



LUDOWICI ARCHITECTURAL TERRA COTTA

inspiration & resources

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The History of LUDOWICI

Ludowici's legacy of terra cotta craftsmanship began nearly 400 years ago in Rome when the Ludovisi family became known for their expertly crafted roof tile. As demand grew for their tile, the family moved to Germany and began producing tile under the Germanized name Ludowici. In the late 1800s, Carl Ludowici, looking to expand his family's business into the new world, moved to Chicago, Illinois and an American tradition was born.

Rebuilding after the Great Fire of 1871, Chicago quickly grew into a technological hub for new building and manufacturing techniques. The skyscraper, elevator and modernized manufacturing facilities were all born of the rebuilding boom.

Carl Ludowici saw the opportunity that the upcoming World's Columbian Exposition in Chicago afforded and quickly formed the Ludowici Roofing Tile Company in 1893 with Henry W. King and Cyrus I. McCormick.

The first Ludowici manufacturing facility was built in Chicago Heights, Illinois.

The plant produced tile for the exposition and continued to grow and prosper into the new century. Frank Lloyd Wright and H. H. Richardson soon became frequent customers, commissioning roof tile and massive decorative roof elements for their projects.

The manufacturing boom of the late 1800s also saw the creation of the Celadon Roofing Tile Company in Alfred, New York, in 1888. In 1889, under the leadership of George Babcock, Celadon evolved their product line from decorative terra cotta and chimney pots to innovative terra cotta roof tile. During his short tenure with the company, Babcock held 28 patents, including the Conosera roof tile profile, a revolutionary interlocking tile which is considered to be one of the finest roof tile profiles ever created and is still manufactured by Ludowici to this day.

After the turn of the century, Celadon expanded its manufacturing capabilities by purchasing the Imperial Brick Plant in New Lexington, Ohio. Taking advantage of its rich clay deposits, Celadon converted the plant into the largest clay roof tile manufacturing facility in the country.

In 1906, Ludowici Roofing Tile Company purchased the Celadon Roofing Tile Company and Western Roofing Tile Company, becoming the largest terra cotta roofing tile company in the United States. The new unified company was called Ludowici-Celadon and operated five plants across the country.





The early 20th century was fraught with challenges. Plant fires, a stagnating economy and the resulting Great Depression forced Ludowici-Celadon to adapt through plant consolidations and product diversification.

By World War II, Ludowici-Celadon had just two operational facilities on line, including the New Lexington, Ohio plant, now the country's largest clay tile manufacturing facility. As the war escalated and nearly all construction ceased, the factory shifted gears. Employing about 200 women, the factory converted to a decorative pottery plant producing hand decorated cookie jars, pottery and other tableware for the duration of the war. Roof tiles produced during this time were mostly for military installations, like Hickam Field in Hawaii.

Construction rallied again after the war; however, the focus shifted away from durability to affordability and terra cotta roofing suffered. After decades of low-quality construction, the industry returned to high-quality construction for commercial, institutional and residential projects in the 1970s. By this time, Ludowici-Celadon had consolidated all manufacturing in New Lexington.

In 1976, Ludowici-Celadon was purchased by CSC who repaired the plant buildings, renovated the dryers and further improved the tunnel kiln, a project which began prior to the acquisition. CSC sold Ludowici-Celadon to CertainTeed in 1989 and Ludowici-Celadon's name was simplified to Ludowici Roof Tile. CertainTeed updated Ludowici's production with a new state-of-the-art kiln and reconfigured the factory layouts for greater efficiency.

Ludowici merged with Terreal, Europe's largest manufacturer of clay construction products, in 2003. Ludowici refocused operations to produce new products, expand color capabilities and offer varied textures and surfaces in response to evolving market desires. Ludowici now offers the most extensive profile, color and texture offerings in the marketplace today, including extensive customization capabilities to make an architect's unique vision a reality. To showcase these capabilities, Ludowici built the Factory of Ideas in 2007. This unique hands-on facility allows visitors to work one-on-one with Ludowici experts to design their new roof.

Ludowici also entered the terra cotta cladding market in 2010 with its subsidiary Terreal North America. Terreal North America offers unique terra cotta cladding solutions, as well as solar shades, acoustical panels and paver systems manufactured by Terreal and Ludowici. The durability, design and customization offered by Terreal North America products made them highly appealing for unique structures designed by architects such as Renzo Piano and Michael Graves.

For over a century, through wars and peace, booms and busts, thousands of architects have chosen Ludowici terra cotta tile for their projects' roofs, walls and floors. From residential homes to Ivy League universities to medical facilities to government buildings to the White House, Ludowici has been the choice for architectural terra cotta. It is trusted.

Ludowici tile is uniquely beautiful. With gorgeous colors that never fade, it has adorned buildings of all architectural styles for over 100 years. It never goes out of style. In both its design and structure, it is timeless.

From the good earth of Southeast Ohio, Ludowici creates handcrafted tiles which are then fired at high temperatures, infusing the glaze into the tile to make gorgeous architectural terra cotta.





THE LUDOWICI DIFFERENCE

Built on over 130 years of meticulous craftsmanship and innovation, Ludowici has a long-trusted reputation for developing exceptionally beautiful architectural terra cotta products that last for centuries.

UNMATCHED DURABILITY

Ludowici products last a lifetime in any climate — even the harshest environments — for enduring luxury and beauty that will never fade.

EXCEPTIONAL QUALITY

Ludowici's unmatched materials and processes result in a product that's second to none and delivers a lifetime of beauty.

AFFORDABLE LUXURY

Ludowici has multiple solutions to fit a broad range of lifestyles and budgets.

CUSTOM CRAFTSMANSHIP

Ludowici's product line can be infinitely customized and handcrafted to the finest detail to match any color or fit any architectural style — from modern to old-world.

DOMESTIC PRODUCT

For over 130 years, Ludowici tiles have been made in New Lexington, Ohio, with raw materials sourced just five miles away.

COMPANY LONGEVITY

Our history speaks for itself — high-end homeowners, architects and commercial clients have been trusting Ludowici since 1888.

PERSONAL SERVICE

Every customer receives personal attention and every order is handled with a personal touch.





PEACE OF MIND FOR A LIFETIME

Ludowici roof tiles and floor tiles manufactured in New Lexington, Ohio, are backed by a 75-year material warranty — unmatched in the industry — delivering peace of mind to even the most demanding jobs. Our world-class warranty is included in the cost of your terra cotta tiles and includes color fastness, guaranteeing your roof will remain just as beautiful as the day it was installed.

OUR GREEN PROMISE

Terra cotta is an energy-efficient, sustainable choice for your building project. At Ludowici, we are committed to manufacturing architectural terra cotta products that honor their heritage from the earth. There are many qualifications that we strive to meet each and every day, to help us live up to this promise.

UNMATCHED DURABILITY

Unlike other roofing materials; Ludowici terra cotta tiles have a life expectancy of over 100 years. Our tiles also do not require maintenance, saving the environment from harsh chemical cleaners and landfills from filling up with roofing products that need to be replaced every 10 years. This means Ludowici tiles offer the lowest life cycle costs in the industry.

REDUCE. REUSE. RECYCLE.

Ludowici tiles are made of locally-sourced, natural materials (clay and water) through a unique process which creates no waste. We go to great efforts to be good stewards of the land we harvest. Our tiles are chemically inert, making them forever safe. Moreover, all Ludowici products are 100% recyclable. They may be reused to create a beautiful vintage roof. At the end of their lifespan they can be recycled and used as filler and filter components for future construction.

REDUCING ENERGY CONSUMPTION

Energy savings exceeding 20% are common with a Ludowici roof. With a number of standard colors that meet a Solar Reflective Index (SRI) of greater than 39, Ludowici offers proven energy-efficiency without limiting color choices. Explore Ludowici's rain screen system to discover more ways to save energy throughout the building envelope.



Ludo 360° is a special clay body blend made of clay scrap, shale and waste material that produces a clay tile with 40% post-industrial content. Ludowici can make any of our standard profiles, trim pieces and accessories with our Ludo 360 clay body. Add that to one of our LEED, CRRC and Energy Star color glazes, and you have a truly environmentally friendly roof option.









Ludowici products also earn some or all of the many certifications from the four main organizations setting the standards for sustainability: Cool Roof Rating Council, Cradle to Cradle, Energy Star and U.S. Green Building Council's LEED program.

