Product Approval
USER: Public User

FL #	FL7849-R13
Application Type	Revision
Code Version	2020
Application Status	Approved
	*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.
Comments	
Archived	☐
Product Manufacturer	Boral Roofing
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Authorized Signature	Anderson Robin RobinAnderson@boral.com
Technical Representative	Robin Anderson
Address/Phone/Email	10701 So. River Front Parkway Suite 300 So. Jordan, UT 84095 (801) 380-6091 robinanderson@boral.com
Quality Assurance Representative	Robin Anderson
Address/Phone/Email	7575 Irvine Center Dr. #100 Irvine, CA 92618 (801) 380-6091 robinanderson@boral.com
Category	Roofing
Subcategory	Roofing Tiles
Compliance Method	Evaluation Report from a Product Evaluation Entity
Evaluation Entity	IAPMO Uniform Evaluation Services LLC.
Quality Assurance Entity	QAI Laboratories
Quality Assurance Contract Expiration Date	12/31/2025
Validated By	Gary W. Walker
	☑ Validation Checklist - Hardcopy Received
Certificate of Independence	FL7849_R13_COI_IAPMO Uniform ES - Certificate of Independence.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM C1492	2009
ASTM E108	2016

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method	Method 1 Option C
Date Submitted	11/09/2020
Date Validated	11/10/2020
Date Pending FBC Approval	
Date Approved	11/18/2020

Summary of Products

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FL #	Model, Number or Name	Description
7849.21	Saxony 900	Flat Profile - Okeechobee, FL
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installation.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: IAPMO Uniform Evaluation Services LLC. Created by Independent Third Party: **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.22	Saxony 900 - Hartford Slate, Shake, Slate, Country Slate & Split Old English Thatch	Flat Profile - Stockton, CA
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installtion.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: Gary W. Walker 40455 Created by Independent Third Party: Yes **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.23	Saxony 900 - Shake & Slate	Flat Profile - Lathrop, CA
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installtion.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: Gary W. Walker 40455 Created by Independent Third Party: Yes **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.24	Saxony 900 - Shake, Slate & Country Slate	Flat Profile - Henderson, NV
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installtion.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: Gary W. Walker 40455 Created by Independent Third Party: Yes **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.25	Saxony 900 - Shake, Slate, Split Shake & Country Slate	Flat Profile - Lake Wales, FL
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installtion.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: Gary W. Walker 40455 Created by Independent Third Party: Yes **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.26	Saxony 900 - Slate, Shake & Country Shake	Flat Profile - Rialto, CA
Limits of Use		**Installation Instructions**

Approved for use in HVHZ: No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		FL7849_R13_II_EBS-Installtion.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: Gary W. Walker 40455 Created by Independent Third Party: Yes **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.27	Tejas Espana / Barcelona	High Profile - Katy, TX
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installation.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: IAPMO Uniform Evaluation Services LLC. Created by Independent Third Party: **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.28	Villa	Low Profile - Katy, TX
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installation.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: IAPMO Uniform Evaluation Services LLC. Created by Independent Third Party: **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.29	Villa	Low Profile - Phoenix, AZ
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installation.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: IAPMO Uniform Evaluation Services LLC. Created by Independent Third Party: **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.30	Villa 600 & 900	Low Profile - Rialto, CA
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installtion.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: Gary W. Walker 40455 Created by Independent Third Party: Yes **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.31	Villa 600 & 900	Low Profile - Stockton, CA
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installtion.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: Gary W. Walker 40455 Created by Independent Third Party: Yes **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.32	Villa 900	Low Profile - Lake Wales, FL
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installtion.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: Gary W. Walker 40455 Created by Independent Third Party: Yes **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.33	Villa 900	Low Profile - Stockton, CA
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installation.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports**

		FL7849_R13_AE_UES ER-412.pdf
7849.34	Villa 900	Low Profile - Denver, CO
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installation.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: IAPMO Uniform Evaluation Services LLC. Created by Independent Third Party: **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf
7849.35	Villa Impact	Low Profile - Denver, CO
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL7849_R13_II_EBS-Installation.pdf FL7849_R13_II_Florida High Wind Tile Installation Manual - 6th Edition.pdf Verified By: IAPMO Uniform Evaluation Services LLC. Created by Independent Third Party: **Evaluation Reports** FL7849_R13_AE_UES ER-412.pdf

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Product Approval Accepts:

Credit Card Safe securityMETRICS

Boral **Roofing**
Build something great™

Elevated Batten System®

INSTALLATION GUIDE

The following guidelines are provided to insure proper installation of Elevated Batten System®, however check local building code for additional or different fastening requirements

