



LUDOWICI ROOF TILE, INC.
4757 Tile Plant Road
New Lexington, Ohio 43764
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CLAY ROOF TILES

CSI Section:

07 32 13 Clay Roof Tiles

1.0 RECOGNITION

The Ludowici clay roofing tiles recognized in this report have been evaluated for weather resistance, wind uplift resistance, and fire classification and found to comply with IBC Chapter 15 and IRC Chapter 9 for use as a component in a Class A, B, or C roof covering assembly. The following code editions are recognized:

- 2021, 2018, 2015, 2012, and 2009 International Building Code® (IBC)
- 2021, 2018, 2015, 2012, and 2009 International Residential Code® (IRC)
- 2022 California Building Code (CBC) - attached Supplement
- 2022 California Residential Code (CRC) - attached Supplement

2.0 LIMITATIONS

Use of the Ludowici clay roofing tiles recognized in this report is subject to the following limitations:

2.1 The roof tiles shall be manufactured, identified, and installed in accordance with this report, the applicable code, and the Roof Tile Installation Manual. In the event of a conflict, this report governs.

2.2 Ludowici’s clay roof tile shall be installed on minimum roof slopes as indicated in Table 2 of this report.

2.3 The supporting structure shall be designed to support the loads and is beyond the scope of this report.

2.4 Ludowici Clay Roof Tiles are manufactured in New Lexington, OH.

3.0 PRODUCT USE

3.1 General: Ludowici’s clay roof tiles recognized in this report are identified in Table 2 and Figures 1 through 10 of this report.

These tiles and their accessory trim pieces:

- satisfy the requirements of ASTM C1167
- provide a Class A Fire Classification when tested on combustible decks in accordance with ASTM E108

3.2 Installation:

3.2.1 Installation in Accordance with the 2015, 2012, or 2009 IBC or IRC, as applicable: Clay roof tiles shall be installed under the 2015, 2012, or 2009 IBC or IRC, as applicable, and the Concrete and Clay Roof Tile Installation Manual, dated July 2015, published by the Tile Roofing Institute. The TRI manual is available for download attached to ER-2015 from the UES website at www.uniform-es.org. Ludowici’s clay roof tiles may be anchored by fasteners complying with Section 1507.3.6 of the IBC or Section R905.3.6 of the IRC, as applicable. Tile shall be attached to the roof structure based on the applicable code as noted in Table 1 of this report:

TABLE 1
ATTACHMENT DESIGN

APPLICABLE CODE	CRITERIA FOR APPLICABILITY	DESIGN INFORMATION LOCATION
2015 or 2012 IBC	Ultimate Design Wind Speeds (V_{ult}) \leq 130 MPH and Mean Roof Height \leq 60 feet	Roof Tile Installation Manual & Table 1507.3.7 of the applicable IBC
2009 IBC	Basic Wind Speed (3-sec gust) \leq 100 mph and Mean Roof Height \leq 60 feet	
2015, 2012, or 2009 IRC	Mean Roof Height \leq 40 feet	Roof Tile Installation Manual & Section R905.3.7

3.2.2 Installation When Installed in Accordance with the Requirements of the 2021 or 2018 IBC or IRC: Clay Roof Tiles shall be installed in accordance with IBC Sections 1507.3.7 and 1609.5, or IRC Section R905.3, as applicable, and the Concrete and Clay Roof Tile Installation Manual, dated March 2024, published by the Tile Roofing Institute. The TRI manual is available for download attached to ER-2015 from the UES website at www.uniform-es.org.

3.3 Wind loads on clay tile roof coverings shall be in accordance with Section 1609.5 of the IBC. Wind resistance is addressed in Section 4 of this report.

4.0 PRODUCT DESCRIPTION

4.1 General: Ludowici’s clay roof tiles recognized in this report are identified in Table 2 and Figures 1 through 10 of this report.

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.





4.2 Fire Classification: Ludowici’s clay roof tiles, installed in accordance with this evaluation report, are Class A roof coverings when installed in accordance with Section 1505.2 of the IBC and Section R902.1 of the IRC, as applicable.

When installed with ASTM D226 Type II underlayment in accordance with this report, Section 1507.3.3 of the IBC or Section R905.3.3 of the IRC, as applicable, over nominal 0.5-inch-thick plywood deck, the medium profile French Tile and the high profile Straight Barrel Mission Tiles are Class A roof coverings.