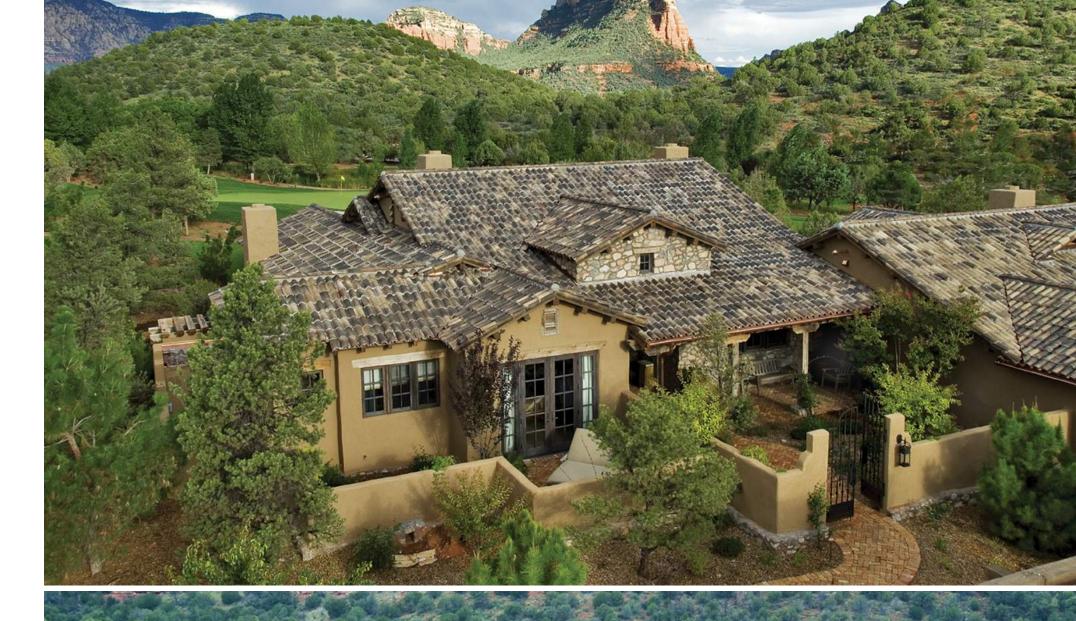
Project Portfolio

BARREL TILE

From the classic architecture of ancient Greece, to the bucolic farmhouses of southern Europe, to the rustic missions of California, barrel tile has become synonymous with clay roof tile. Barrel tiles create distinctive ripple patterns across the roof, providing texture, movement and visual interest.

Ludowici's barrel tile collection features two-piece Mission tiles and one-piece Spanish tiles in a number of sizes. The Villas at Seven Canyons showcase Ludowici's Spanish 18 3/8" roof tile in a unique installation. Booster tiles were installed with additional mortar to give the appearance of an age old Mission tile roof.

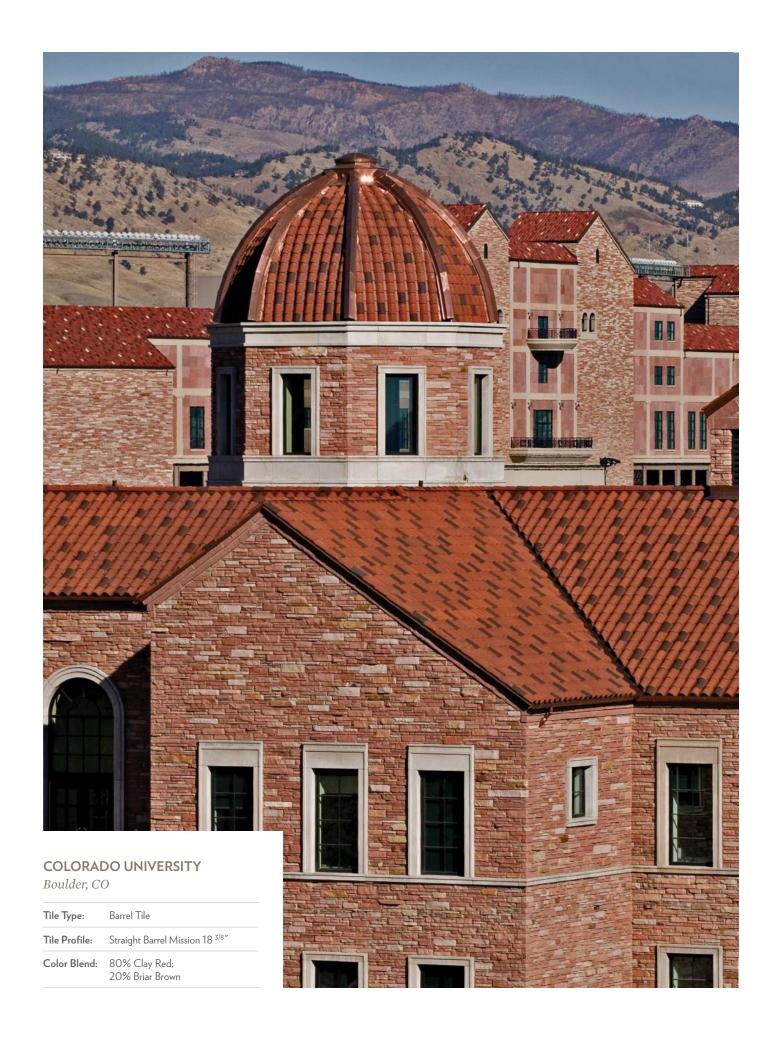
Barrel tile enhances virtually any style of architecture, from small bungalows to large public institutions.







THE VILLAS AT SEVEN CANYONS

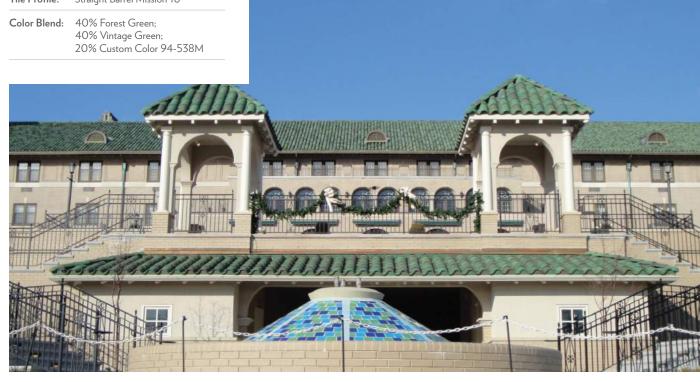


HOTEL HERSHEY

Hershey, PA

Tile Type: Barrel Tile

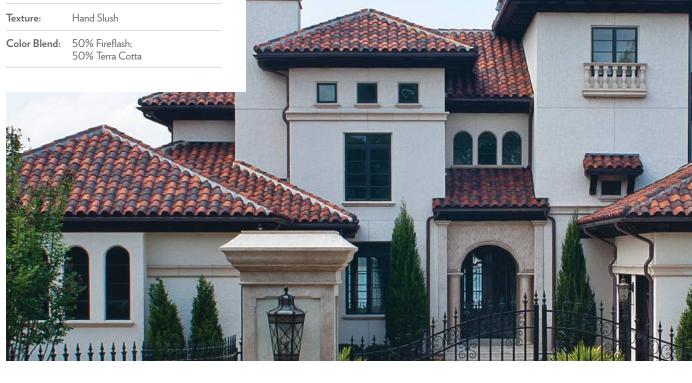
Tile Profile: Straight Barrel Mission 16"





Cornelius, NC

Tile Type: Barrel Tile **Tile Profile:** Straight Barrel Mission 18 3/8" Hand Slush



