MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

Unirac, Inc.
1411 Broadway Blvd. NE
Albuquerque, NM 87102

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami-Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami-Dade County) and/ or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Flashkit Tile Replacement and 2-Piece Standoff Aluminum Solar Mounts

APPROVAL DOCUMENT: Drawing No. **M-D NOA**, titled "Tile Replacement and Standoff", sheets 1 through 11 of 11, prepared by Unirac, Inc, dated on 12/07/2022, signed and sealed by Saddam Ahmad, P.E., bearing the Miami-Dade County Product Control approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: None

LABELING: Each box shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved or MDCPCA", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises** NOA **# 22-0407.09** consists of this page 1, evidence page E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Ishaq I. Chanda, P.E.**

Ishaq I. Chanda

MIAMI-DADE COUNTY APPROVED

Unirac, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **M-D NOA**, titled "Tile Replacement and Standoff", sheets 1 through 11 of 11, prepared by Unirac, Inc, dated on 12/07/2022, signed and sealed by Saddam Ahmad, P.E.

B. TESTS

1. Test report on Uplift and Shear Allowable Loads of the Tile Replacement Solar Mount per ASTM D7147-11, prepared by Intertek, Test Report No. **M2545.01-119-18 R0**, dated 06/09/2022, signed and sealed by Vinu J. Abraham, P.E.

2. Test report on Uplift and Shear Allowable Loads of the Standoff Solar Mount per ASTM D7147-11, prepared by Intertek, Test Report No. **M2545.03-119-18 R0**, dated 06/09/2022, signed and sealed by Vinu J. Abraham, P.E.

3. Test report on Wind Driven Rain Resistance of the FlashLock Comp Solar Mount per TAS 100(A)-95, prepared by Intertek, Test Report No. **N2545.01-109-18**, dated 03/31/2022, signed and sealed by Vinu J. Abraham, P.E.

C. CALCULATIONS

1. Engineering certification, prepared by Engineering Alliance, Inc., dated 07/28/2022, signed and sealed by Saddam Ahmad, P.E.

D. MATERIAL CERTIFICATIONS

1. None.

E. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

F. STATEMENTS

1. Statement letter of code conformance to the 7th edition (2020) of the FBC, issued by Engineering Alliance, Inc., dated 07/28/2022, signed and sealed by Saddam Ahmad, P.E.

2. Statement letter of no financial interest issued by Engineering Alliance, Inc., dated 12/07/2022, signed and sealed by Saddam Ahmad, P.E.

Ishaq I. Chanda

Ishaq I. Chanda, P.E.
Product Control Unit Supervisor
NOA No: 24-0129.05
Expiration Date: January 26, 2028
Approval Date: February 29, 2024

Unirac, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **M-D NOA**, titled "Tile Replacement and Standoff", sheets 1 through 11 of 11, prepared by Unirac, Inc, dated 12/07/2022, signed and sealed by Saddam Ahmad, P.E.

B. TESTS (submitted under previous approval**)**

1. None.

C. CALCULATIONS (submitted under previous approval)

1. None.

D. MATERIAL CERTIFICATIONS

1. None.

E. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

F. STATEMENTS (items #2 & #3, submitted under previous approval)

1. Statement letter of code conformance to the 8th edition (2023) of the FBC and "No financial interest", issued by Engineering Alliance, Inc., dated JAN 24, 2024, signed and sealed by Saddam Ahmad, P.E.

2. Statement letter of code conformance to the 7th edition (2020) of the FBC, issued by Engineering Alliance, Inc., dated 07/28/2022, signed and sealed by Saddam Ahmad, P.E.

3. Statement letter of no financial interest issued by Engineering Alliance, Inc., dated 12/07/2022, signed and sealed by Saddam Ahmad, P.E.

G. OTHER

1. This NOA **revises NOA No. 22-0407.09** for FBC 2023 updates**,** expiring 01/26/28.

Ishaq I. Chanda

Ishaq I. Chanda, P.E.
Product Control Unit Supervisor
NOA No: 24-0129.05
Expiration Date: January 26, 2028
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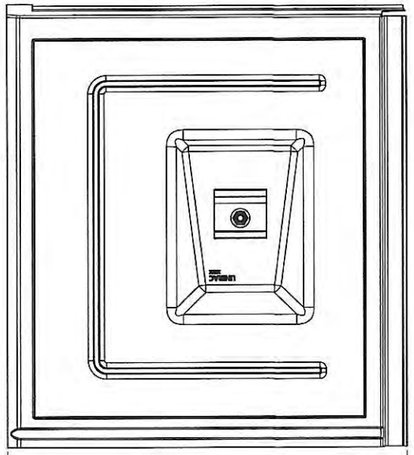
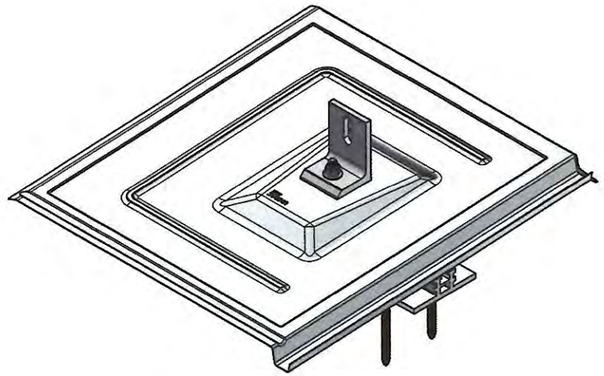
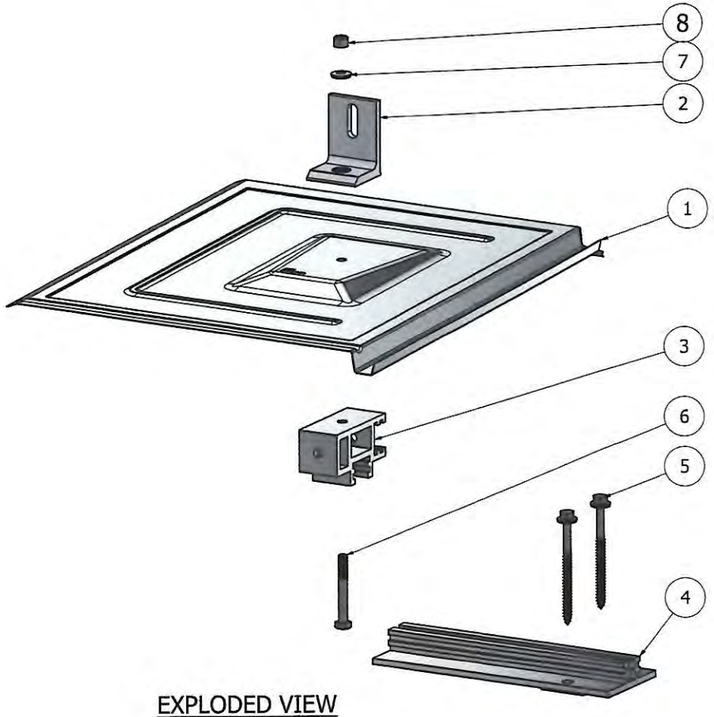
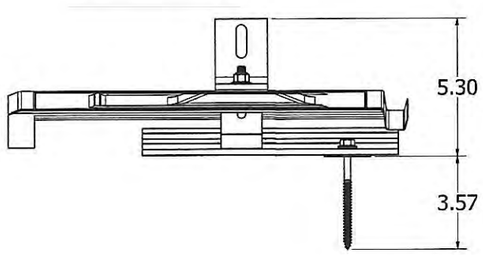