BATTEN INSTALLATION

- Battens are to be fastened through the batten and through the plastic pads. Locations of pads are marked with a target on top of the batten for ease of installation. Pads are located 12” on center to allow 12” or 24” on center as required per code and roof design.
- Battens are to be fastened to the deck with corrosion-resistant fasteners. Batten fasteners are to be 8d nails, #8 - 2-inch wood screws at 24-inch on centers, or 2-inch long 16 gauge staples with 7/16- inch crown at 12-inch on centers. Batten fasteners are to either penetrate 3/4-inch into the roof deck or framing or through the roof deck whichever is less.
- EBS compatible eave risers should be used to insure proper elevation of eave tiles.

TILE INSTALLATION

Basic wind speed less than 100 mph and with a mean roof height of 40 feet or less.

- Fasten tiles to the battens only. Tile fasteners must completely penetrate the batten, but not penetrate the underlayment, deck or framing using the following recommended fastener lengths:

TILE PROFILE	RECOMMENDED FASTENER LENGTH
Flat Profiles	1 3/4”
High Profiles	1 3/4” at pan 3” at crown
Medium Profiles	2 1/2” at center hole 3” at side holes

Basic wind speed 100 mph or greater or mean roof height greater than 40 feet.

- Roof tiles must be attached in accordance with the “Design Considerations for High Wind Application” in the Tile Roofing Institute (TRI) Concrete and Clay Roof Tile – Installation Manual for Moderate Climate Regions or the Florida Roofing and Sheet Metal ssociation (FRSA)/TRI Concrete and Clay Roof Tile Installation Manual.
- Tile fasteners are to either penetrate 3/4-inch into the roof deck or framing or through the roof deck,whichever is less.

EBS USAGE RECOMMENDATIONS

Cedarlite & Madera

- 120 linear feet when courses are 9.25 to 10 inches (Each bundle equals 0.8 squares).
- 130 linear feet when courses are less than 9.25 inches (Each bundle equals .738 squares).

All other tiles

- 80 linear feet when courses are 13.3 to 14 inches (Each bundle equals 1.2 squares).
- 90 linear feet when courses are 12.1 to 13.3 inches (Each bundle equals 1.016 squares).

Usage may vary depending on tile course layout and adjustments for roof size.

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EVALUATION REPORT Number: 412

Originally Issued: 07/31/2015 Revised: 08/21/2020 Valid Through: 07/31/2021

BORAL ROOFING
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CONCRETE ROOF TILES

CSI Section:
07 32 16 Concrete Roof Tiles

1.0 RECOGNITION

Boral Roofing Concrete Roof Tiles recognized in this report have been evaluated for use as concrete roof tiles. The weather resistance, wind uplift resistance and fire classification properties of the roof tiles comply with the intent of the provisions of the following codes and regulations:

- 2018, 2015, 2012, 2009, and 2006 International Building Code® (IBC)
- 2018, 2015, 2012, 2009, and 2006 International Residential Code® (IRC)
- 2019 California Building Code (CBC) –Supplement attached
- 2019 California Residential Code (CRC) – Supplement attached
- 2020 Florida Building Code, Building (FBC, Building) – Supplement attached
- 2020 Florida Building Code, Residential (FBC, Residential) – Supplement attached

2.0 LIMITATIONS

Use of the Boral Roofing Concrete Roof 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 and the applicable code. In the event of a conflict this report governs.

2.2 Boral Roofing "concrete roof tile shall be installed on roof slopes of 2½ units vertical in 12 units horizontal (21-percent slope) or greater." IBC Section 1507.3.2.

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

2.4 The Concrete Roof Tiles recognized in this report are produced in Lake Wales, FL; Brookshire, TX; Phoenix, AZ; Henderson, NV; Okeechobee, FL, Rialto, CA; French Camp, CA; Henderson, CO and Lathrop, CA; Tables 2 A through 2 I describe the tiles produced at each location.

3.0 PRODUCT USE

3.1 General: Boral Roofing Concrete Roof Tiles shall be used as a roof covering in accordance with IBC Section 1503 or IRC Section 903, as applicable.