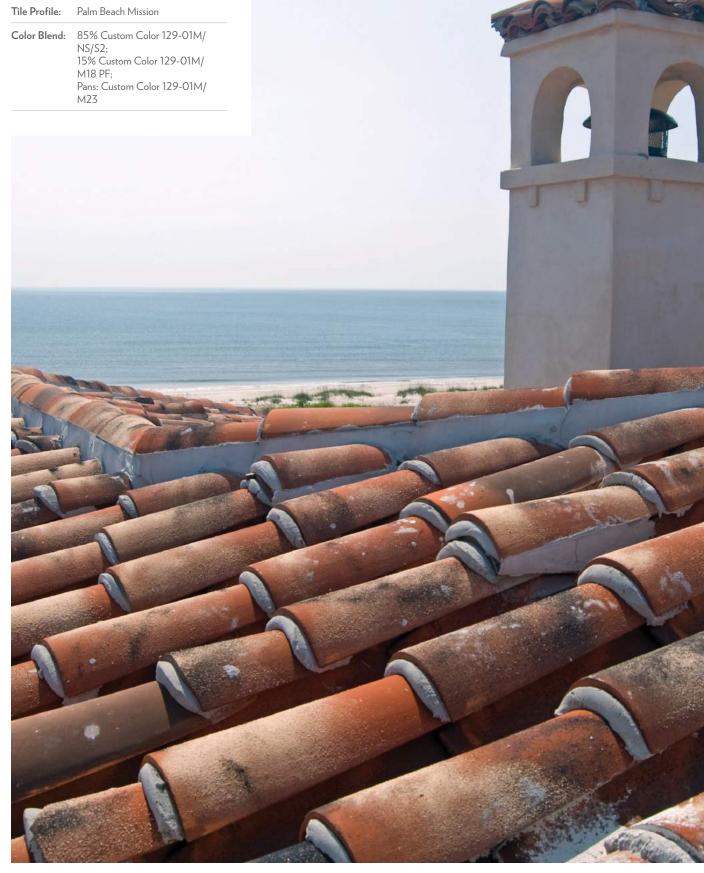


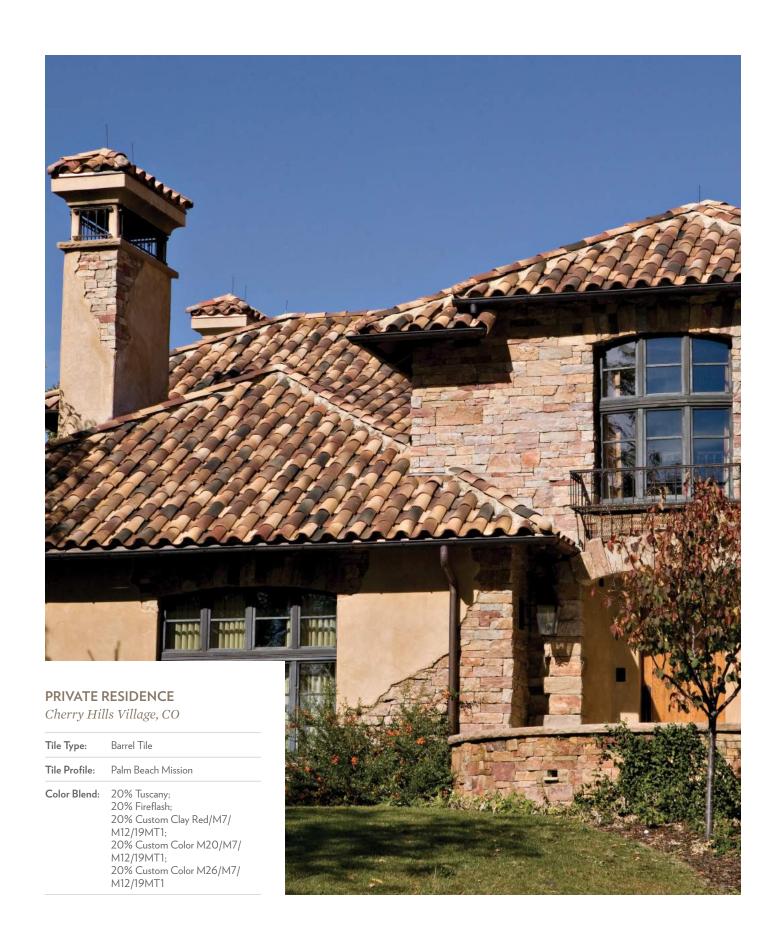


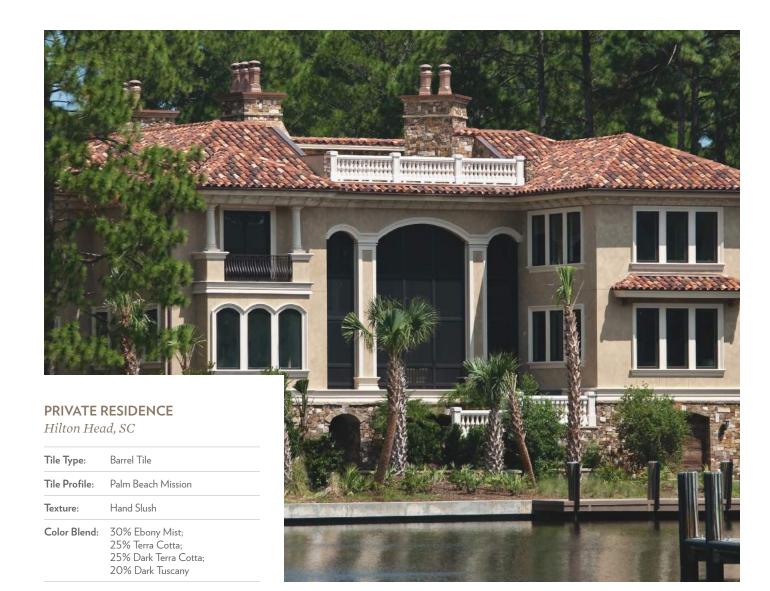
PRIVATE RESIDENCE

Amelia Island, FL

Tile Type: Barrel Tile Tile Profile: Palm Beach Mission











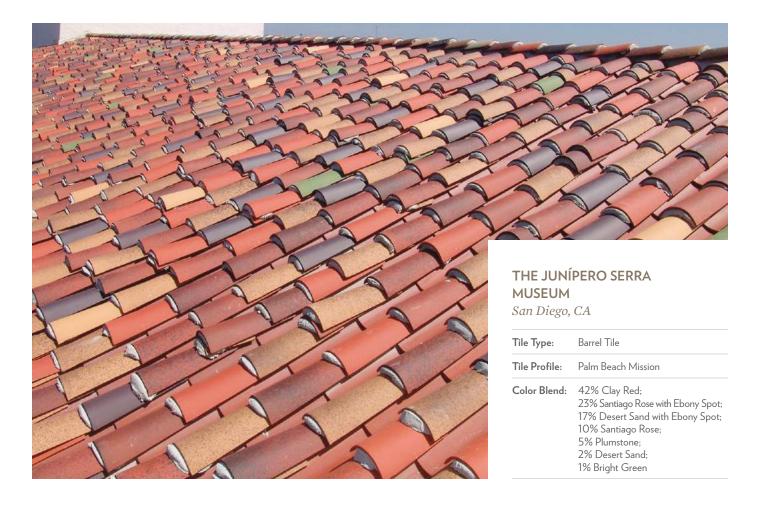
Memphis, TN

Tile Type: Barrel Tile

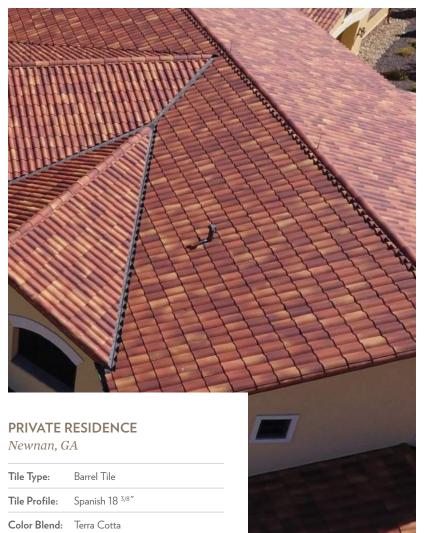
Tile Profile: Palm Beach Mission

Color Blend: 60% Terra Cotta; 40% Fireflash









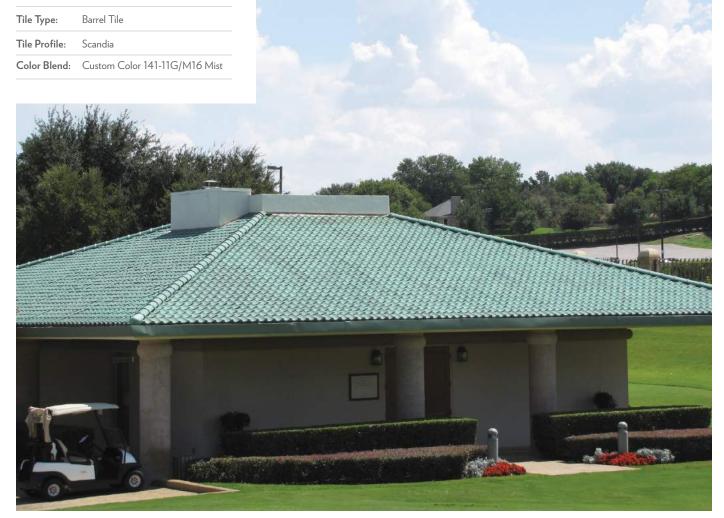
Roofer: Roofing Specialists, Inc.







FOUR SEASONS GOLF CLUB Dallas, TX







FIRST BAPTIST CHURCH

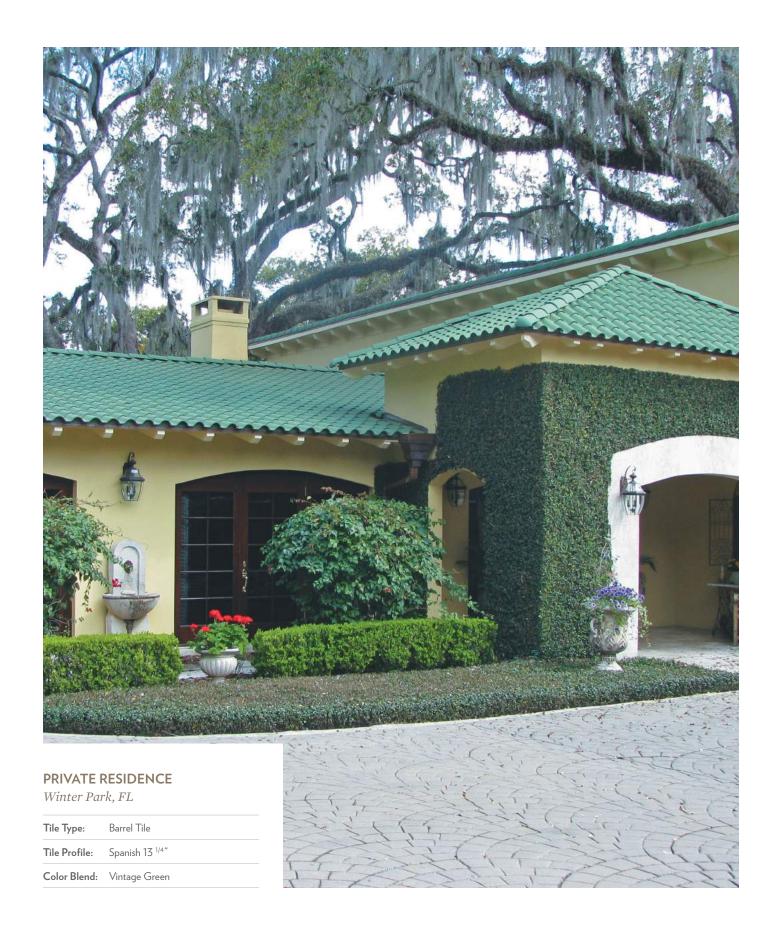
Asheville, NC

Tile Type: Barrel Tile

Tile Profile: Spanish 13 1/4"