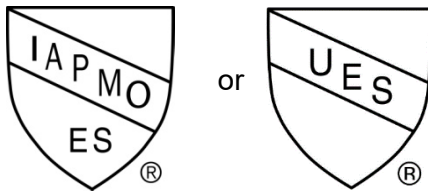
When installed with Polyglass’s Polyanchor® XFR, Polystick® XFR, Polystick® TU P, and Polystick® MTS Plus underlayment recognized in a current and valid evaluation report from a recognized agency, over a nominal 0.5-inch-thick plywood deck, the following roof tiles, from Table 2 of this report, are Class A roof coverings:

- **Shingle Tiles:** Antique, Brittany, Crude, Colonial, Provincial, Norman, Calais, Georgian
- **Interlocking Tiles:** Americana, Williamsburg, Classic, Lanai, LudoSlate, LudoShake
- **Spanish Tiles:** Spanish 13¼, Spanish 18¾
- **Mission Tiles:** Palm Beach Mission, Cubana
- **Bear Creek Series:** Century Shake, Lexington Slate

4.3 Reroofing Applications: Reroofing applications shall follow the requirements of the Concrete and Clay Roof Tile Installation Manual for Moderate Climate Regions. In addition, Section 1512 of the 2021 IBC, Section 1511 of the 2018 and 2015 IBC; Section 1510 of the 2012 and 2009 IBC; or Section R908 of the 2015 IRC; or Section R907 of the 2012 and 2009 IRC, as applicable, shall be met.

5.0 IDENTIFICATION

Shipping pallets are identified with the report holder’s name (Ludowici), manufacturing address, product name, installed weight, approved inspection agency, and evaluation report number (ER-452). Either IAPMO UES Mark of Conformity may also be used as shown below:



IAPMO UES ER-452

6.0 SUBSTANTIATING DATA

6.1 Data in accordance with ICC-ES AC180, dated February 2012 (editorially revised March 2018)

6.2 Data in accordance with SBCCI SSTD 11-97 Test Standard for Determining Wind Resistance of Concrete or Clay Roof Tiles

6.3 Manufacturer’s descriptive literature, and installation instructions.

6.4 Engineering Analysis of ASTM E108 Class A Complying Roof Systems

6.5 Test reports are from laboratories in compliance with ISO/IEC 17025.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on Ludowici clay roof tiles to assess their conformance to the codes and standards shown in Section 1.0 of this report and documents the product’s certification. Products are manufactured at locations noted in Section 2.5 of this report under a quality control program with periodic inspections under the surveillance of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



**TABLE 2
LUDOWICI CLAY TILES**

TILE PROFILE CATEGORY AND NAME	SEE FIGURE NO.	INSTALLED DRY WEIGHT ¹ (psf)	DIMENSIONS (inch)			HEADLAP (inch)	TILE TYPE ⁵ (ASTM C1167)
			LENGTH	WIDTH	THICKNESS		
Rustic Shingle Tiles							
- Antique	5	16.5	12	7	1/2	7 ³	Type III-Flat
- Brittany	5	19	12	7	5/8	7 ³	Type III-Flat
- Crude	5	19.35	12	6	5/8	7 ³	Type III-Flat
- Colonial	5	18	14-5/8	7-3/8	5/8	8-5/16 ³	Type III-Flat
Formal Shingle Tiles							
- Provincial	5	15.75	15	7	1/2	8-1/2 ³	Type III-Flat
- Norman	5	16	15	7	1/2	8-1/2 ³	Type III-Flat
- Calais	5	16	15	7	1/2	8-1/2 ³	Type III-Flat
- Georgian	5	16	15	8	1/2	8-1/2 ³	Type III-Flat
Interlocking Tiles							
- Americana 14"	2	8	14	9	3/4	3 ²	Type III-Flat
- Americana 16"	1	7.2	16	10-3/4	3/4	3 ²	Type III-Flat
- Williamsburg 14"	2	8	14	9	3/4	3 ²	Type III-Flat
- Williamsburg 16"	1	7.25	16	10-3/4	3/4	3 ²	Type III-Flat
- Classic 14"	2	8	14	9	3/4	3 ²	Type III-Flat
- Classic 16"	1	7.2	16	10-3/4	3/4	3 ²	Type III-Flat
- Lanai 14"	2	8	14	9	3/4	3 ²	Type III-Flat
- Lanai 16"	1	7.3	16	10-3/4	3/4	3 ²	Type III-Flat
- LudoSlate	1	6	16	10-3/4	3/4	3 ²	Type III-Flat
- LudoShake	1	6	16	10-3/4	3/4	3 ²	Type III-Flat
- French Tile ⁶	6	10.25	16-1/4	9	3/8	2-7/8 ²	Type II-Medium
- Century Shake	3	6.8	14-1/2	10-1/2, 7-3/16, 5-1/2	3/4	3 ²	Type III-Flat
- Lexington Slate	4	7.85	10-1/2	14-3/4, 11-3/8, 7-5/8	3/4	3 ²	Type III-Flat
Spanish Tile							
- Spanish 13 ¹ / ₄	7	9	13-1/4	9-3/4	1/2	3 ⁴	Type I-High Profile
- Spanish 18 ³ / ₈	7	8	18-3/8	9-3/4	1/2	3 ⁴	Type I-High Profile
Mission Tile							
- Straight Barrel Mission 18 ³ / ₈	8	11.65	18-3/8	8	1/2	3 ³	Type I-High Profile
- Straight Barrel Mission 16	8	11.9	16	8	1/2	3 ³	Type I-High Profile
- Straight Barrel Mission 14 ¹ / ₄	8	12.5	14-1/4	8	1/2	3 ³	Type I-High Profile
- Palm Beach Mission	10	11	18-3/8	8	1/2	3 ³	Type I-High Profile
- Cubana	9	12	18-3/8	8-1/8	1/2	3 ³	Type I-High Profile

