



Project Number: U5263.014.231
January 3, 2024

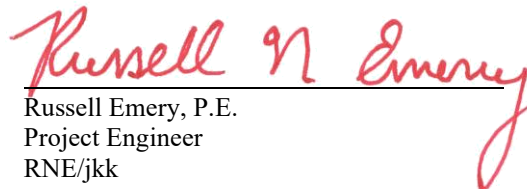
Product Approval Administrator
Building Codes & Standards Section
Department of Business & Professional Regulations
1940 North Monroe Street, Suite 90
Tallahassee, FL 32399-2100

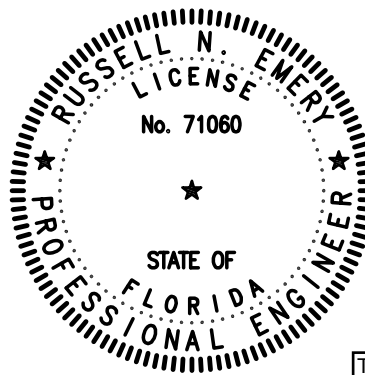
REFERENCE: **Florida Product Approval of ATAS Roof Panel: Advanta Shingle [FL 2905]
Product Approval Evaluation**

Manufacturer: ATAS International, Inc.
Manufacturer Address: 6612 Snowdrift Rd., Allentown, PA 18106
Model Name: ATAS Roof Panel: Advanta Shingle [FL 2905]
Maximum Design Load: See Attached Calculations per Configuration

Testing Summary					
TEST	DESCRIPTION	TEST LOCATION	TEST REPORT DATE	TEST REPORT #	TEST SEALED BY
ANSI 1897	Uplift Resistance for Roof Covering Systems	Architectural Testing Inc.	06/14/2001	01-38776.02	Craig H. Wagner, P.E.
For maximum sizes, spans, loads and anchor types, refer to the installation drawings.					
This product is UL listed in accordance with UL1897 per Architectural Testing Inc. report 01-38776.02					
Referenced test reports were reviewed against the most recent version and have been found to be compliant and having no impact on the performance report.					
To the best of my knowledge, the above product conforms to the requirements of the 2023 Florida Building Code when installed in accordance with the instructions and limitations outlined in the attached installation drawings.					

Sincerely,
VECTOR STRUCTURAL ENGINEERING, LLC


Russell Emery, P.E.
Project Engineer
RNE/jkk



01/03/2024
Russell N. Emery
No. 71060

Russell N Emery
2024.01.04
10:10:43-07'00'

This item has been digitally signed and sealed by Russell N. Emery on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.



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PROJECT: ATAS FBC PRODUCT APPROVAL

PRODUCT: Advanta

Design Assumptions

29-gauge (0.0135") steel, 16-ounce (0.0216") copper Advanta panel

Exposed area = $3.0 \text{ ft}^2 > 3.0 \text{ ft}^2$, therefore Advanta is a "panel"

For use in non-HVHZ (HVHZ excluded)

Sloped roof from 3:12 to 12:12

5/8" plywood roof sheathing for new construction, 1/2" sheathing for reroofing

Tested in accordance with UL 1897 procedures (01-41396.03)

ASTM A653 G90 galvanized steel sheet ($F_y = 37 \text{ ksi}$, $F_u = 52 \text{ ksi}$), ASTM B370 -- H00 copper sheet ($F_y = 26 \text{ ksi}$, $F_u = 32 \text{ ksi}$)

0.150" x 1.5" ring shank nails, 5 per shingle

Allowable fastener loads from NDS for Wood Construction 2015, AISI North American Specification for the Design of Cold-Formed Steel Structural Members 2012, and APA The Engineered Wood Association Form TT-039. Fastener pull-over values for copper determined from aluminum design equation.

Factor of Safety on panel = 2.0 (FBC 1504.9)

Factor of Safety on fastener = 3.0



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Fastener Strengths

Pull-out

0.150" x 1 1/2" ring shank nail, 5/8" plywood

D (in) = 0.150

t (in) = 0.625

G = 0.7 (per APA Form No. TT-039)

C_D = 1.6 (wind)

C_M = 1 (dry conditions)

C_t = 1 (temperature during event no greater than 100° F)

W' = C_DC_MC_t1380G^{5/2}D = 135.8 lb/in (2015 NDS)

P'_{not} = 84.9 lbs

0.150" x 1 1/2" ring shank nail, 1/2" plywood

D (in) = 0.150

t (in) = 0.5

G = 0.7 (per APA Form No. TT-039)

C_D = 1.6 (wind)

C_M = 1 (dry conditions)

C_t = 1 (temperature during event no greater than 100° F)

W' = C_DC_MC_t1380G^{5/2}D = 135.8 lb/in (2015 NDS)

P'_{not} = 67.9 lbs



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Pull-Over -- 29-gauge steel

0.150" ring shank nail, 3/8" diameter head/washer

t_1 (in) = 0.0135

F_{tu1} (ksi) = 52

F.S. = 3

D_{ws} (in) = 0.375

$P_{nov}/\Omega = 132$ lbs

Pull-Over -- 0.0216" (16 oz) copper

0.150" ring shank nail, 3/8" diameter head/washer

C = 1.0

t_1 (in) = 0.0216

F_{tu1} (ksi) = 32

F.S. = 3

D_{ws} (in) = 0.375

D_h (in) = 0.150

$P_{nov}/\Omega = 51.8$ lbs



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Allowable Pressures Based on Panel Failure							
Panel	Thickness (in)	Test	Report No.	Maximum Pressure (psf)*	Exposed Dimensions (in)	(F.S.) _{panel}	Allowable Pressure (psf)
Steel	0.0135	UL 1897	01-38776.02	90	12 x 36	2	45
Copper	0.0216	interpolation	n/a	84.4	12 x 36	2	42.2

*Notes:

Copper deformation load = Steel deformation load x E_{cu}/E_{stl} * t_{cu}/t_{stl}
= 90 psf x 17,000 ksi / 299,000 ksi * 0.0216" / 0.0135" = 84.4 psf

Allowable Wind Pressure Based on Fastener Failure						
Panel	Controlling Fastener Strength (lbs)	Number Nails per Shingle	Exposed Dimensions (in)	Exposed Area (ft ²)	Tributary Area per Nail (ft ²)	Allowable Pressure (psf)
Steel (5/8" Plywood)	84.9	5	12 x 36	3	0.6	141.5
Steel (1/2" Plywood)	67.9	5	12 x 36	3	0.6	113.2
Copper	51.8	5	12 x 36	3	0.6	86.3

Pull-out controls for steel

Pull-over controls for copper

Maximum Allowable Wind Pressures (psf)			
Material	Pressure Based on Panel	Pressure based on Nail	Allowable Pressure
Steel (5/8" Plywood)	45	141.5	45
Steel (1/2" Plywood)	45	113.2	45
Copper	42.2	86.3	42.2



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Test Report References

Standard	Report Number	Laboratory	Laboratory Location
UL 1897-98	01-38776.02	Architectural Testing	York, PA