Color Blend: Custom Blend of Clay Red, Burgundy, Santiago Rose, Empire Green, Vintage Green

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RAYMOND JAMES FINANCIAL CENTER

Asheville, NC

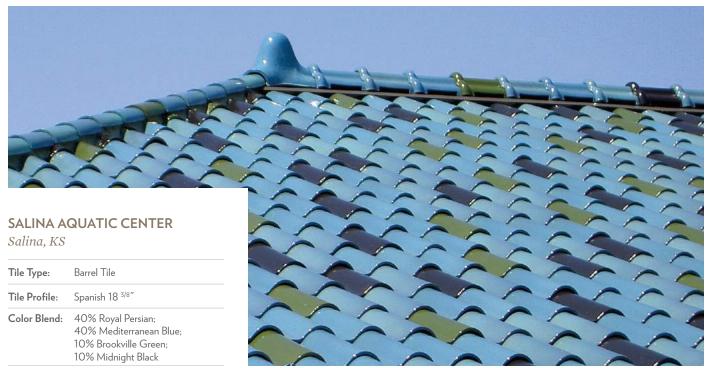
Tile Type: Barrel Tile

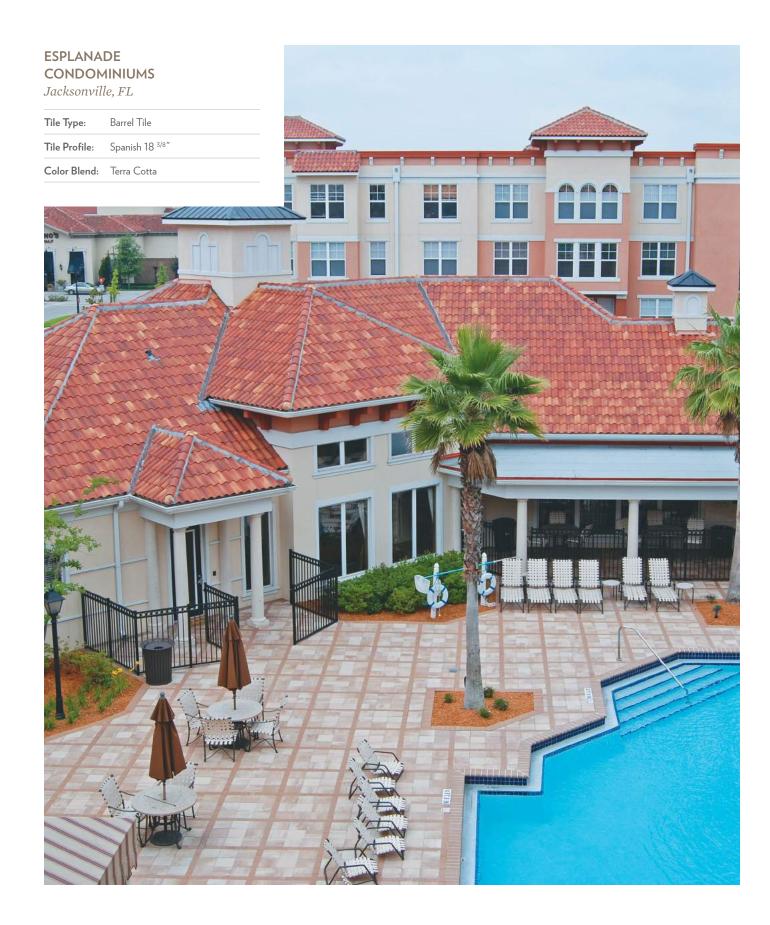
Tile Profile: Spanish 13 1/4"

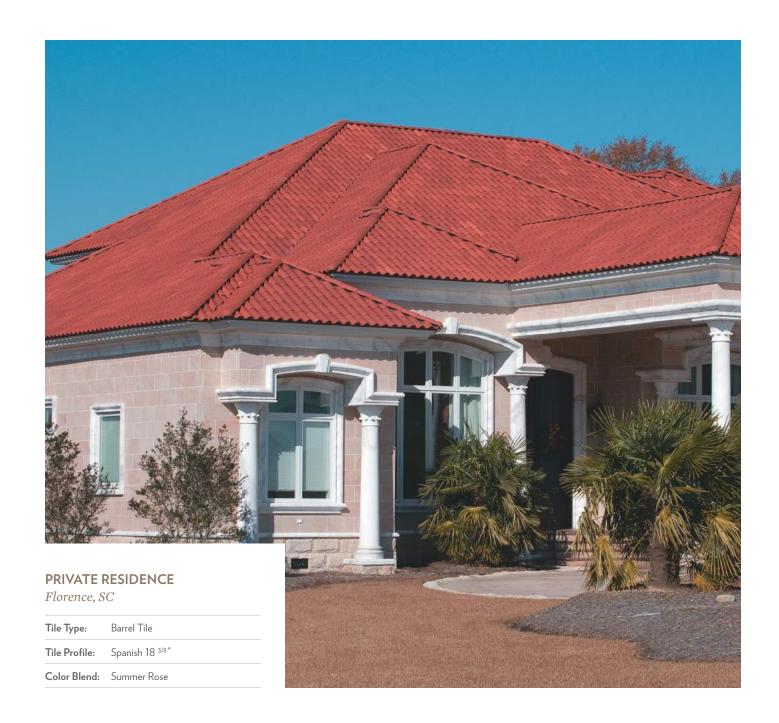
Color Blend: Forest Green















PRIVATE RESIDENCE Fort Worth, TX

Tile Type: Barrel Tile

Tile Profile: Spanish 18 3/8"

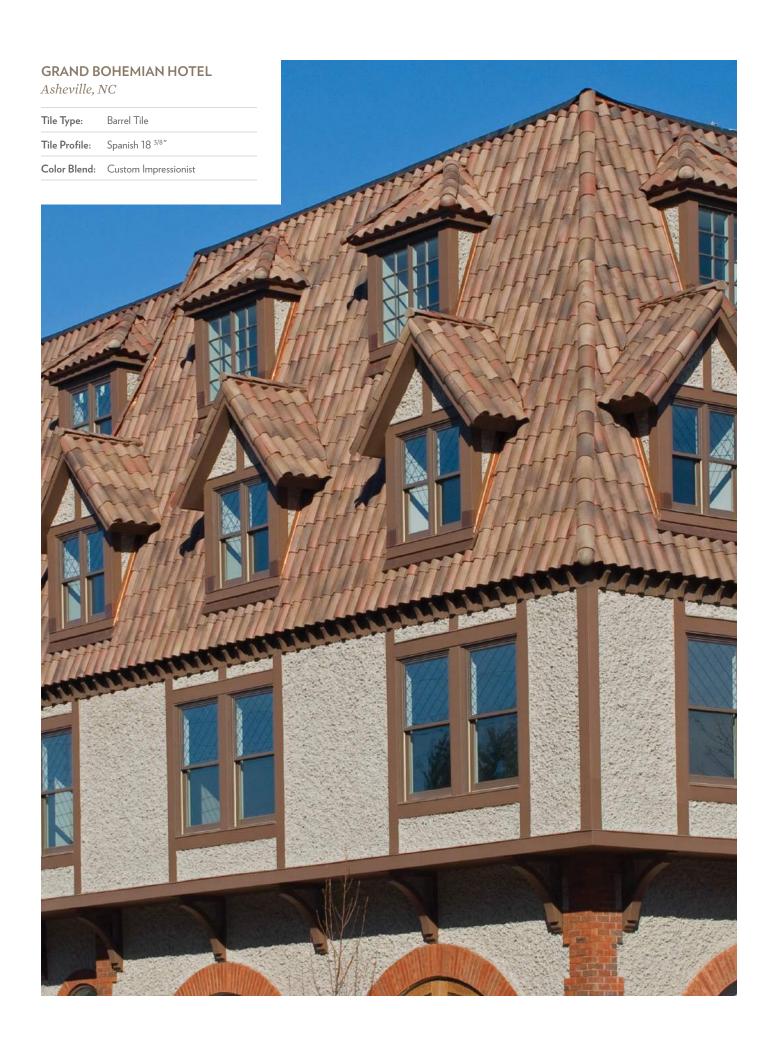
Color Blend: 55% Terra Cotta; 30% Fireflash; 15% Tuscany