For SI: 1 inch = 25.4 mm, 1 psf = 4.882 kg/m²

¹Approximate weight for an installation with the minimum slope and headlap indicated.

²Minimum slope of 3:12 (25%)

³Minimum slope of 5:12 (42%)

⁴Minimum Slope of 4:12 (33%)

⁵Tiles are Grade 1 - Providing resistance to severe frost action, in accordance with ASTM C1167.

⁶Tiles shall be installed over solid sheathing as defined by the IBC or IRC, as applicable, and shall be installed with a minimum of one fasteners that meet the requirements of IBC Table 1507.3.7 or IRC Section R905.3.7.

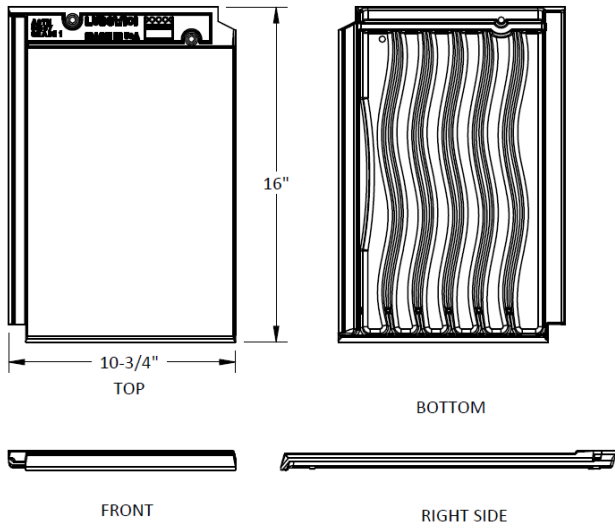


FIGURE 1 - INTERLOCKING TILE 16" MORANDO SERIES
LudoSlate, LudoShake, Americana 16",
Classic 16", Lanai 16", Williamsburg 16"

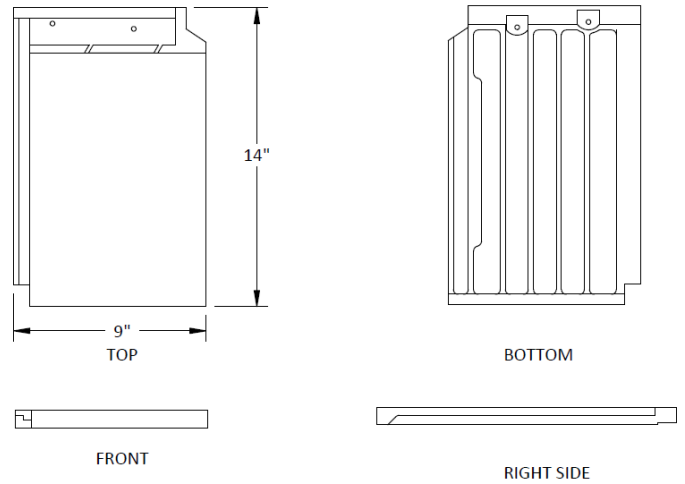


FIGURE 2 - INTERLOCKING TILE 14" MORANDO SERIES
Americana 14", Classic 14", Lanai 14", Williamsburg 14"

