

Force Engineering & Testing

19530 Ramblewood Drive
Humble, Texas 77338
Phone: (281) 540-6603 FAX: (281) 540-9966
Website: www.forceengineeringtesting.com

Product Evaluation Report
EDCO PRODUCTS, INC.

28 Ga. ArrowLine Slate over 19/32" Plywood

Florida Product Approval # 4077.2 R7

Florida Building Code 2020

Per Rule 61G20-3

Method: 1 –D

Category: Roofing

Subcategory: Metal Roofing

Compliance Method: 61G20-3.005(1)(d)

NON HVHZ

Product Manufacturer:

EDCO Products, Inc.

8700 Excelsior Blvd.

Hopkins, Minnesota 55343

Engineer Evaluator:

Johnathan Green, P.E. #88223

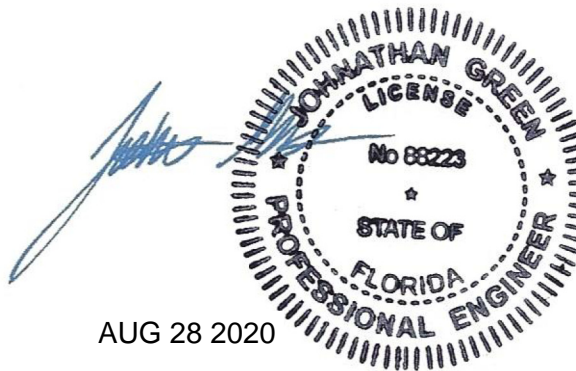
Florida Evaluation ANE ID: 12901

Validator:

Brian Jaks, P.E. #70159

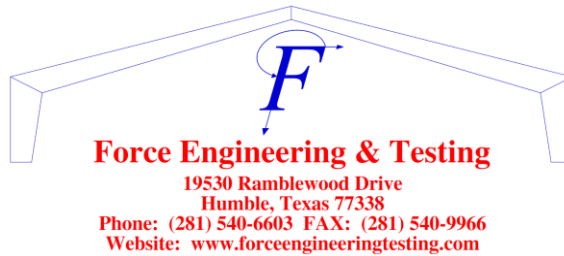
Contents:

Evaluation Report Pages 1 – 4



THIS ITEM HAS BEEN
DIGITALLY SIGNED AND
SEALED BY JOHNATHAN
GREEN 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.



Compliance Statement: The product as described in this report has demonstrated compliance with the Florida Building Code 2020, Sections 1504.3.2.

Product Description: ArrowLine Slate Metal Roof Shingles, 28 Ga. Steel, 12"x50" Coverage over Min. 19/32" APA Plywood decking. Non-Structural Application.

Panel Material/Standards: Material: Minimum 28 Ga. Steel conforming to Florida Building Code 2020 Section 1507.4.3.
Yield Strength: Min. 50.0 ksi
Corrosion Resistance: Panel Material shall comply with Florida Building Code 2020, Section 1507.4.3.

Panel Dimension(s): Thickness: 0.016" min.
Coverage: 12" x 50"

Shingle Panel Clips: Product Name: Shingle Clip
Description: 24 Ga. (0.024" thick) CS Type B G 90 Galvanized steel, 1 1/2" long
Corrosion Resistance: Per Florida Building Code 2020, Section 1507.4.4.

Roof Clip Fastener: (1) #10 x 1" Type A
1/4" minimum penetration through plywood
Corrosion Resistance: Per Florida Building Code 2020, Section 1507.4.4

Substrate Description: Min. 19/32" thick, APA Rated plywood over supports at maximum 24" O.C.
Design of plywood and plywood supports are outside the scope of this evaluation. Substrate must be designed in accordance w/ Florida Building Code 2020.

Allowable Design Uplift Pressures:

Table "A"

Maximum Total Uplift Design Pressure:	71.0 psf
Number of Shingle Clips:	(5) Clips
Shingle Clip Spacing:	5"-10"-10"-10"-10"

*Design Pressure includes a Safety Factor = 2.0.