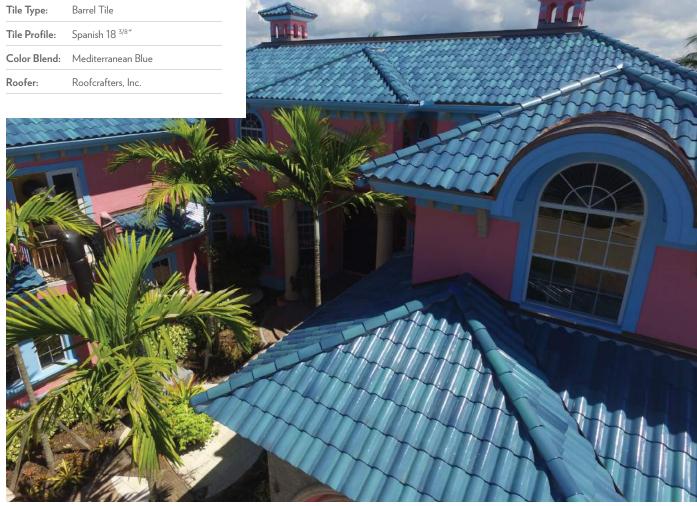


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Naples, FL

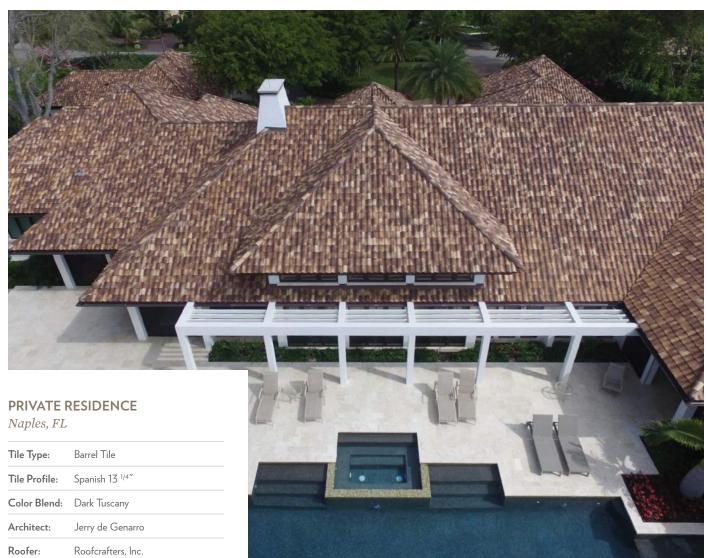










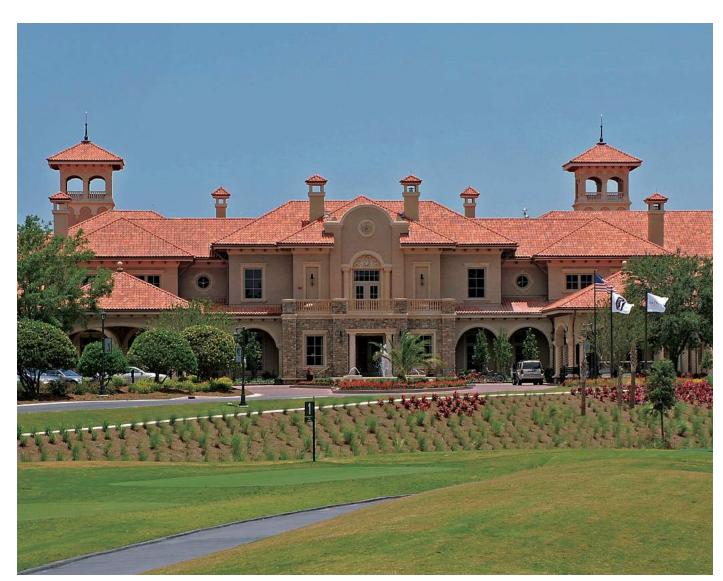


TPC SAWGRASS

Ponte Vedra Beach, FL

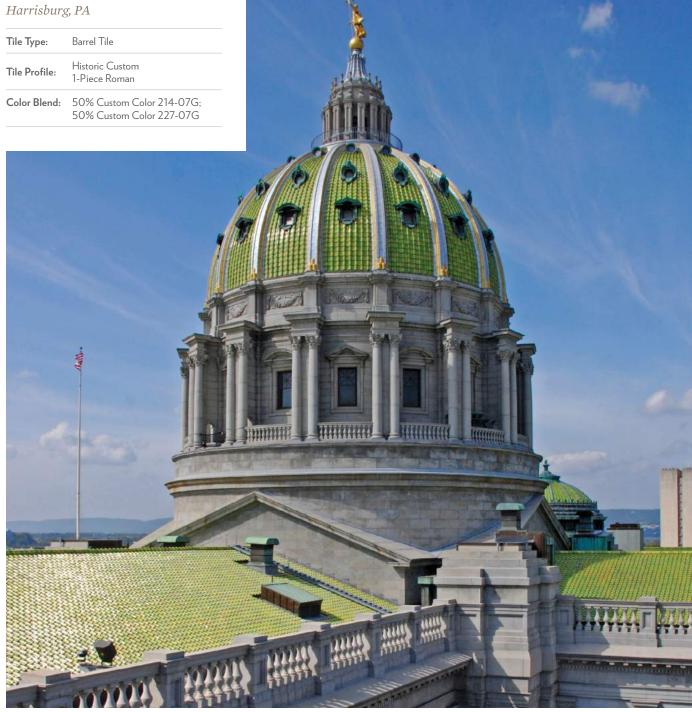
Tile Type: Barrel Tile





PENNSYLVANIA STATE CAPITOL

Historic Custom 1-Piece Roman Tile Profile: **Color Blend:** 50% Custom Color 214-07G; 50% Custom Color 227-07G





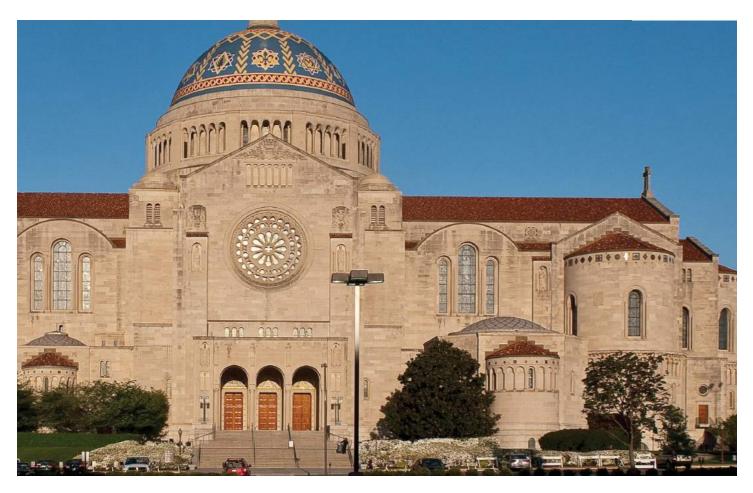
BASILICA OF THE NATIONAL SHRINE OF THE IMMACULATE CONCEPTION

Washington, DC

Tile Type: Barrel Tile

Tile Profile: Cubana and Flat Slab Shingle

Color Blend: 40% Terra Cotta;
30% Dark Terra Cotta;
20% Ebony Mist M>H;
10% Provence









Project Portfolio

SHINGLE TILE

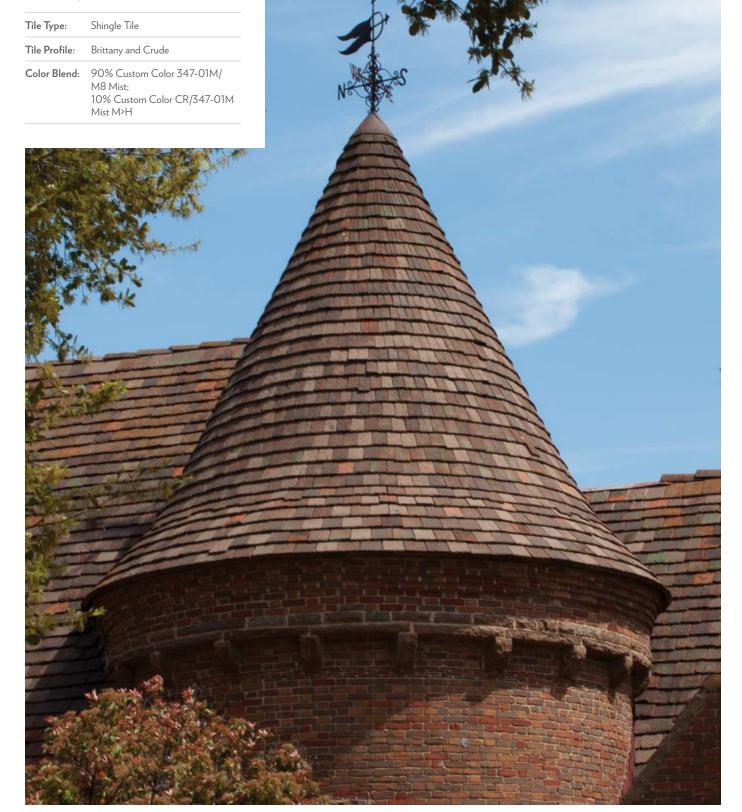
The heritage of Ludowici's shingle tiles lies in the charm of age-old European roofs. Shingles have long been a traditional roofing choice in Europe and the United States. Ludowici's rustic collection of flat slab clay shingle tiles feature chipped, irregular butts, rough texture and uneven lengths recalling the rugged stone roofs of old England.

Weathered and laced with old-world charm, formal shingle tiles with straight, regular butts add elegance and sophistication to homes and buildings. From the quaint cottage to the traditional Colonial to the sprawling French Country home, Ludowici shingle tiles lend an aura of timeless beauty to any building.