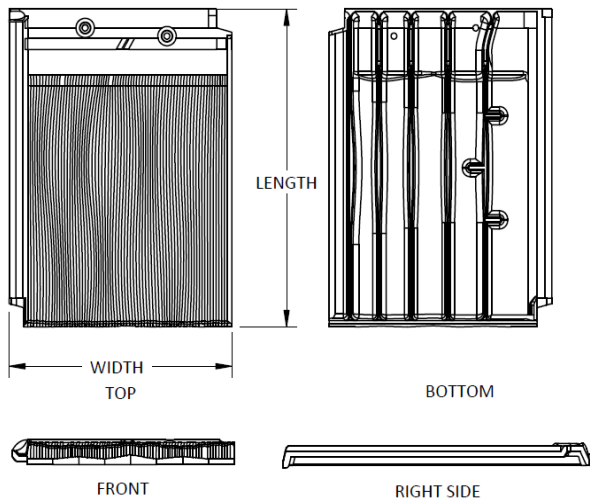


FIGURE 3 - INTERLOCKING TILE BEAR CREEK SERIES
Century Shake

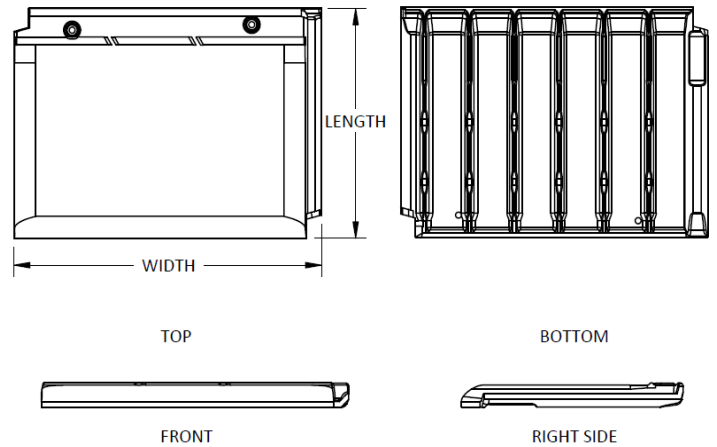


FIGURE 4 - INTERLOCKING TILE BEAR CREEK SERIES
Lexington Slate

For SI: 1 inch = 25.4 mm

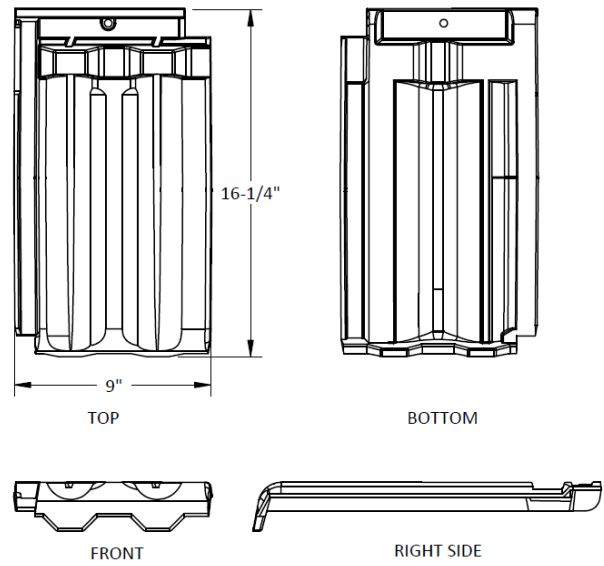
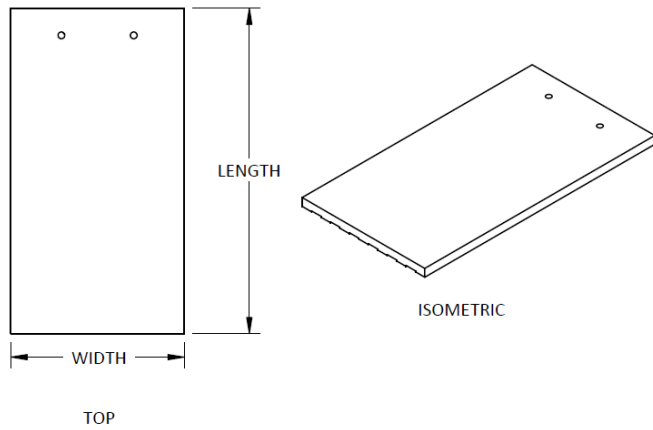


