

Florida Building Code 8th Edition (2023)
MDC High Velocity Hurricane Zone Application Form
Section E (Tile Calculations)

Enter positive uplift pressures in the Zone Fields when using these methods of calculating attachment.

For Moment based tile systems, choose **Method 1**. Compare the values for M_r with the values from M_f . If the M_f values are greater than or equal to the M_r values for each area of the roof, then the tile attachment method is acceptable.

Method 1 “ Moment Based Tile Calculations per RAS 127”

| | | | | | | | |
|---------|-------------|-----|---------|-----|--------|--------|-------------|
| Zone 1: | $x \lambda$ | $=$ | $- Mg:$ | $=$ | $Mr1:$ | \leq | NOA M_f : |
| Zone 2: | $x \lambda$ | $=$ | $- Mg:$ | $=$ | $Mr2:$ | \leq | NOA M_f : |
| Zone 3: | $x \lambda$ | $=$ | $- Mg:$ | $=$ | $Mr3:$ | \leq | NOA M_f : |

Tile attachment method:

Alternate attachment method:

For Uplift Based tile systems use **Method 3**. Compare 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”

| | | | | | | | | | | |
|---------|--------|-----|--------|-----|--------|-----|-----------------|-----|-------|----------|
| Zone 1: | $x L:$ | $=$ | $x W:$ | $=$ | $- w:$ | $=$ | $x \cos \theta$ | $=$ | $Fr1$ | NOA F' |
| Zone 2: | $x L:$ | $=$ | $x W:$ | $=$ | $- w:$ | $=$ | $x \cos \theta$ | $=$ | $Fr2$ | NOA F' |
| Zone 3: | $x L:$ | $=$ | $x W:$ | $=$ | $- w:$ | $=$ | $x \cos \theta$ | $=$ | $Fr3$ | NOA F' |

| Where to obtain information | | |
|--|-------------------|--|
| Description | Symbol | Where to Find |
| Design Pressure | Zones 1, 2, 3 | From the applicable Table in RAS- 127 or be an engineering analysis prepared by a PE based upon ASCE 7 |
| Mean Roof Height | H | Job Site |
| Roof Slope | θ | Job Site |
| Aerodynamic Multiplier | λ | Product Approval / Notice of Acceptance |
| Restoring Moment due to Gravity | M_g | Product Approval / Notice of Acceptance |
| Attachment Resistance | M_f | Product Approval / Notice of Acceptance |
| Required Moment Resistance | M_r | Calculated |
| Minimum Attachment Resistance | F' | Product Approval / Notice of Acceptance |
| Required Uplift Resistance | F_r | Calculated |
| Average Tile Weight | w | Product Approval / Notice of Acceptance |
| Tile Dimensions | L=Length W= Width | Product Approval / Notice of Acceptance |
| All calculations must be submitted to the Building Official at the time of permit application. | | |