The Tudor-style East Lake Golf Club renovation project showcases Ludowici's ability to match the historic clay tile of defunct manufacturers, in this case B. Mifflin Hood. Ludowici created a custom scratched-shingle tile profile and custom 14-color blend to match the existing tile roof for the renovation of the clubhouse and the new 20,000 sq. ft. addition.

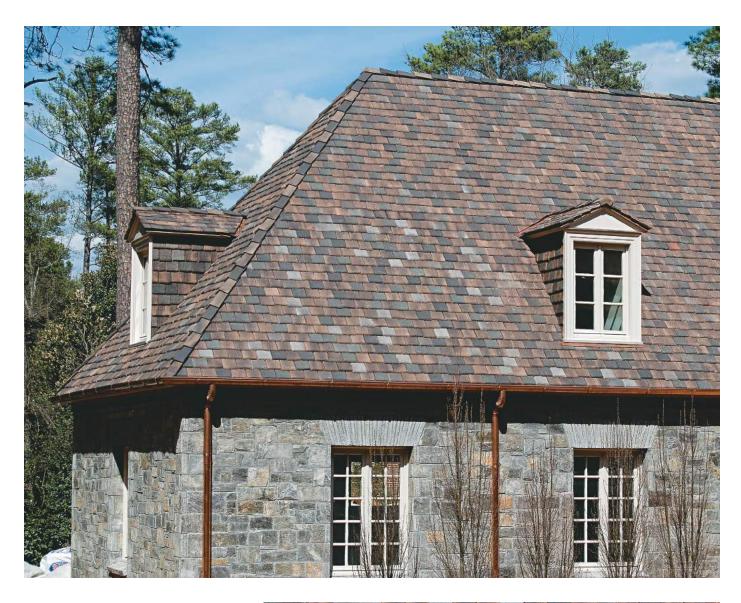


Ft. Worth, TX







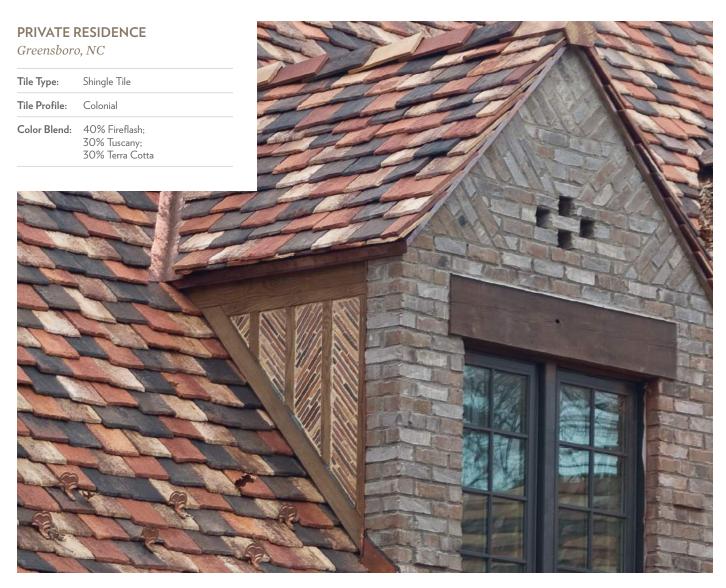


Atlanta, GA

Tile Type:	Shingle Tile
Tile Profile:	Colonial
Color Blend:	60% Weathered Fireflash; 14% Custom Color SO/M4/M23 M>H; 13% Custom Color SO/SL3/SL1 Mist M>H; 13% Custom Color SO/SL3/M23 M>H









CHESHIRE INN — BOUNDARY RESTAURANT

St. Louis, MO

Tile Type:	Shingle Tile
Tile Profile:	Colonial
Color Blend:	30% Ebony Mist; 30% Slate Red with Ebony Mist M>H; 30% Burgundy with Ebony Mist M>H; 5% Slate Gray with Ebony Mist M>H; 5% Montpelier Green with Ebony Mist
Architect:	Killeen Studio Architects





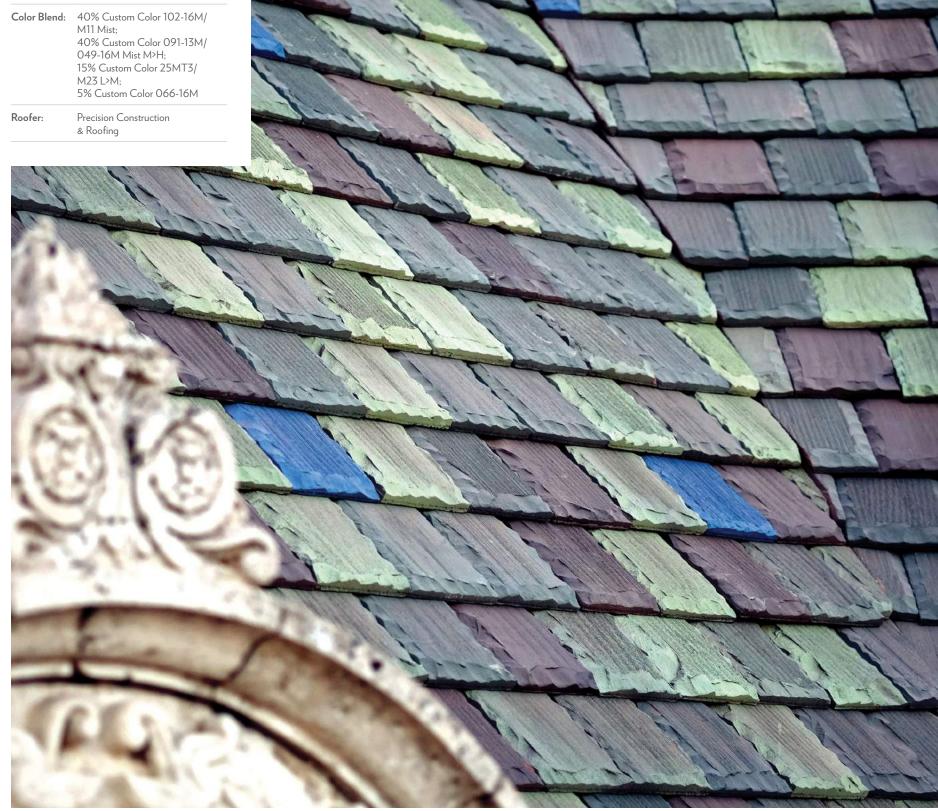
Denver, CO

2016 Ludowici Project of the Year Residential Roofing

Tile Type: Shingle Tile

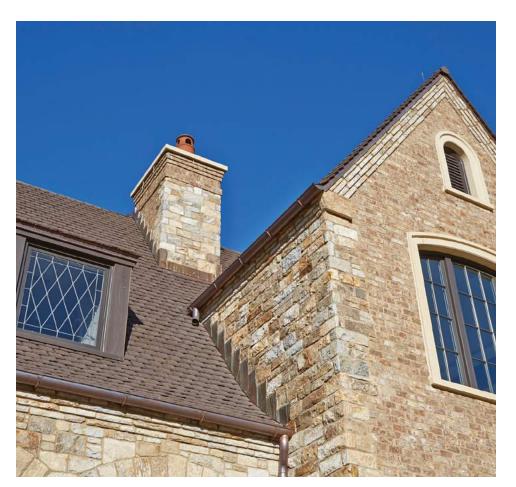
Tile Profile: Duke







PRIVATE RESIDENCE Marietta, GA Tile Type: Shingle Tile Tile Profile: Cotswold Color Blend: Custom Color 22MT1





PRIVATE BOAT HOUSE

Clarksville, GA

Tile Type: Shingle Tile
Tile Profile: Cotswold

Color Blend: Sunset Red with Ebony Mist M>H









GEORGE WRIGHT **GOLF COURSE**

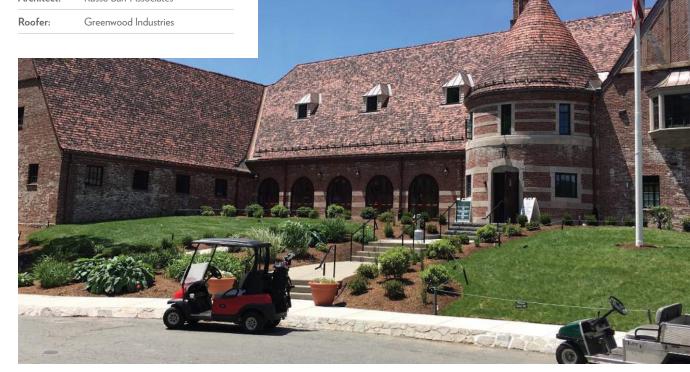
Hyde Park, MA

2016 Ludowici Project of the Year Commercial Roofing

Tile Type: Shingle Tile Tile Profile: Norman

Color Blend: Santiago Rose with Black Sand

Architect: Russo Barr Associates







HOPELANDS

Middletown, RI

Tile Type:	Shingle Tile
Tile Profile:	Custom Shingle
Color Blend:	Weathered Historic Orange with Ebony Spot M>H
Architect:	Mark P. Findlay Architects
Roofer:	Kirby-Perkins Construction





DUKE UNIVERSITY

Durham, NC

Tile Type: Shingle Tile Tile Profile: Duke Color Blend: 50% Custom Color 350-04M/ M13 Spot M>H; 45% Custom Color 084-13M/ M13 Spot M>H; 5% Custom Color 086-08M/M7 Spot L>M