3.2 Installation:

3.2.1 Installation when installed in accordance with the requirements of the 2018 IBC or IRC: Boral Concrete Roof Tile shall be installed in accordance with 2018 IBC Section 1507.3 or 2018 IRC Section R905.3, including the attachment requirements of 2018 IBC Section 1507.3.7 or 2018 IRC Section R905.3.7, as applicable. Underlayment shall conform to 2018 IBC Section 1507.1.1 or 2018 IRC Section R905.1.1

3.2.2 Installation when the 2015, 2012, 2009 or 2006 IBC or IRC is applicable: Boral Concrete Roof Tile shall be fastened in accordance with The Concrete and Clay Roof Tile Installation Manual for Moderate Climate Regions, dated July 2015, published by the Tile Roofing Institute and the Western States Roofing Contractors Association, and this report.. The TRI manual is available for download attached to ER-2015 from the UES website at www.uniform-es.org. The Concrete Roof Tile shall be attached to the roof structure based on the applicable code and criteria for applicability 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}) ≤ 130 MPH and Mean Roof Height ≤ 60 feet	Roof Tile Installation Manual & Table 1507.3.7 of the applicable IBC
2009 or 2006 IBC	Basic Wind Speed (3 sec gust) ≤ 100 mph and Mean Roof Height ≤ 60 feet	
2015, 2012, 2009 or 2006 IRC	Mean Roof Height ≤ 40 feet	Roof Tile Installation Manual & Section R905.3.7

For **SI:** 1 foot = 305 mm, 1 mph = 1.6 m/s

3.4 Anchoring: Boral Concrete Roof tile may be anchored by mortar in accordance with the applicable building code and, where permitted, the TRI Manual or adhesively attached in accordance with the adhesive manufacturer's research report issued by an approved evaluation service agency.

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.

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4.0 PRODUCT DESCRIPTION

Boral Roofing Concrete Roof Tiles comply with ASTM C1492 as required by Section 1507.3.5 of the IBC. The roof tiles are described by model, weight, dimensions, and tile factor in Tables 2 A through 2 I, for each of the production locations listed in Section 2.4 of this report. When installed in accordance with this report on minimum 15/32 inch thick (12 mm) plywood solid sheathing or non-combustible decks, the assembly incorporating the roof tiles achieve an ASTM E108 Class A rating per Section 1505.2 of the IBC and Section R902.1 of the IRC, as applicable. Roof classifications for adhesively attached systems shall be in accordance with the adhesive manufacturer's approved research report.

5.0 IDENTIFICATION

Shipping pallets are identified with the report holder's name (Boral Roofing), manufacturing address, product name, installed weight, inspection agency, and evaluation report number (ER-412). The Cedarlite 600, Madera 700 and Madera 900 tiles are imprinted on the top side of each tile with an "M", all other filed tiles are imprinted with the name "Boral", "Boral Lifetile", "Monierlifetile", or the Boral Roofing, or MonierLifetile or "Vostile" or logo. The identification includes the IAPMO Uniform Evaluation Service Mark of Conformity. Either Mark of Conformity may be used as shown below:

or

IAPMO UES ER-412

6.0 SUBSTANTIATING DATA

Data in accordance with ICC-ES AC180, dated February 2012 (editorially revised March 2018), manufacturer's descriptive literature and installation instructions. Test reports are from laboratories in compliance with ISO/IEC 17025.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research carried out by IAPMO Uniform Evaluation Service on Boral Roofing Concrete Roof Tiles to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. Products are manufactured at locations noted in Section 2.4 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

Brian Gerber, P.E., S.E.
Vice President, Technical Operations
Uniform Evaluation Service

Richard Beck, PE, CBO, MCP
Vice President, Uniform Evaluation Service

GP Russ Chaney
CEO, The IAPMO Group

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

Table 2 A - Tiles Manufactured at Denver (Henderson), CO

Tile	Installed Dry Weight[1] (psf)	Dimemsions[2] (inch)	Tile Factor	
		Length X Width	TF (ft^3)	Ratio [1]
Saxony – Shake, Slate, Country Slate Split Old English Thatch	9.6	17 X 13	1.568	1.115
Saxony – Impact	10.5	17 X 13	1.568	1.115
Villa 900	9.0	17 X 13	1.503	1.068
Villa– Impact	10.1	17 X 13	1.503	1.068

For **SI:** 1 inch = 25.4 mm, 1 psf = 4.88 kg/m^2

Table 2 B - Tiles Manufactured at Henderson, NV

Tile	Installed Dry Weight[1] (psf)	Dimemsions[2] (inch)	Tile Factor	
		Length X Width	TF (ft^3)	Ratio [1]
España / Barcelona	9.0	17 X $12^3/_8$	1.470	1.045
Saxony 900 – Shake, Slate, Country Slate	9.1	17 X 13	1.533	1.090