FIGURE 5 - SHINGLE TILES
 Antique, Brittany, Calais, Colonial, Crude, Georgian, Norman, Provincial

FIGURE 6 - MEDIUM PROFILE TILE
 French

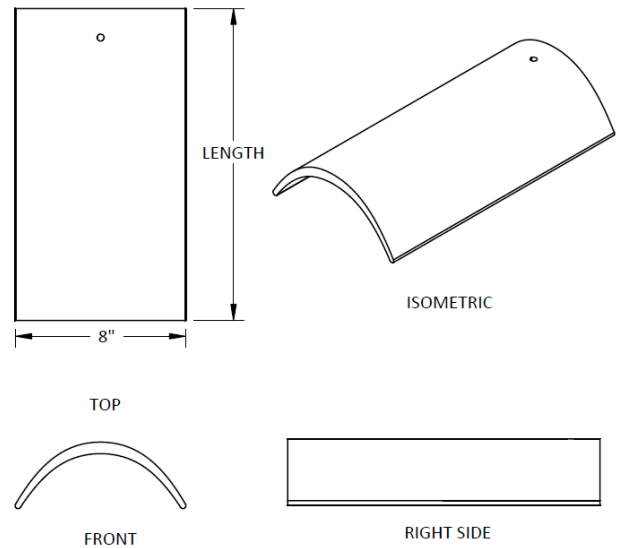
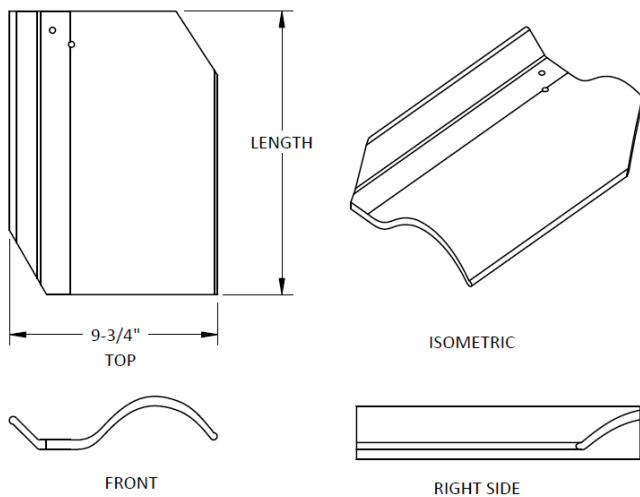


FIGURE 7 - ONE PIECE HIGH PROFILE BARREL
 13-1/4" Spanish, 18-3/8" Spanish

FIGURE 8 - TWO PIECE HIGH PROFILE BARREL
 14-1/4" Straight Barrel Mission,
 16" Straight Barrel Mission, 18-3/8" Straight Barrel Mission