Spring Grove, VA

Tile Type: Shingle Tile

Tile Profile: Custom Beavertail Georgian

Color Blend: Earth Gray

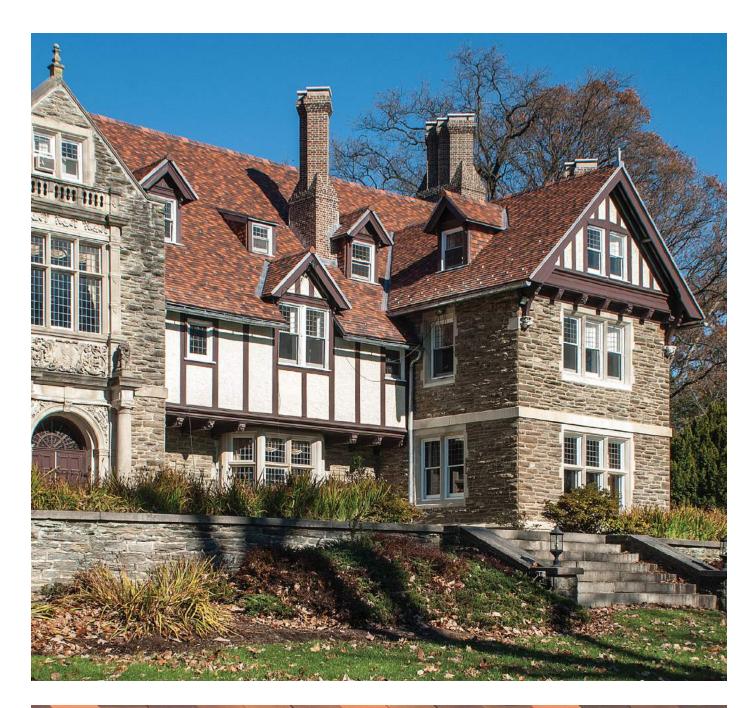














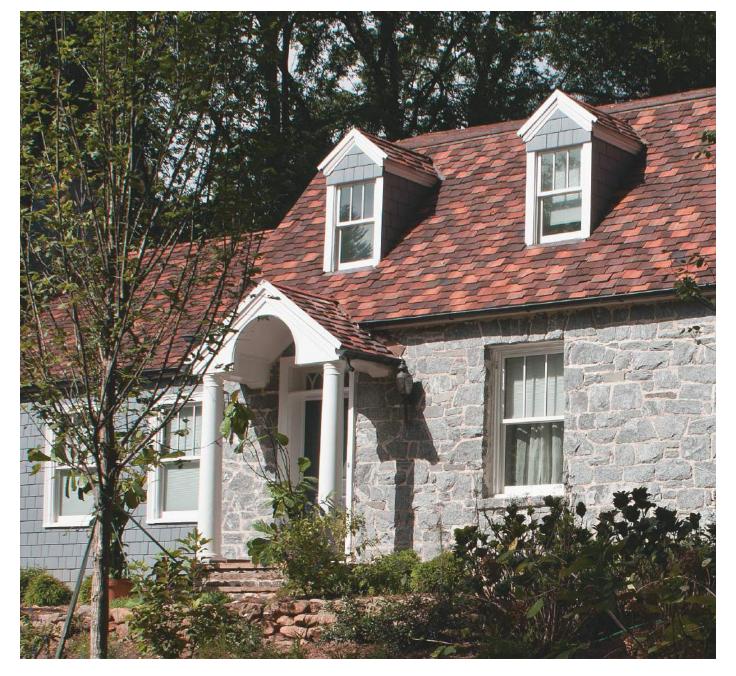
Atlanta, GA

Tile Type: Shingle Tile

Georgian and Custom Flat Slab Tile Profile:

Color Blend: 34% Ebony Mist; 33% Custom Color 165-01M/ 316-07M Process Flash; 33% Custom Color 165-01M





Project Portfolio

INTERLOCKING TILE

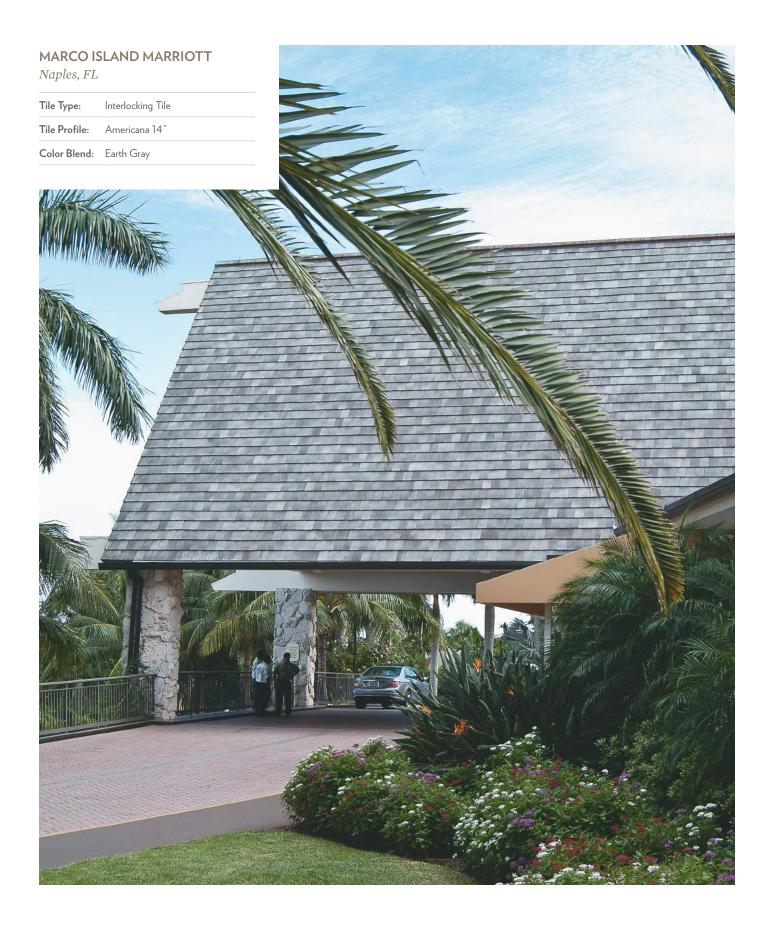
Ludowici's collection of interlocking tiles, while quietly elegant and understated, makes an impressive statement on virtually any architectural style. The graceful proportions and classic aesthetics of Ludowici interlocking tiles, as well as their versatility and ease of installation, make them a favorite of architects.

From the clean lines and square butts of Ludowici's Classic tile to the natural scored and stone-like surfaces of LudoSlate and LudoShake, Ludowici's interlocking tile collection offers limitless design options.

Ludowici's historic French low profile interlocking tile features two prominent flutes on the surface that offer both a dramatic appearance and superior drainage. Originally installed in 1896, the Ludowici French tile roof on the stables in Humboldt Park makes a bold statement in a single red color blend with glossy accents on the towers.



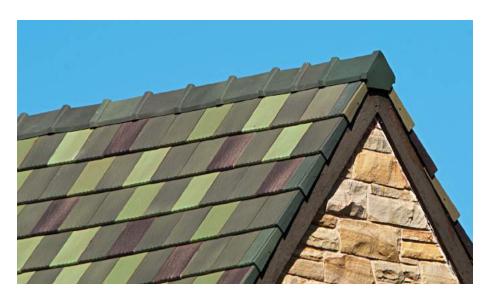


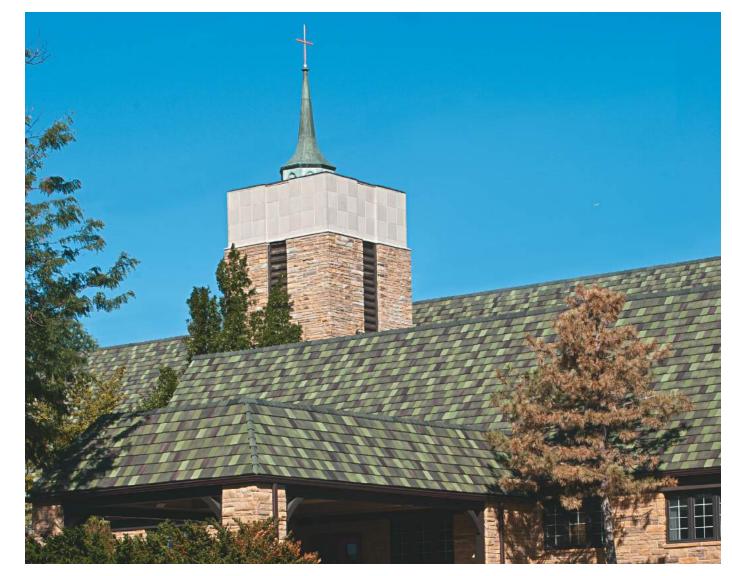


ALL SOULS EPISCOPAL CHURCH

Oklahoma City, OK

Tile Type:	Interlocking Tile
Tile Profile:	Americana 16"
Color Blend:	55% Custom Color M11/M14 Mist L>M; 20% Custom Color M1/M14 Mist; 12.5% Custom Color M1/005- 05M Mist M>H; 12.5% Custom Color 349-01M/M23 M>H