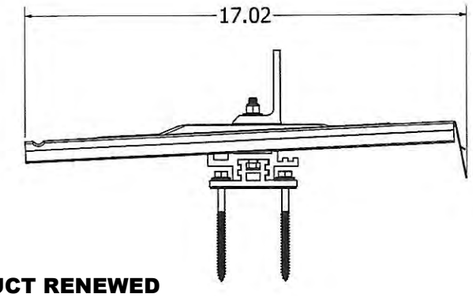


FLAT TILE REPLACEMENT ASSEMBLY



EXPLODED VIEW





PRODUCT APPROVED
as complying with the Florida Building Code
NOA–No. 22-0407.09
Approval Date 01/26/2023
By
Miami–Dade Product Control

PRODUCT RENEWED
as complying with the Florida Building Code
NOA–No. 24-0129.03
Expiration Date 03/14/2029
By Ishaq I. Chanda
Miami–Dade Product Control

ASSEMBLY NUMBER - NAME	ITEM#	DESCRIPTION	MATERIAL	MINIMUM YIELD (KSI)	MINUMUM ULTIMATE (KSI)
004TRFA, 004TRFD, 004TRFM, FLAT TILE REPLACEMENT	1	FLAT TILE REPLACEMENT STAMPING	ALUMINUM, 1060-O,0.24± 0.004. ALTERNATES 1060-H24	N/A	N/A
	2	L-FOOT	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	3	TR RISER	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	4	TR BASE PLATE	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	5	SH LAG BOLT	WASHER, SS AND BOLT, SS	N/A	N/A
	6	HHCS 5/16-18 X 2.5", SS, COATED	18/8 STAINLESS STEEL ALTERNATIVE MATERIAL: 300 SERIES AUSTENITIC STAINLESS STEEL	N/A	85
	7	5/16 BND SS EPDM WASHER	METAL MATERIAL: AUSTENITIC STAINLESS STEEL ALTERNATIVE METAL MATERIAL: 18/8 STAINLESS STEEL	35	38
	8	NUT, NYLOC, 5/16-18, 316 SS	316 STAINLESS STEEL	N/A	75

PE STAMP:

SADDAM AHMAD LICENSE No.75316 STATE OF FLORIDA PROFESSIONAL ENGINEER

PE SIGNATURE:

PE DATE: 12/7/22

UNIRAC
1411 BROADWAY BOULEVARD NE
ALBUQUERQUE, NM, USA, 87102
WWW.UNIRAC.COM

REVISIONS

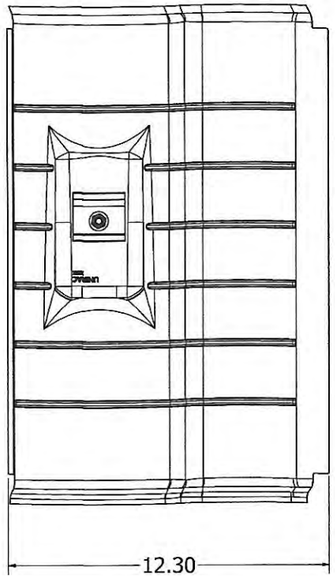
REV	DATE	DESCRIPTION	CHK
A	7/14/22	INITIAL RELEASE	-
B	12/6/22	REVISED PER REDLINES	AB

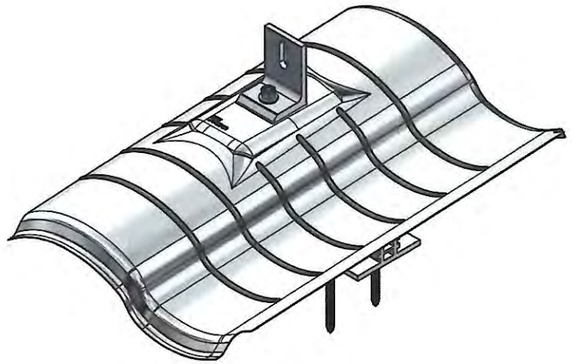
FOR
MIAMI-DADE COUNTY

PROJECT
MIAMI-DADE CO. NOA
PROJECT ADDRESS

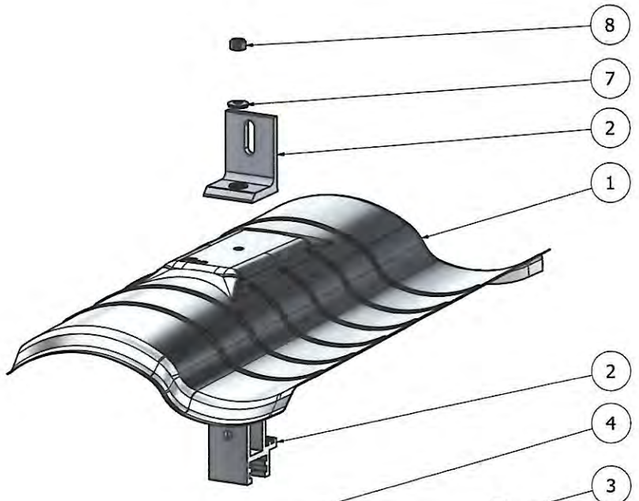
TITLE
TILE REPLACEMENT AND STANDOFF

DWG NO.
M-D NOA

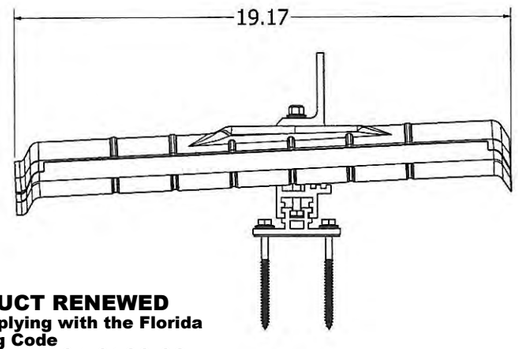




S TILE REPLACEMENT ASSEMBLY



EXPLODED VIEW



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Miami–Dade Product Control

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NOA–No. 24-0129.03
Expiration Date 03/14/2029
By Ishaq I. Chanda
Miami–Dade Product Control

ASSEMBLY NUMBER - NAME	ITEM#	DESCRIPTION	MATERIAL	MINIMUM YIELD (KSI)	MINUMUM ULTIMATE (KSI)
004TRSA, 004TRSD, 004TRSM SPANISH TILE REPLACEMENT	1	SPANISH TILE REPLACEMENT STAMPING	ALUMINUM, 1060-O,0.24± 0.004. ALTERNATES 1060-H24	N/A	N/A
	2	L-FOOT	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	3	TR RISER	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	4	TR BASE PLATE	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	5	SH LAG BOLT	WASHER, SS AND BOLT, SS	N/A	N/A
	6	HHCS 5/16-18 X 2.5", SS, COATED	18/8 STAINLESS STEEL ALTERNATIVE MATERIAL: 300 SERIES AUSTENITIC STAINLESS STEEL	N/A	85
	7	5/16 BND SS EPDM WASHER	METAL MATERIAL: AUSTENITIC STAINLESS STEEL ALTERNATIVE METAL MATERIAL: 18/8 STAINLESS STEEL	35	38
	8	NUT, NYLOC, 5/16-18, 316 SS	316 STAINLESS STEEL	N/A	75

PE STAMP:

SADDAM AHMAD LICENSE No.75316 STATE OF FLORIDA PROFESSIONAL ENGINEER

PE SIGNATURE:

PE DATE: 12/7/22

UNIRAC
1411 BROADWAY BOULEVARD NE
ALBUQUERQUE, NM, USA, 87102
WWW.UNIRAC.COM

REVISIONS

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FOR
MIAMI-DADE COUNTY

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MIAMI-DADE CO. NOA
PROJECT ADDRESS