THIS ITEM HAS BEEN
DIGITALLY SIGNED AND
SEALED BY JOHNATHAN
GREEN 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.

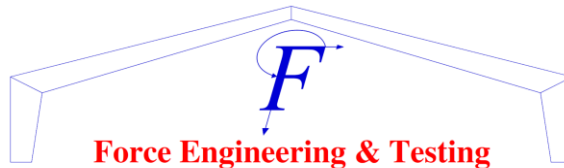


Code Compliance:	The product described herein has demonstrated compliance with The Florida Building Code 2020, Section 1504.3.2.
Evaluation Report Scope:	The product evaluation is limited to compliance with the structural wind load requirements of the Florida Building Code 2020, as relates to Rule 61G20-3.
Performance Standards:	The product described herein has demonstrated compliance with: <ul style="list-style-type: none">▪ UL 580-06 - Test for Uplift Resistance of Roof Assemblies▪ UL 1897-2012 - Uplift Test for Roof Covering Systems
Reference Data:	<ol style="list-style-type: none">1. UL 580-06 / 1897-04 Uplift Test Force Engineering & Testing, Inc. Report No. 113-0345T-11A2. Certificate of Independence By Johnathan Green, P.E. (No. 88223) @ Force Engineering & Testing (FBC Organization # ANE ID: 12901)
Test Standard Equivalency:	The UL 1897-04 test standard is equivalent to the UL 1897-2012 test standard.
Quality Assurance Entity:	The manufacturer has established compliance of roof panel products in accordance with the Florida Building Code and Rule 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity.
Minimum Slope Range:	4:12. Minimum Slope shall comply with Florida Building Code 2020, including Section 1507.4.2 and in accordance with Manufacturers recommendations.
Installation:	Install per manufacturer's recommended details.
Underlayment:	Titanium UDL 30 Synthetic roofing underlayment or approved equal Per Manufacturer's installation guidelines per Florida Building Code 2020, Section 1507.1.1.
Roof Panel Fire Classification:	Fire classification is not part of this acceptance.
Shear Diaphragm:	Shear diaphragm values are outside the scope of this report.



THIS ITEM HAS BEEN
DIGITALLY SIGNED AND
SEALED BY JOHNATHAN
GREEN 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.



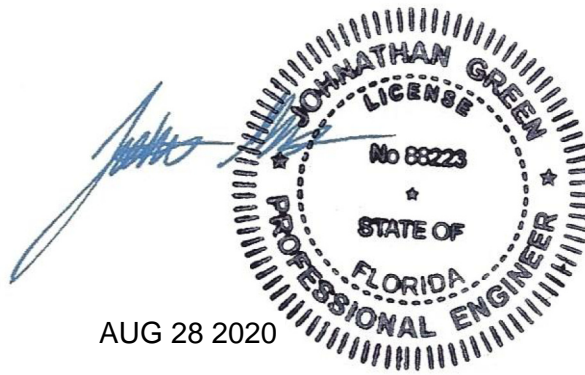
Force Engineering & Testing

19530 Ramblewood Drive
Humble, Texas 77338

Phone: (281) 540-6603 FAX: (281) 540-9966
Website: www.forceengineeringtesting.com

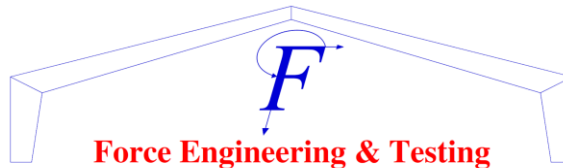
Design Procedure:

Based on the dimensions of the structure, appropriate wind loads are determined using Chapter 16 of the Florida Building Code 2020 for roof cladding wind loads. These component wind loads for roof cladding are compared to the allowable pressure listed above. The design professional shall select the appropriate erection details to reference in his drawings for proper fastener attachment to his structure and analyze the panel fasteners for pullout and pullover. Support framing must be in compliance with Florida Building Code 2020 Chapter 22 for steel, Chapter 23 for wood and Chapter 16 for structural loading.