For **SI:** 1 inch = 25.4 mm, 1 psf = 4.88 kg/m^2

Table 2 C - Tiles Manufactured at Katy (Brookshire), TX

Tile	Installed Dry Weight[1] (psf)	Dimemsions[2] (inch)	Tile Factor	
		Length X Width	TF (ft^3)	Ratio [1]
Barcelona – Impact	10.3	16½ X 13	1.444	1.027
Saxony – Country Shake, Country Slate, Country Split Shake, English Thatch	10.3	16½ X 13	1.392	0.989
Saxony – Impact	10.5	16½ X 13	1.392	0.989
Saxony – Shake, Slate	10.3	16½ X 13	1.392	0.989
Tejas España / Barcelona	9.0	16½ X 13	1.407	1.000
Villa	9.0	16½ X 13	1.407	1.000

For **SI:** 1 inch = 25.4 mm, 1 psf = 4.88 kg/m^2

NOTES TO TABLES:
1. Used on a 3-inch head-lap.
2. Nominal dimension.

Table 2 D - Tiles Manufactured at Lake Wales, FL

Tile	Installed Dry Weight[1] (psf)	Dimemsions[2] (inch)	Tile Factor	
		Length X Width	TF (ft^3)	Ratio [1]
Barcelona 900	9.5	17 X 13	1.525	1.084
Saxony 900 – Shake, Slate, Split Shake, Country Slate	9.5	17 X 13	1.545	1.098
Spanish "S" Nuevo	9.9	17 X 9¾	1.144	0.813
Villa 900	9.2	17 X 13	1.533	1.090

For **SI:** 1 inch = 25.4 mm, 1 psf = 4.88 kg/m^2

Table 2 E - Tiles Manufactured at Lathrop, CA

Tile	Installed Dry Weight[1] (psf)	Dimemsions[2] (inch)	Tile Factor	
		Length X Width	TF (ft^3)	Ratio [1]
Barcelona 900	9.3	17 X 13	1.509	1.073
Saxony 900 – Shake, Slate	9.1	17 X 13	1.533	1.090

For **SI:** 1 inch = 25.4 mm, 1 psf = 4.88 kg/m^2

Table 2 F - Tiles Manufactured at Phoenix, AZ

Tile	Installed Dry Weight[1] (psf)	Dimemsions[2] (inch)	Tile Factor	
		Length X Width	TF (ft^3)	Ratio [1]
Mission S / Barcelona	10.3	16½ X 13	1.494	1.062
Saxony – Shake, Slate	9.5	16½ X 13	1.494	1.062
Villa	9.0	16½ X 13	1.407	1.000

For **SI:** 1 inch = 25.4 mm, 1 psf = 4.88 kg/m^2

Table 2 G - Tiles Manufactured at Okeechobee, FL

Tile	Installed Dry Weight[1] (psf)	Dimemsions[2] (inch)	Tile Factor	
		Length X Width	TF (ft^3)	Ratio [1]
Bermuda	12.44	16⅛ X 10⅛	1.036	0.736
Estate "S"	7.9	16½ X 13	1.417	1.007
Galena Spanish "S"	9.3	17 X 10	1.144	0.831
Plantation	10.4	16½ X 13	1.426	1.014
Saxony 900	9.3	17 X 13	1.533	1.090

For **SI:** 1 inch = 25.4 mm, 1 psf = 4.88 kg/m^2

NOTES TO TABLES:
1. Used on a 3-inch head-lap.
2. Nominal dimension.

Table 2 H - Tiles Manufactured at Rialto, CA

Tile	Installed Dry Weight[1] (psf)	Dimemsions[2] (inch)	Tile Factor	
		Length X Width	TF (ft^3)	Ratio [1]
España / Barcelona	9.0	17 X 12 3/8	1.454	1.033
España 600 / Barcelona 600	5.9	17 X 12 3/8	1.454	1.033
Saxony 600 - Slate, Shake, Split Shake	5.9	17 X 13	1.533	1.090
Saxony 700 – Slate, Shake, Split Shake	7.1	17 X 13	1.533	1.090
Saxony 900 - Slate, Shake, Country Shake	9.3	17 X 13	1.533	1.090
Villa 600	5.8	17 X 13	1.494	1.061
Villa 900	9.0	17 X 13	1.494	1.061