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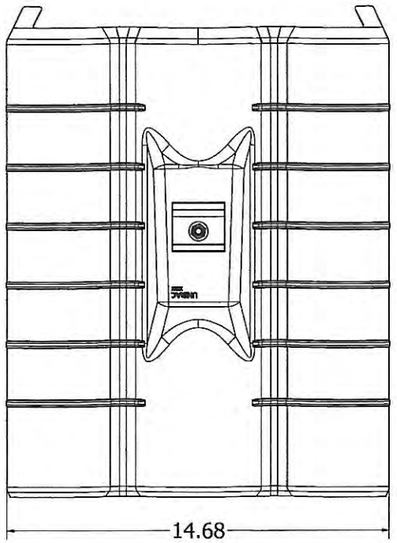
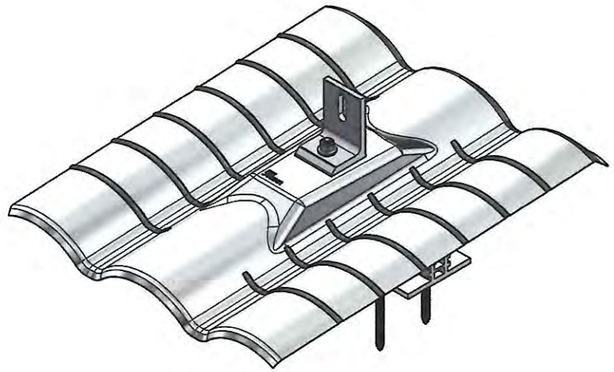
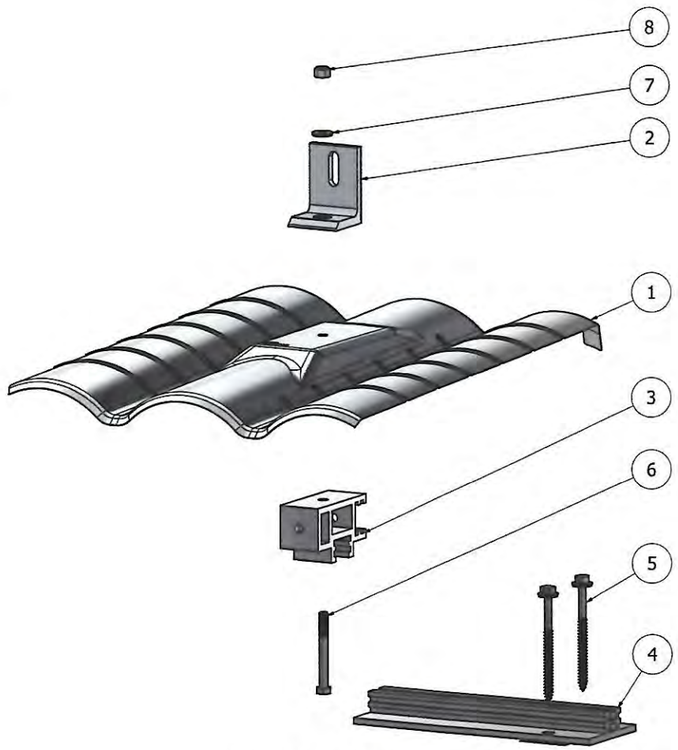
M-D NOA

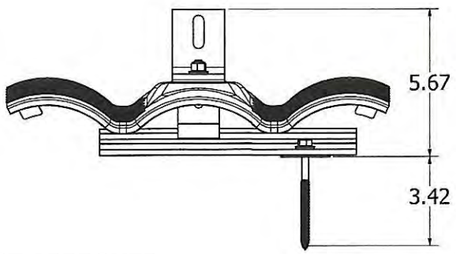


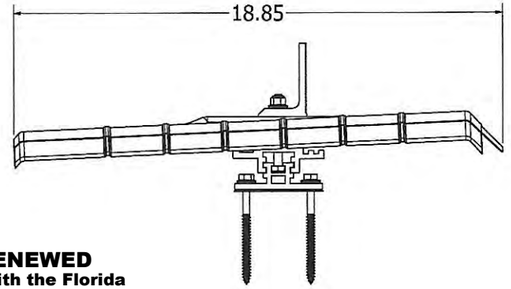


W TILE REPLACEMENT ASSEMBLY



EXPLODED VIEW





PRODUCT APPROVED
as complying with the Florida Building Code
NOA–No. 22-0407.09
Approval Date 01/26/2023
By
Miami–Dade Product Control

PRODUCT RENEWED
as complying with the Florida Building Code
NOA–No. 24-0129.03
Expiration Date 03/14/2029
By Ishaq I. Chanda
Miami–Dade Product Control

ASSEMBLY NUMBER - NAME	ITEM#	DESCRIPTION	MATERIAL	MINIMUM YIELD (KSI)	MINUMUM ULTIMATE (KSI)
004TRWA, 004TRWD, 004TRWM W TILE REPLACEMENT	1	W TILE REPLACEMENT STAMPING	ALUMINUM, 1060-O,0.24± 0.004. ALTERNATES 1060-H24	N/A	N/A
	2	L-FOOT	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	3	TR RISER	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	4	TR BASE PLATE	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	5	SH LAG BOLT	WASHER, SS AND BOLT, SS	N/A	N/A
	6	HHCS 5/16-18 X 2.5", SS, COATED	18/8 STAINLESS STEEL ALTERNATIVE MATERIAL: 300 SERIES AUSTENITIC STAINLESS STEEL	N/A	85
	7	5/16 BND SS EPDM WASHER	METAL MATERIAL: AUSTENITIC STAINLESS STEEL ALTERNATIVE METAL MATERIAL: 18/8 STAINLESS STEEL	35	38
	8	NUT, NYLOC, 5/16-18, 316 SS	316 STAINLESS STEEL	N/A	75

SADDAM AHMAD LICENSE No.75316 STATE OF FLORIDA PROFESSIONAL ENGINEER

PE STAMP:

PE SIGNATURE:

PE DATE: 12/7/22

UNIRAC
1411 BROADWAY BOULEVARD NE
ALBUQUERQUE, NM, USA, 87102
WWW.UNIRAC.COM

REVISIONS

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FOR
MIAMI-DADE COUNTY

PROJECT
MIAMI-DADE CO. NOA
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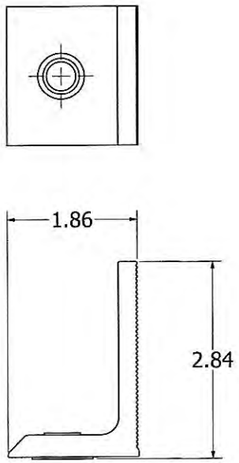
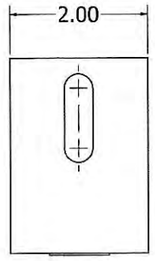
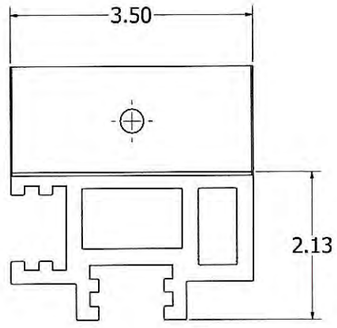
TITLE
TILE REPLACEMENT AND STANDOFF