For SI: 1 inch = 25.4 mm

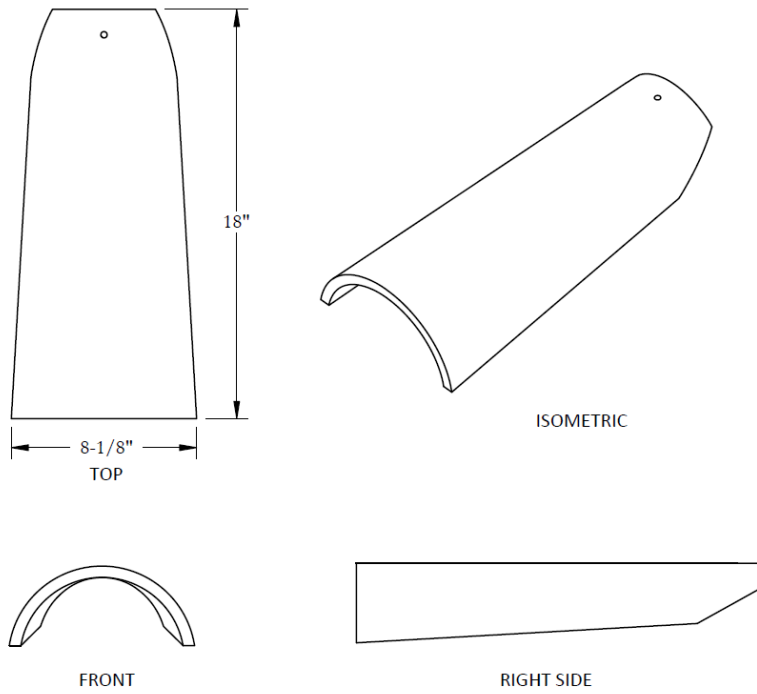


FIGURE 9 - TWO PIECE HIGH PROFILE BARREL
Cubana

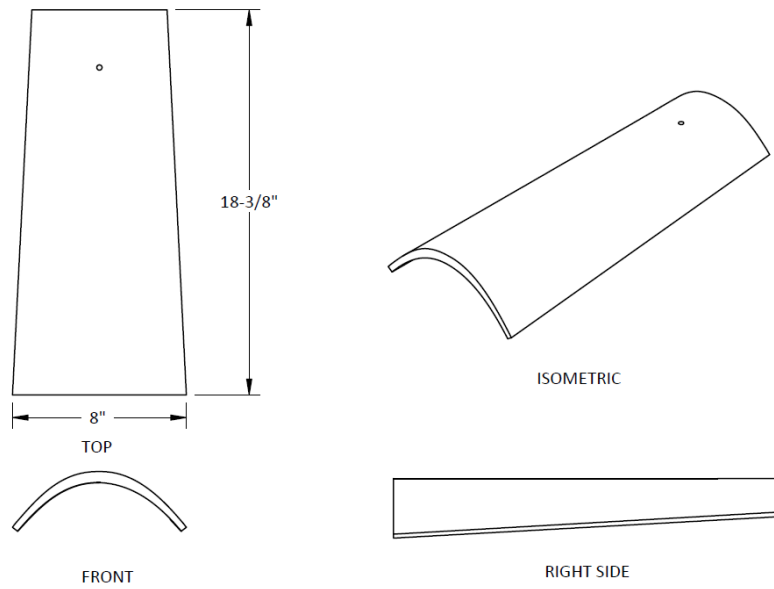


FIGURE 10 - TWO PIECE HIGH PROFILE BARREL
18-3/8" Palm Beach

For SI: 1 inch = 25.4 mm

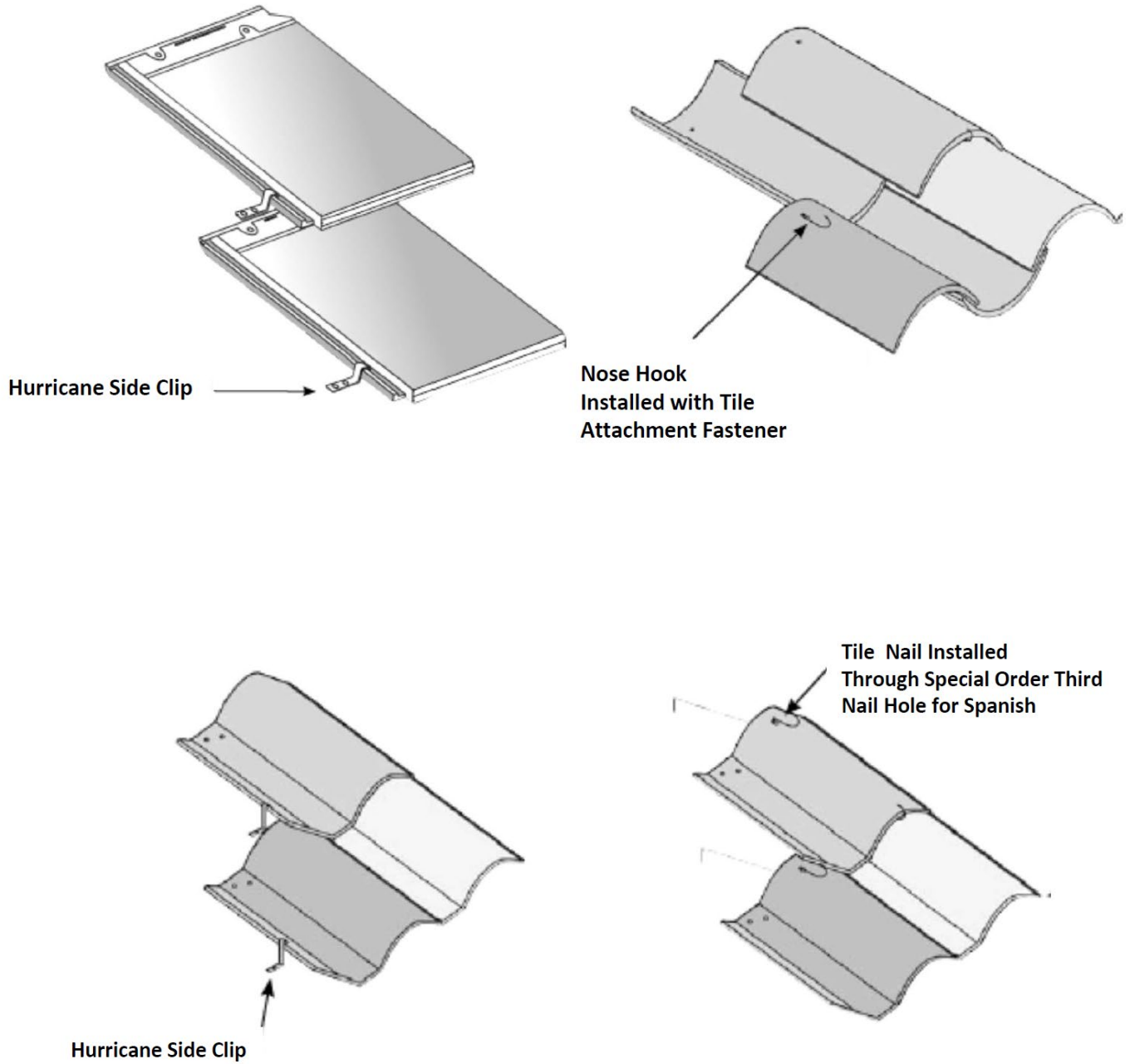


FIGURE 11 – HURRICANE CLIPS



CALIFORNIA SUPPLEMENT

LUDOWICI ROOF TILE, INC.

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CLAY ROOF TILES

CSI Section:

07 32 13 Clay Roof Tiles

1.0 RECOGNITION

The Ludowici clay roof tiles, as evaluated and represented in IAPMO UES Evaluation Report ER-452 and with changes as noted in this supplement, are a satisfactory alternative for use in buildings built under the following codes (and regulations):

- 2022 California Building Code (CBC) – see attached Supplement
- 2022 California Residential Code (CRC) – see attached Supplement

2.0 LIMITATIONS

Use of the Clay Roof Tiles recognized in this report supplement is subject to the following limitations:

2.1 The Ludowici Clay Roof Tiles described in IAPMO UES ER-452 shall comply with the 2021 IBC or IRC for use under the 2022 CBC or 2022 CRC. The design and installation of the Ludowici Clay Roof Tiles shall be in accordance with Section 1507.3.10 of the CBC, and Section 1513 of the CBC or Section R905.3 of the CRC, as applicable, and ER-452.

