

Wind Load Analysis and Certification

**ASCE 7-98, Wind Speed = 140 MPH, I = 1.0 (Category II), Exposure C (Hurricane Ocean Line)
Town of Jupiter Building Code**

C&H ROOFING - WIND RESISTANCE OF ENDUREED FAUX THATCH ROOF SHINGLES

The objective of this report is to demonstrate by rational analysis that the Endureed Faux Thatch Roof Shingles manufactured by Country Cottage Roof, Inc., Lake City, FL meet the requirements of the Town of Jupiter Building Code for wind resistance including ASCE 7-98 Wind Load for 140 MPH basic wind speed. Uplift force on roof components and cladding are calculated as follows:

$$V = 140 \text{ MPH}$$

$$I = 1.0 \text{ (Category II, Exposure C, Hurricane Ocean Line)}$$

$$GCp = -2.8 \text{ (C\&C uplift for roof edge and corner zones)}$$

$$Qz = .00256 * Kz * V^2 * I = .00256 * .94 * (140)^2 * 1.0 = 47.2 \text{ PSF}$$

$$P = qh * GCp = 47.2 * -2.8 = \mathbf{99.0 \text{ PSF}}$$

The following table demonstrates that wind resistance of the Endureed Faux Thatch Roof Shingles and published attachment method exceeds the 99 PSF minimum uplift force of ASCE 7-98 for roof components and cladding. Also, the Endureed shingles and attachment to the deck have an allowable uplift slightly greater than the Town of Jupiter Building Code for roof deck attachment for edge zones (10d common nails at 4"OC).

CERTIFICATION:

I hereby certify that the accompanying Wind Load Analysis for C&H ROOFING - WIND RESISTANCE OF ENDUREED FAUX THATCH ROOF SHINGLES demonstrates compliance with ASCE 7-98, Section 6 and Town of Jupiter Building Code, to the best of my knowledge.

Component	Description	Attachment and Reinforcement	Fasteners (Qty / ft ²)	Allowable Withdrawal (lb. / fastener)	Wind Resistance (PSF or lb/ft ²)
Roof deck	19/32" minimum wood structural panels	Attach roof deck to 2x4 SYP framing members spaced 24"OC using 10d common galvanized or stainless steel nails spaced 4"OC in edge zones and 6"OC in field.	1.5 = (12"/4" * 12"/24")	143 lb = (46 lb/in * 2.4" * 1.3) per NDS	215 PSF
Endureed Shingle Binder Strip	Folded and crimped 23 gauge 304 SS interlocking binder strip	11 gauge ring shank nails nailed thru binder into 5/8" minimum wood structural panel roof decking. The shingle binders are spaced 5"OC and nailing is 6"OC along the binder.	4.8 = (12"/6" * 12"/5")	52 lb = (40 lb * 1.3) per APA Test Report T92-8	250 PSF
Endureed Plastic Reeds	Approx .060 dia shaped extruded PVC reeds. 10" length.	Secured in binder strip by tightly folding and interlocking the outer and inner stainless steel strips over the plastic reeds.	700 reeds / ft ²	0.5 lb = (5lb * .1SF) (Pull out test.)	350 PSF
ASCE 7-98	Roof Components and Cladding	Edge and Corner Zones			99 PSF minimum