DWG NO.
M-D NOA

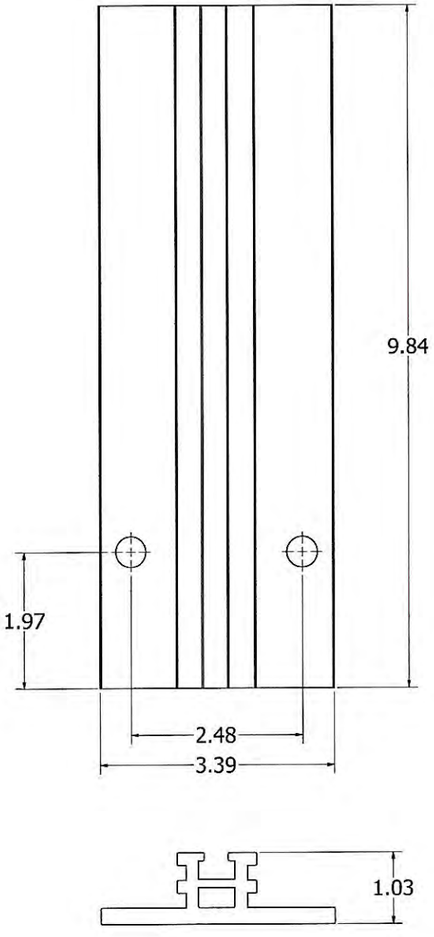


L-FOOT
ITEM #2





TR RISER
ITEM# 3



TR BASE PLATE
ITEM# 4

ASSEMBLY NUMBER - NAME	ITEM#	DESCRIPTION	MATERIAL	MINIMUM YIELD (KSI)	MINUMUM ULTIMATE (KSI)
004TRFA, 004TRFD, 004TRFM, FLAT TILE REPLACEMENT	2	L-FOOT	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	3	TR RISER	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	4	TR BASE PLATE	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38

PE STAMP

SADDAM AHMAD LICENSE No.75316 STATE OF FLORIDA PROFESSIONAL ENGINEER

PE SIGNATURE: PE DATE: 12/7/22

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NOA-No. 22-0407.09
Approval Date 01/26/2023
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Expiration Date 03/14/2029
By Ishaq I. Chanda **Miami-Dade Product Control**

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WITHDRAWAL AND LATERAL LOADS FROM NDS

LOAD DURATION FACTOR *(CD)* = 1.6

WET SERVICE FACTOR *(CM)* = 1

TEMPERATURE FACTORS *(CT)* = 1.0

GROUP ACTION FACTOR *(CG)* = 1

GEOMETRY FACTOR *(CΔ)* = 1

END GRAIN FACTOR *(Ceg)* = 1

DIAPHRAGM FACTOR *(Cdi)* = 1

TOE-NAIL FACTOR *(Ctn)* = 1

WITHDRAWAL LOADS

WITHDRAWAL DESIGN VALUE *(W)* = 307 LBS. PER INCH (*FROM NDS TABLE 12.2A*)

WITHDRAWAL LOADS *W'* = 307 X 1 X 1.6 X 1 X 1 X 1 X 1 X 1.85 = 1,119.93 LBS.

LATERAL LOADS

LATERAL DESIGN VALUE *(Z)* = MINIMUM OF PARALLEL = 280 LBS. *(FROM NDS TABLE 12K)*

GROUP ACTION FACTOR *(CG)* = 0.97

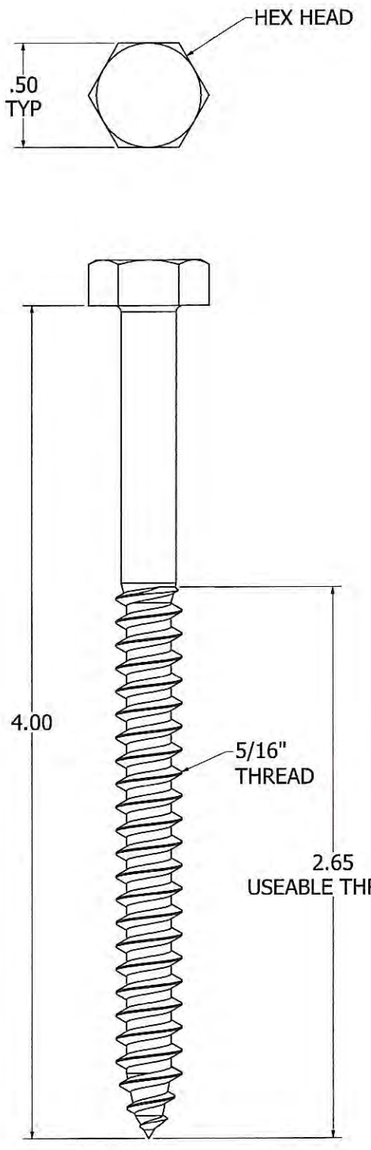
LATERAL LOADS *Z'* = 280 X 1.6 X 1 X 0.97 X 1 X 1 X 1 X 1.85/2.5 = 321.57 LBS.

LATERAL DESIGN VALUE *(Z)* = MINIMUM OF PERPENDICULAR = 190 LBS. *(FROM NDS TABLE 12K)*

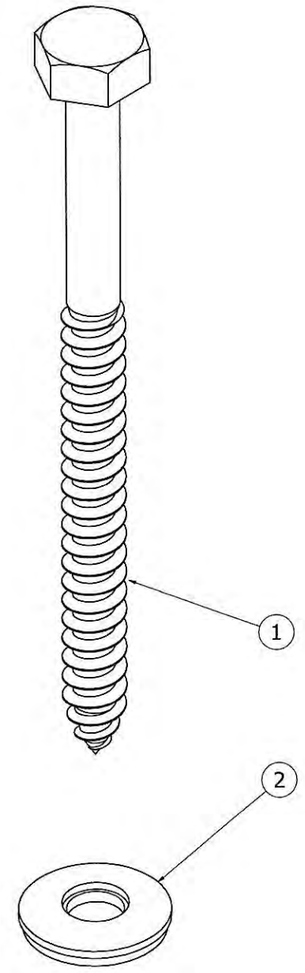
GROUP ACTION FACTOR *(CG)* = 1

LATERAL LOADS *Z'* = 190 X 1.6 X 1 X 1 X 1 X 1 X 1 X 1.85/2.5 = 224.96 LBS.

**ASSUMED G = 0.55 SOUTHERN PINE*



SH LAG SCREW



EXPLODED VIEW

PARTS LIST		
ITEM	QTY	DESCRIPTION
1	1	5/16 X 4.00 HEX HEAD LAG SCREW, SS
2	1	5/16 EPDM WASHER SS

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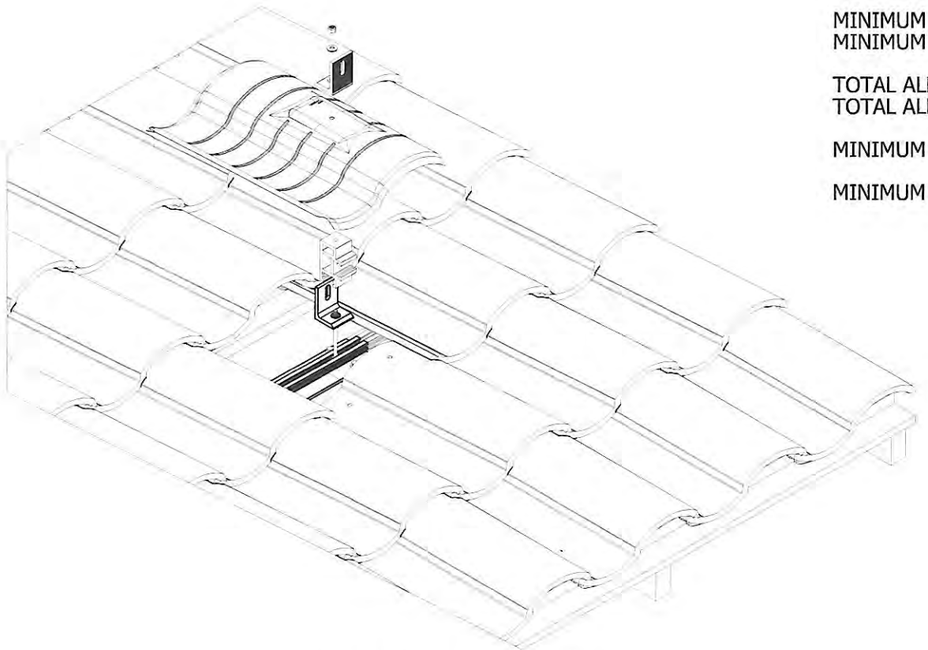
DWG NO.
M-D NOA