2.2 Roof Tiles shall be installed in accordance with Sections 3 and 4 of ER-452 except, where the jurisdiction requires conformance to the CBC or CRC, the following shall apply:

2.2.1 Underlayment shall conform with CBC Section 1507.1.1 or CRC Section 905.1.1.

2.2.2 Attachment of the clay roof tiles shall be designed to resist wind loads according to CBC Sections 1507.3.7 and 1609.5 or CRC Section 905.3, as applicable.

Ludowici Clay Roof Tiles, when installed in accordance with Section 4 of ER-452 of this report, may be used as a Class A roof assembly complying with Section 1505.2 of the CBC or Section R902.1.1 of the CRC, or as a Class B roof covering complying with Section 1505.1.2 of the CBC or Section R902.1.2 of the CRC, or as a Class C roof covering complying with Section 1505.1.3 of the CBC or Section R902.1.3 of the CRC, as applicable.

Ludowici Clay Roof Tiles may be used in the construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or a Wildland-Urban Interface Fire Area, provided installation is also in accordance with the IBC as presented in ER-452 and the requirements of Sections 701A.3, 705A, 1505.1.1, 1505.1.2, and 1505.1.3 of the CBC or Sections 337.1.3.1 and 337.5 of the CRC, as applicable.

2.3 This supplement expires concurrently with ER-452.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org