Florida Building Code Edition 2002
High Velocity Hurricane Zone Uniform Permit Application Form.

Section E (Tile Calculations)

For Moment based tile s systems, choose either Method 1 or 2. Compared the values for M_r with the values from M_R. If the M_r values are greater than or equal to the Mr values, for each area of the roof, then the tile attachment method is acceptable.

Method 1 "Moment Based Tile Calculations Per RAS 127"

(F_1: -45 x λ = 2.55 = 114.8) – Mg: 5.05 = M_{r1} 69.43 NOA M_r 66.5
(F_2: -36.1 x λ = 2.55 = 24.25) – Mg: 5.05 = M_{r2} 19.20 NOA M_r 66.5
(F_3: -95.1 x λ = 2.55 = 24.25) – Mg: 5.05 = M_{r3} 19.20 NOA M_r 66.5

Method 2 "Simplified Tile Calculation Per Table Below"

Required Moment of Resistance (M_r) From Table Below _____ NOA M_r 66.5

M_r Required Moment Resistance*

Mean Roof Height / Roof Slope	15'	20'	25'	30'	40'
2:12	34.4	36.5	38.2	39.7	42.2
3:12	32.2	34.4	36.0	37.4	39.8
4:12	30.4	32.2	33.8	35.1	37.3
5:12	28.4	30.1	31.6	32.8	34.9
6:12	26.4	28.0	29.4	30.5	32.4
7:12	24.4	25.9	27.1	28.2	30.0

***Must be used in conjunction with a list of moment based tile systems endorsed by the Broward County Board of Rules and Appeals.**

For Uplift based tile systems use Method 3. Compared the values for F' with the values for F_r. If the F' values are greater than or equal to the F_r values, for each area of the roof, then the tile attachment method is acceptable.

Method 3 "Uplift Based Tile Calculations Per RAS 127"

(F_1: ____ x l: ____ = ____ x w: = ____) – W: ____ x cos θ: ____ = F_{r1}: ____ NOA F'____
(F_2: ____ x l: ____ = ____ x w: = ____) – W: ____ x cos θ: ____ = F_{r2}: ____ NOA F'____
(F_3: ____ x l: ____ = ____ x w: = ____) – W: ____ x cos θ: ____ = F_{r3}: ____ NOA F'____

Where to Obtain Information

Description	Symbol	Where to find
Design Pressure	P1 or P2 or P3	RAS 127 Table 1 or by an engineering analysis prepared by PE based on ASCE 7
Mean Roof Height	H	Job Site
Roof Slope	θ	Job Site
Aerodynamic Multiplier	λ	NOA
Restoring Moment due to Gravity	M_g	NOA
Attachment Resistance	M_r	NOA
Required Moment Resistance	M_r	Calculated
Minimum Attachment Resistance	F'	NOA
Required Uplift Resistance	F_r	Calculated
Average Tile Weight	W	NOA
Tile Dimensions	l= length w= width	NOA

All calculations must be submitted to the Building Official at the time of permit application.

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