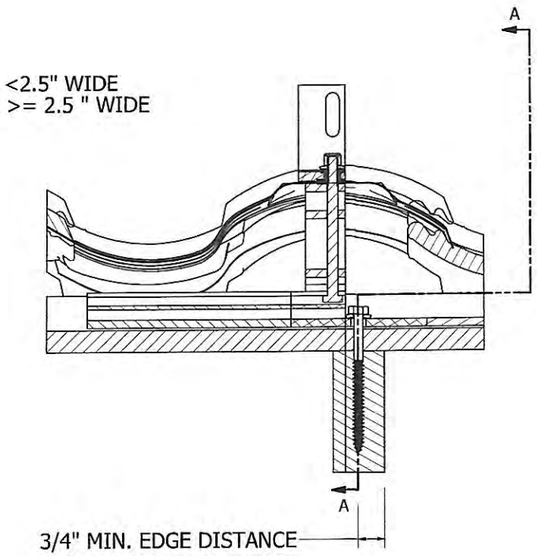
TILE REPLACEMENT INSTALLATION
NOT TO SCALE

STRUCTURAL MEMBER SPECIFICATION:

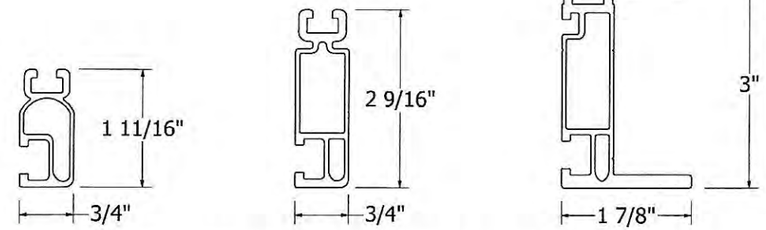
MINIMUM WOOD GRADE = SPF #2
MINIMUM SPECIFIC GRAVITY = 0.42

TOTAL ALLOWABLE FASTENER UPLIFT = 131.3 lbs
TOTAL ALLOWABLE FASTENER LATERAL = 143.66 lbs

MINIMUM FASTENER EDGE DISTANCE = 0.75" IN RAFTER <2.5" WIDE
= 1.25" IN RAFTER >= 2.5 " WIDE
MINIMUM FASTENER END DISTANCE = 2.2"



SECTION S-TILE REPLACEMENT
NOT TO SCALE



SOLARMOUNT LIGHT SOLARMOUNT STANDARD SOLARMOUNT HD

PRODUCT RENEWED
as complying with the Florida Building Code
NOA-No. 24-0129.03
Expiration Date 03/14/2029
By Ishaq I. Chanda
Miami-Dade Product Control

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Approval Date 01/26/2023
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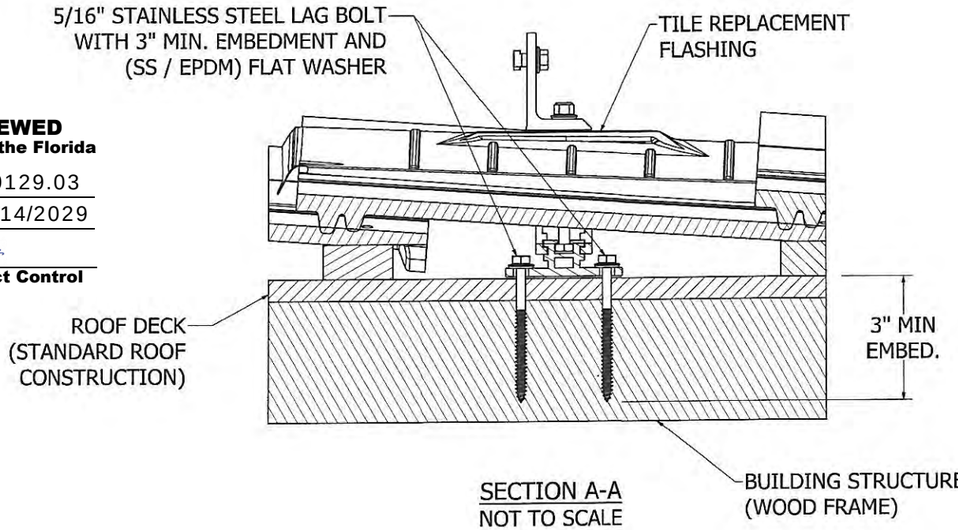

SECTION A-A
NOT TO SCALE

PE STAMP:
FADDAH AHMAD LICENSE No.75316 STATE OF FLORIDA PROFESSIONAL ENGINEER

PE SIGNATURE:

PE DATE: 12/7/22

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1411 BROADWAY BOULEVARD NE
ALBUQUERQUE, NM, USA, 87102
WWW.UNIRAC.COM

REVISIONS			
REV	DATE	DESCRIPTION	CHK
A	7/14/22	INITIAL RELEASE	-
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FOR
MIAMI-DADE COUNTY

PROJECT
MIAMI-DADE CO. NOA
PROJECT ADDRESS

TITLE
TILE REPLACEMENT AND STANDOFF

DWG NO.
M-D NOA

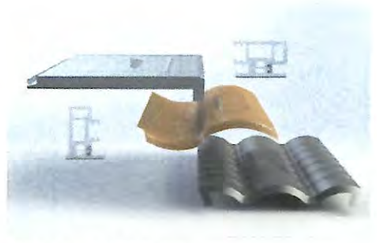
SHEET 6 OF 11

LAYOUT
Locate rail attachment locations and remove corresponding tile that will be replaced by Unirac Tile Replacement.

LOCATE RAFTER & DRILL PILOT
Locate rafter where tile was removed and align tile replacement base mounting holes over rafter and vertically. Mark and drill pilot holes.

PREPARE UNDERLAYMENT & BUTYL
Clear any pilot hole debris from underlayment and peel to remove sealing patch release liner.

INSTALL BASE
Optional: Place Tile Replacement Sub Flashing Align base over pilot holes and install base using supplied lag screws and sealing washers.



RISER CONFIGURATION
The Universal Tile Base can be configured for all three tile types.

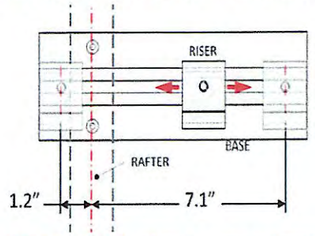
PREPARE RISER
Assemble tile replacement riser and bolt using the correct configuration for tile type.
(Can be completed before Base Installation; S-Tile Configuration Shown)

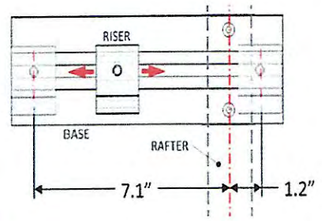
PLACE RISER
Position riser on correct mating rail surfaces of base for tile type. Rotate bolt to slide as necessary. Align position of riser with crown of tile course.
(Can be completed before base installation; S-Tile Configuration Shown; See Also: Riser Configuration)

INSERT TILE FLASHING:
Lift upslope and adjacent tile to insert tile flashing into tile course. Position replacement flashing over riser and insert into replacement flashing. Riser can be freely slid to position with mating flashing hole.