For **SI:** 1 inch = 25.4 mm, 1 psf = 4.88 kg/m^2

Table 2 I - Tiles Manufactured at Stockton (French Camp), CA

Tile	Installed Dry Weight[1] (psf)	Dimemsions[2] (inch)	Tile Factor	
		Length X Width	TF (ft^3)	Ratio [1]
Cedarlite 600	5.9	13½ X 13	0.942	0.673
Madera 700	7.2	13½ X 13	0.947	0.673
Madera 900	9.5	13½ X 13	0.947	0.673
Saxony 600 – Slate, Shake, Split Shake	5.7	17 X 13	1.525	1.084
Saxony 700 – Slate, Shake, Split Shake	7.2	17 X 13	1.525	1.084
Saxony 900 – Hartford Slate, Shake, Slate, Country Slate	9.1	17 X 13	1.533	1.090
Saxony 900 – Split Old English Thatch	9.8	17 X 13	1.525	1.084
Villa 600	6.0	17 X 13	1.494	1.115
Villa 900	9.3	17 X 13	1.494	1.115

For **SI:** 1 inch = 25.4 mm, 1 psf = 4.88 kg/m^2

NOTES TO TABLES:
1. Used on a 3-inch head-lap.
2. Nominal dimension.

CALIFORNIA SUPPLEMENT

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CONCRETE ROOF TILES

CSI Section:
07 32 16 Concrete Roof Tiles

1.0 RECOGNITION

The Boral Concrete Roof Tiles evaluated in IAPMO UES ER-412 is a satisfactory alternative to the following codes and regulations:

- 2019 California Building Code (CBC)
- 2019 California Residential Code (CRC)

2.0 PRODUCT USE

2.1 The Boral Roofing concrete roof tiles may be used as a Class A, B, or C roof covering systems complying with Sections 1505.1.1 of the CBC or R902.1.1 of the CRC; Sections 1505.1.2 of the CBC or R902.1.2 of the CRC; or Sections 1505.1.3 of the CBC or R902.1.3 of the CRC, respectively. The design and installation of the Boral Roofing concrete roof tiles shall be in accordance with Sections 1507.3.10 and 1513 CBC or Section 905.3 of the CRC, as applicable, and ER-412.

2.2 Roof Tiles shall be installed in accordance with Sections 3.0 and 4.0 of ER-412 except, where the building official requires conformance to the CBC or CRC, the following shall be substituted:

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

2.2.2 Attachment of the concrete 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.

2.3 Boral Roofing concrete roof tiles may be used in "new buildings located in any Fire Hazard Severity Zone or any Wildland-Urban Interface Fire Area designated by the enforcing agency constructed after the application date shall comply with the provisions" in accordance with Sections 701A.3 and 705A of the CBC, or Sections R337.1.3.1 and R337.5 of the CRC, as applicable, and with the IBC as presented in ER-412.

2.4 Boral Roofing concrete roof tiles used on structures regulated by the Division of the State Architect or the Office of Statewide Planning and Development are subject to installation provisions in CBC Section 1513.

FLORIDA SUPPLEMENT

BORAL ROOFING
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CONCRETE ROOF TILES

CSI Section:
07 32 16 Concrete Roof Tiles

1.0 RECOGNITION

The Boral Roofing concrete roof tiles evaluated in IAPMO UES ER-412 is a satisfactory alternative to the following codes and regulations:

- 2020 Florida Building Code, Building (FBC, Building)
- 2020 Florida Building Code, Residential (FBC, Residential)

2.0 LIMITATIONS

2.1 Verification shall be provided that a quality assurance agency audits the manufacturers quality assurance program and audits the production quality of products, in accordance with Section (5)(d) of Florida Rule 61G20-3.008. The quality assurance agency shall be approved by the Commission (or the building official when the report holder does not possess an approval by the Commission).

2.2 Evaluation to the high-velocity hurricane zone provisions in Section 1512 of the FBC, Building and Chapter 44 of the FBC, Residential is beyond the scope of this report.

3.0 PRODUCT USE

The design and installation of the Boral Roofing concrete roof tiles shall be in accordance with the 2018 International Building Code and the 2018 International Residential Code, as applicable, as noted in ER-412. From FBC, Building Section 1507.3 and FBC, Residential Section R905.3 states that the installation of the Boral Roofing concrete roof tiles "shall be in accordance with the requirements of the FRSA/TRI *Florida High Wind Concrete and Clay Roof Tile Installation Manual,* Sixth Edition where the V_{asd} is determined in accordance with" FBC, Building Section 1609.3.1, FBC-Residential Section R301.2.1.3, or the recommendations of RAS 118, 119 or 120. Load combinations shall be in accordance with Sections 1605.2 or 1605.3 of the FBC, Building, as applicable. Design wind loads shall be in accordance with Section 1609.5 of the FBC, Building or Section R301.2.1 of the FBC, Residential, as applicable.

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