THIS ITEM HAS BEEN
DIGITALLY SIGNED AND
SEALED BY JOHNATHAN
GREEN 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.

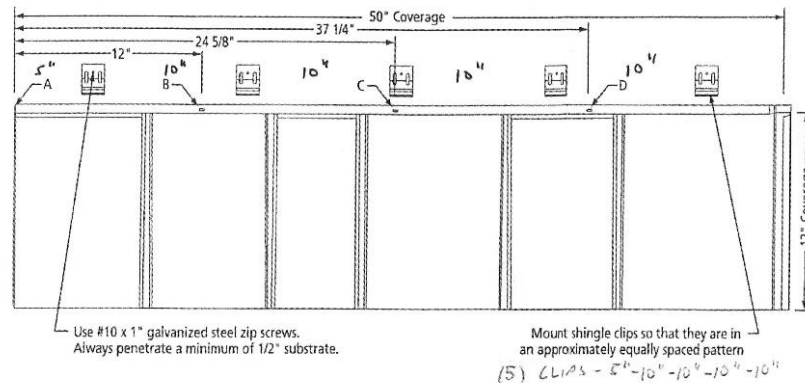


Force Engineering & Testing

19530 Ramblewood Drive
Humble, Texas 77338

Phone: (281) 540-6603 FAX: (281) 540-9966
Website: www.forceengineeringtesting.com

Shingle-Shake (Detail E)



Shingle-shakes are packaged 12 panels (50 sq. ft.) per carton. Each carton weighs approximately 35 lbs so it can be carried easily to the roof for installation.

After the completion of all prep work and the accessories have been applied, you can begin installing shingle-shakes. Always install shingle-shakes from left to right and attach with 5 shingle clips per shingle-shake. The first and last shingle clip on each course of shingle-shakes should be snipped at the hooking area through the top flange of shingle-shake clip. This procedure will help pin the course in

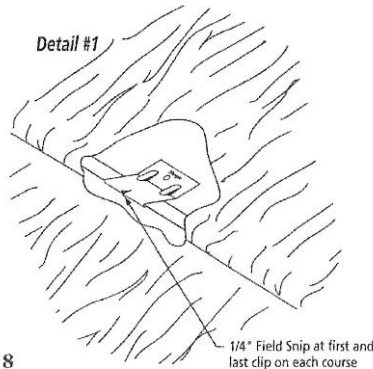
place and minimize any horizontal shifting of the shingle-shakes (see detail #1 below).

Start the shingle-shake installation at the bottom left hand corner of the roof with a full panel.

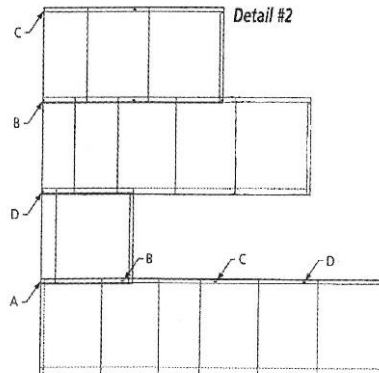
After installing a number of panels you can start the second course. There are dimples stamped into the top hook of each shingle-shake. As noted above they have been designated "A", "B", "C" and "D". Do not start the second course with a full shingle-shake. In an effort to create a random staggered joint appearance it is recommended to cut the first shingle-shake of the second course at dimple "D". You may

then continue installing shingle-shakes on this course using only full shingle-shakes. You can then begin the third course by cutting the first shingle-shake at dimple "B" and installing it. The fourth course should begin with a shingle-shake cut at dimple "C". The fifth course should be started with a full shingle-shake and you should repeat the above staggering procedure on all subsequent courses.

When installing shingle-shakes at hips or valleys be sure to follow the above cutting procedure to insure the same random staggered pattern.



8



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JOHNATHAN GREEN 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.