ATTACH L-FOOT:
Install sealing L-Foot, Washer and Locknut. Fasten the nut on to the base of the L-Foot to 10 ft-lbs torque.

ADJUSTMENT RANGE OF RISER RELATIVE TO RAFTER ATTACHMENT LOCATION
Base may be positioned with rafter attachment holes on either the left or right hand side.





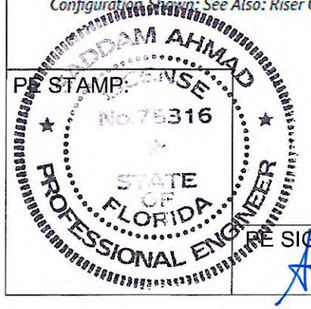
NOTE: Refer to SM D&E guide for design rules, load capacities and pressure tables.

FLAT
Set the Tiered Riser in a horizontal orientation and to its lowest height setting on the Base Plate to mount Flat Tile Replacements.

S-TILE
Set the Tiered Riser in a vertical orientation and to its bottom height setting on the Base Plate to mount Spanish Tile Replacements.

W-TILE
Set the Tiered Riser in a horizontal orientation and to its lowest height setting on the Base Plate to mount W-Tile Replacements.

PE STAMP:



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PE DATE: 12/7/22

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MIAMI-DADE CO. NOA
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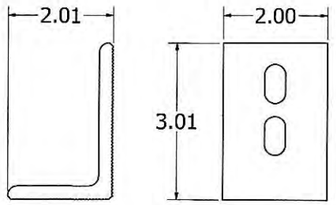
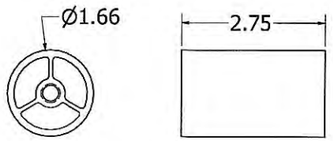
TITLE
TILE REPLACEMENT AND STANDOFF

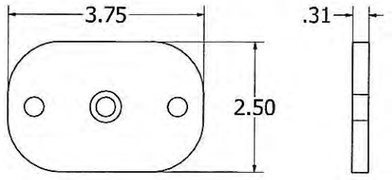
DWG NO.
M-D NOA



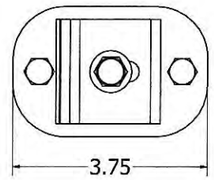
L-FOOT
ITEM# 3

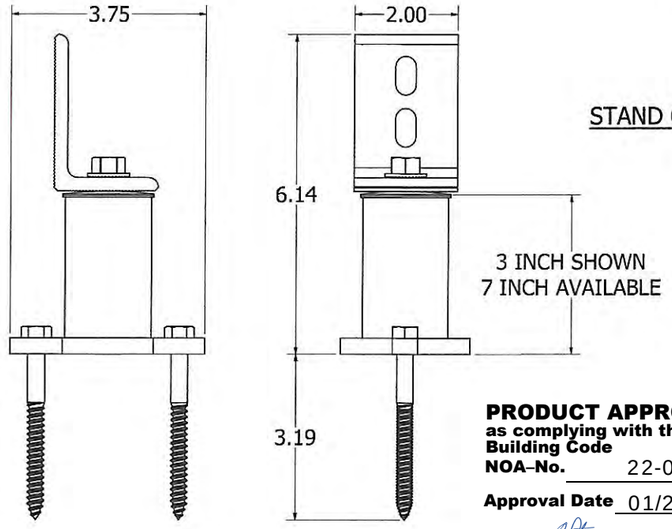


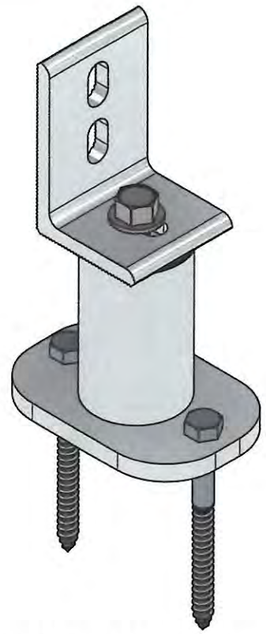
STANDOFF
ITEM# 2



BASE
ITEM# 1







STAND OFF ASSEMBLY WITH L-FOOT

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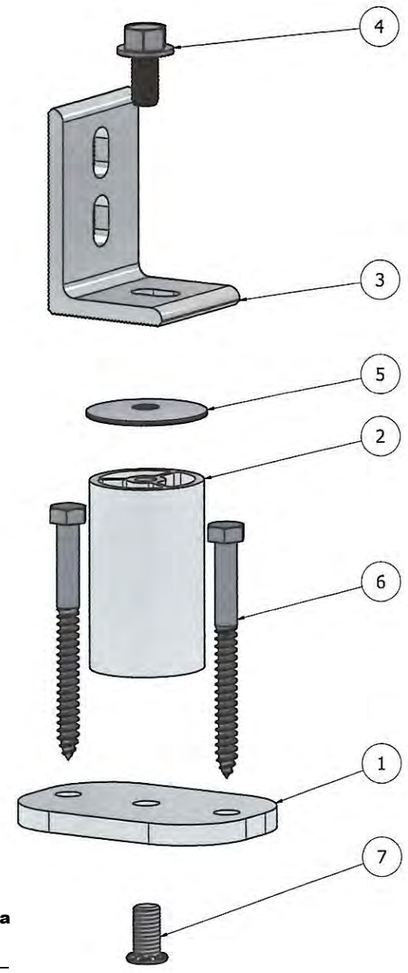

EXPLODED VIEW

ASSEMBLY NUMBER - NAME	ITEM#	DESCRIPTION	MATERIAL	MINIMUM YIELD (KSI)	MINUMUM ULTIMATE (KSI)
004300M, 004400M, 004600M, 004700M STAND OFF ASSEMBLY	1	BASE, 5/16 X 2-1/2 X 3 3/4 MILL	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	2	STANDOFF, HOLLOW, MILL	EXTRUDED ALUMINUM PER ASTM B221-08: 6005-T5, 6105-T5, 6005A-T61, 6351-T5, OR 6061-T6	35	38
	3	SERRATED L-FOOT	EXTRUDED ALUMINUM PER ASTM B221-08: 6005A-T61 OR 6061-T6	35	38
	4	3/8-16 X 3/4 SS HEX WA/BLT W/SE	18/8 STAINLESS STEEL ALTERNATIVE MATERIAL: 300 SERIES AUSTENITIC STAINLESS STEEL, CW	N/A	85
	5	3/8 X 1 3/4 OD EPDM WASHER SS	METAL MATERIAL: AUSTENITIC STAINLESS STEEL WASHER ALTERNATIVE METAL MATERIAL: 18/8 STAINLESS STEEL	N/A	N/A
	6	5/16 X 3 1/2" ZP LAG BOLT	ZINC PLATED STEEL	N/A	N/A
	7	3/8-16 X 3/4 PEM STUD	300 SERIES STAINLESS STEEL	N/A	75

PE STAMP:

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TITLE
TILE REPLACEMENT AND STANDOFF

DWG NO.
M-D NOA

WITHDRAWAL AND LATERAL LOADS FROM NDS

LOAD DURATION FACTOR *(CD)* = 1.6

WET SERVICE FACTOR *(CM)* = 1

TEMPERATURE FACTORS *(CT)* = 1.0

GROUP ACTION FACTOR *(CG)* = 1

GEOMETRY FACTOR *(CΔ)* = 1

END GRAIN FACTOR *(Ceg)* = 1

DIAPHRAGM FACTOR *(Cdi)* = 1

TOE-NAIL FACTOR *(Ctn)* = 1

WITHDRAWAL LOADS

WITHDRAWAL DESIGN VALUE *(W)* = 307 LBS. PER INCH (*FROM NDS TABLE 12.2A*)

WITHDRAWAL LOADS *W'* = 307 X 1 X 1.6 X 1 X 1 X 1 X 1 X 1.85 = 1,119.93 LBS.

LATERAL LOADS

LATERAL DESIGN VALUE *(Z)* = MINIMUM OF PARALLEL = 280 LBS. *(FROM NDS TABLE 12K)*

GROUP ACTION FACTOR *(CG)* = 0.97

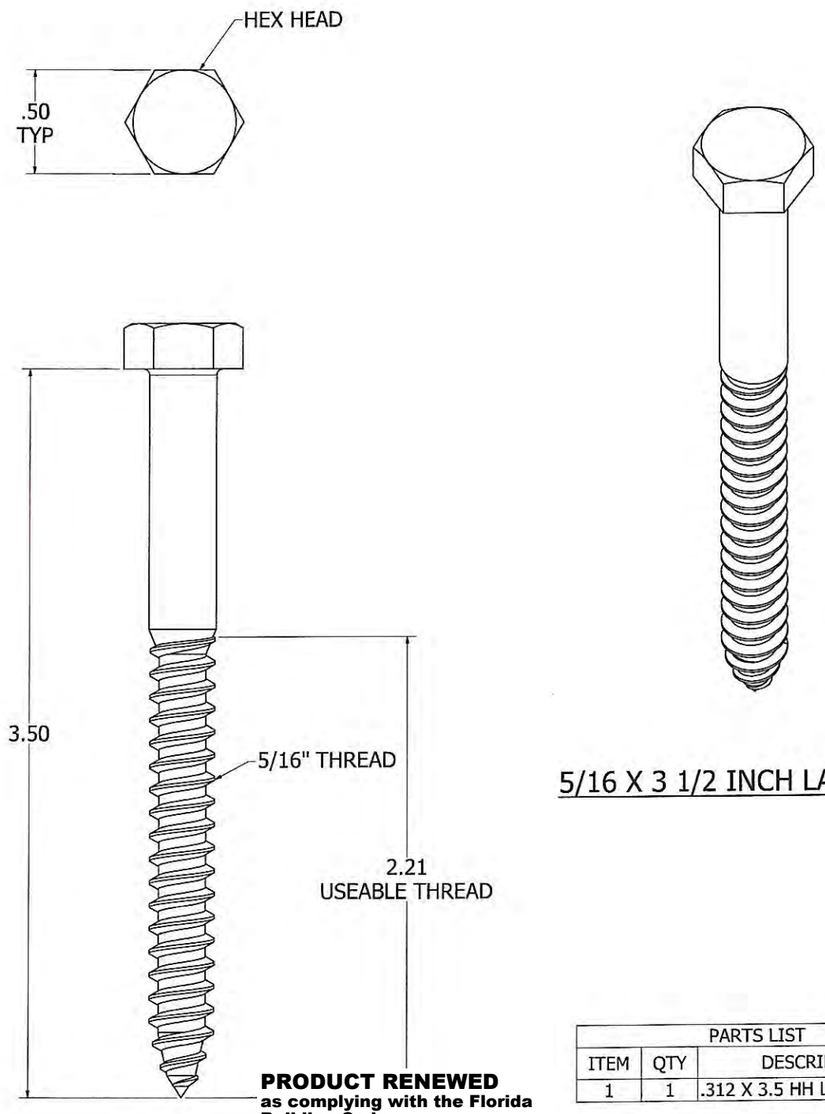
LATERAL LOADS *Z'* = 280 X 1.6 X 1 X 0.97 X 1 X 1 X 1 X 1.85/2.5 = 321.57 LBS.

LATERAL DESIGN VALUE *(Z)* = MINIMUM OF PERPENDICULAR = 190 LBS. *(FROM NDS TABLE 12K)*

GROUP ACTION FACTOR *(CG)* = 1

LATERAL LOADS *Z'* = 190 X 1.6 X 1 X 1 X 1 X 1 X 1 X 1.85/2.5 = 224.96 LBS.

ASSUMED G = 0.55 SOUTHERN PINE



5/16 X 3 1/2 INCH LAG SCREW

PARTS LIST		
ITEM	QTY	DESCRIPTION
1	1	.312 X 3.5 HH LAG BOLT, ZP

PE STAMP:

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By
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MIAMI-DADE COUNTY

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MIAMI-DADE CO. NOA
PROJECT ADDRESS

TITLE
TILE REPLACEMENT AND STANDOFF

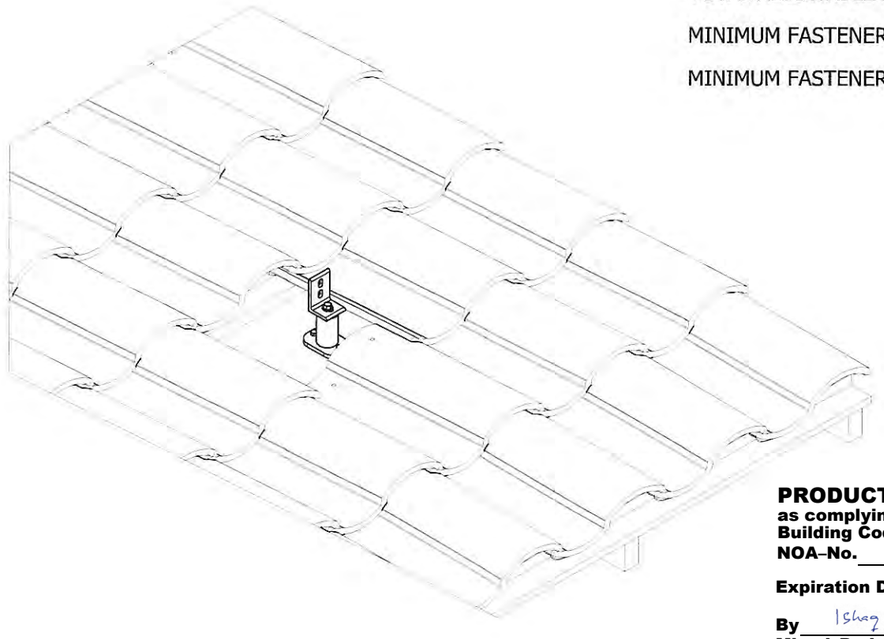
DWG NO.
M-D NOA

STRUCTURAL MEMBER SPECIFICATION:

MINIMUM WOOD GRADE = SPF #2
MINIMUM SPECIFIC GRAVITY = 0.42

TOTAL ALLOWABLE FASTENER UPLIFT = 799.33 lbs
TOTAL ALLOWABLE FASTENER LATERAL = 115.6 lbs

MINIMUM FASTENER EDGE DISTANCE = 0.75" IN RAFTER <2.5" WIDE
= 1.25" IN RAFTER >= 2.5 " WIDE
MINIMUM FASTENER END DISTANCE = 2.2"



TILE REPLACEMENT INSTALLATION
NOT TO SCALE

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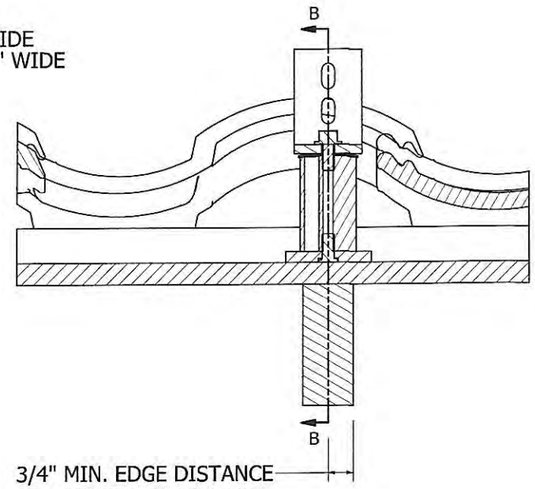
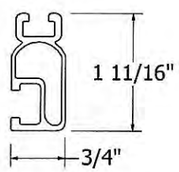
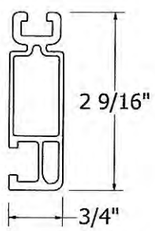


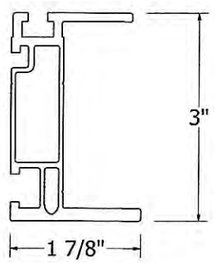
SECTION STAND OFF ATTACHMENT
NOT TO SCALE



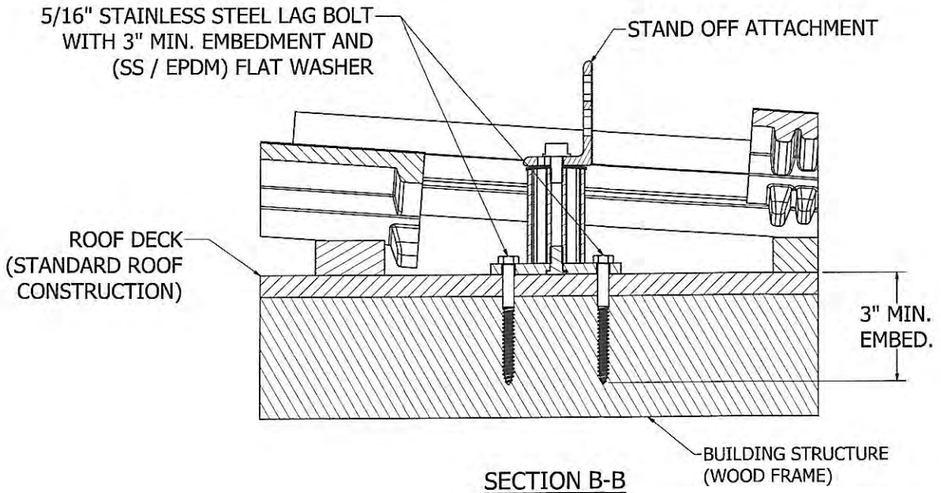
SOLARMOUNT LIGHT



SOLARMOUNT STANDARD



SOLARMOUNT HD



SECTION B-B
NOT TO SCALE

PE STAMP

SADDAM AHMAD LICENSE No.75316 STATE OF FLORIDA PROFESSIONAL ENGINEER

PE SIGNATURE:

PE DATE: 12/1/22

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FOR
MIAMI-DADE COUNTY

PROJECT
MIAMI-DADE CO. NOA
PROJECT ADDRESS

TITLE
TILE REPLACEMENT AND STANDOFF

DWG NO.
M-D NOA

Standoffs: 3-, 4-, 6-, and 7-inch lengths available

		Shaft O.D.	Use	Components
Flat top 2-piece aluminum		$1\frac{5}{8}$"	Use with SunFrame, SolarMount Standard, SolarMount Light, or SolarMount HD rails. Secure to rafter with 2 lag screws *(sold separately)*. Secure L-foot or installer-supplied strut directly to standoff with standoff hardware. ***Especially convenient when installing over a tile roof because flashing can be precisely fitted over secured base prior to installation of shaft.***	• Shaft • Base assembly • Bolt, $\frac{3}{8}$" x $\frac{3}{4}$" Flange Head • EPDM Washer • 2 Lags (5/16") *sold separately*

** The installer is solely responsible for determining whether lags are adequate to handle live and dead loads under wind conditions at the installation site. Wind loads and lag pullout capacities are addressed in Code-Compliant installation manual for SolarMount (Installation Manual 227) and SunFrame (Installation Manual 809).*

Flashings for all current standoffs ($1\frac{5}{8}$" O.D. shaft)(see illustrations, p. 3)

	Part no.*	Dimensions
Collared, aluminum	004015C	9" x 12"
Collared, soft aluminum	004013C	18" x 18"

**Packs of 12 flashings.*

Flashing refers to thin, continuous pieces of sheet metal or other impervious material installed to prevent the passage of water into a structure from an angle or joint.

Flashing generally operates on the principal that, for water to penetrate a joint, it must work itself upward against the force of gravity or in the case of wind-driven rain, it would have to follow a tortuous path during which the driving force will be dissi-pated.

Unirac offers flashings to be used specifically with Unirac standoffs. These flashings are collared, thereby eliminating the need for the use of sealant between standoff and flashing. The flashing slides over the standoff, under the shingle above, and over the shingle below.

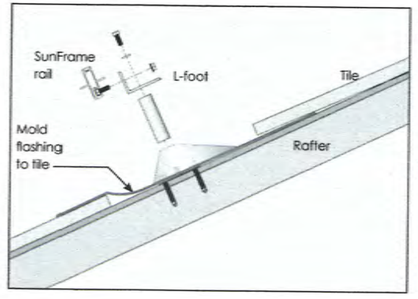
The following installation instruction provides an explanation of planning and installation of two different applications.

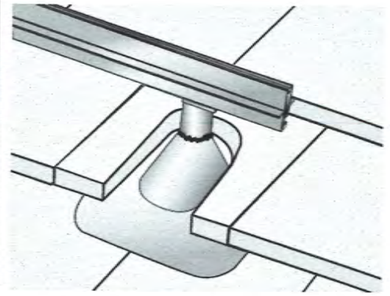
Planning and installation

There are many possible configurations of standoffs and flashing. The two examples here illustrate major product varieties and installation settings.

Example 1

2-piece, aluminum, flat top standoff
Soft aluminum flashing
Tile roof
SunFrame (shown) or SolarMount rail



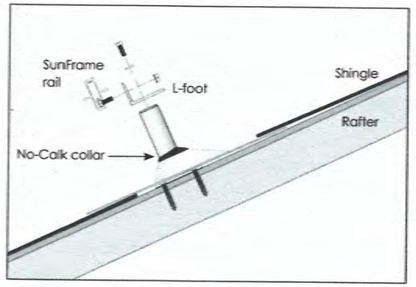


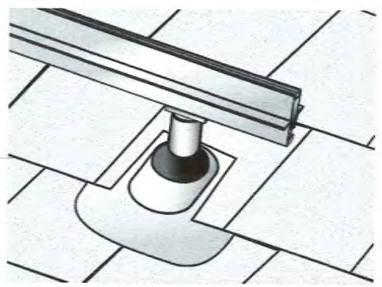
Remove a tile over a rafter. Install the base of a two-piece standoff, ensuring that both lag bolts are screwed into the rafter. Install soft aluminum flashing over the base, inserting it under the tile above and forming it to the shape of the tile. Insert standoff shaft through the opening in the flashing, screwing it down firmly in place onto the base. Seal with roofing cement or other appropriate compound.

Attach L-feet to standoffs. Slide L-foot mounting bolts along slot on SunFrame (or SolarMount) rail. Insert footing bolts through L-feet and fasten with flange nuts.

Example 2

2-piece, aluminum, flat top standoff
No-Calk™ flashing
Shingled roof
SunFrame (shown) or SolarMount rail





Cut an opening in the roofing material over a rafter to accommodate the flashing riser. Install the standoff, ensuring that both lag bolts are screwed into the rafter. Insert the flashing under the shingle above and over the shaft of the standoff. No-Calk collar does not require sealing of the flashing and standoff shaft.

Attach L-feet to standoffs. Slide L-foot mounting bolts along slot on SunFrame (or SolarMount) rail. Insert footing bolts through L-feet and fasten with flange nuts.

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PE SIGNATURE

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MIAMI-DADE CO. NOA

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DWG NO.

SHEET 11 OF 11