HOUSTON COUNTRY CLUB PRO SHOP

Houston, TX

Tile Type: Interlocking Tile Tile Profile: Americana 16" Color Blend: 60% Custom Color 817-95M/312-06M Mist; 16% Custom Color 817-95M/312-06M Spot; 12% Custom Color 817-95M/284-06M Mist; 12% Custom Color 012-99M/198-05M Mist



PRIVATE RESIDENCE

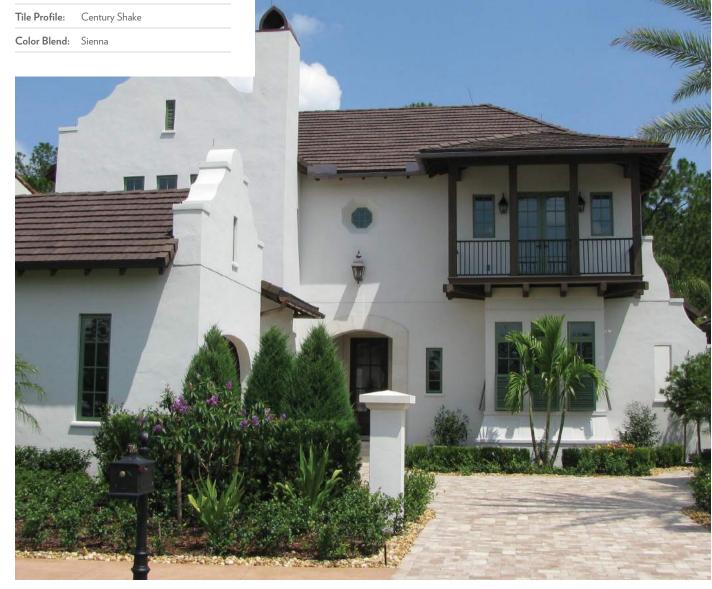
Tampa, FL

Tile Type: Interlocking Tile Tile Profile: Americana 14" Color Blend: Earth Gray



Orlando, FL

Tile Type: Interlocking Tile







PRIVATE RESIDENCE

Jupiter, FL

Tile Type: Interlocking Tile

Tile Profile: Century Shake

Color Blend: Aged Cedar



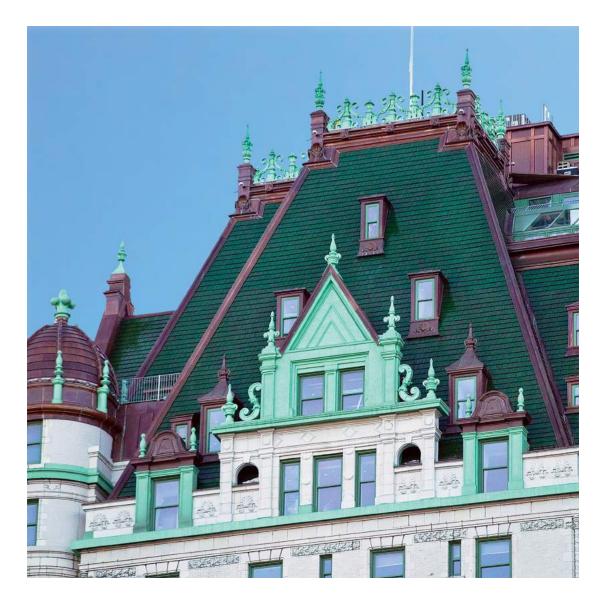




HIXSON-LIED STUDENT SUCCESS CENTER AT IOWA STATE UNIVERSITY

Ames, IA

Tile Type:	Interlocking Tile
Tile Profile:	Classic 16"
Color Blend:	Slate Gray; Summer Rose; Desert Sand



THE PLAZA HOTEL

New York, NY

Tile Type:	Interlocking Tile
Tile Profile:	Classic 14"
Color Blend:	Brookville Green



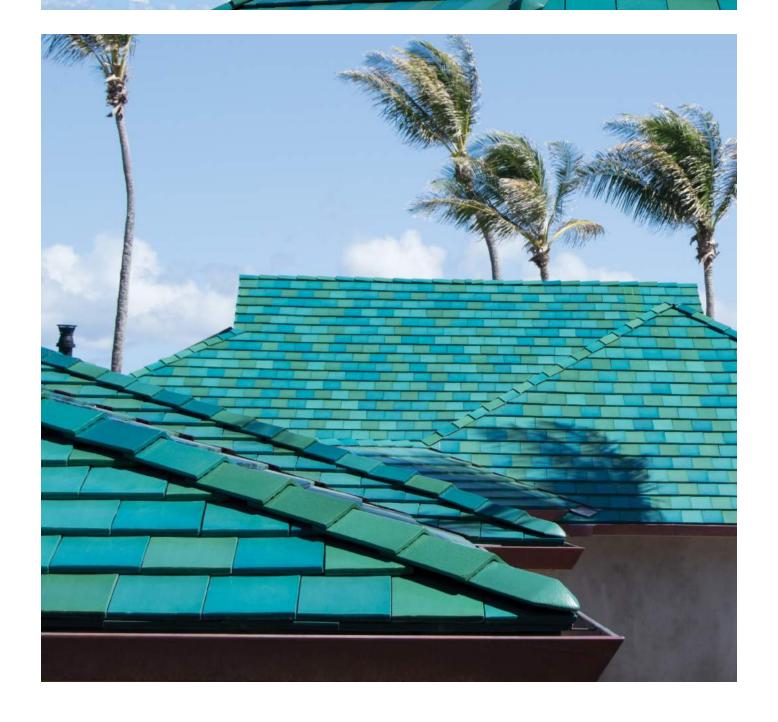
Peter Island, British Virgin Islands

Tile Type:	Interlocking Tile
Tile Profile:	Classic 16"
Color Blend:	Matte Mediterranean Blue

PRIVATE RESIDENCE

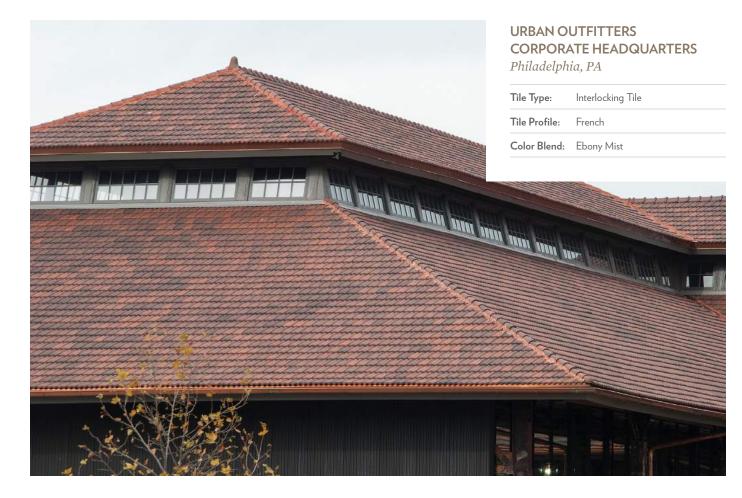
Maui, HI

Tile Type:	Interlocking Tile
Tile Profile:	Classic 16"
Color Blend:	65% Custom Color 232-16G/211-16 Mist M>H; 35% Custom Color 232-16G/183-16G Mist M>H
Architect:	Harrison Woodfield Architects











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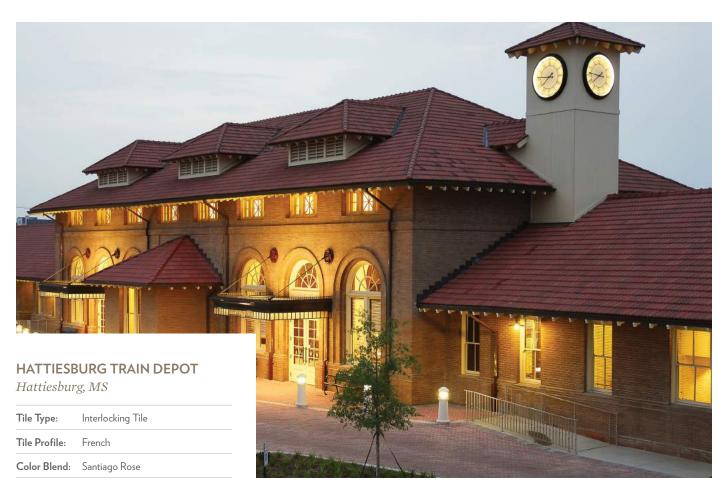
Denver, CO

Tile Type: Interlocking Tile







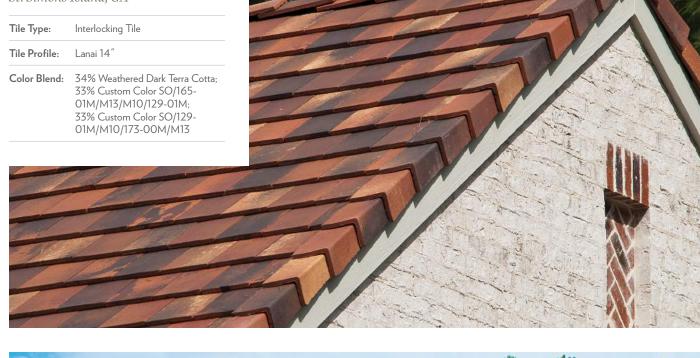






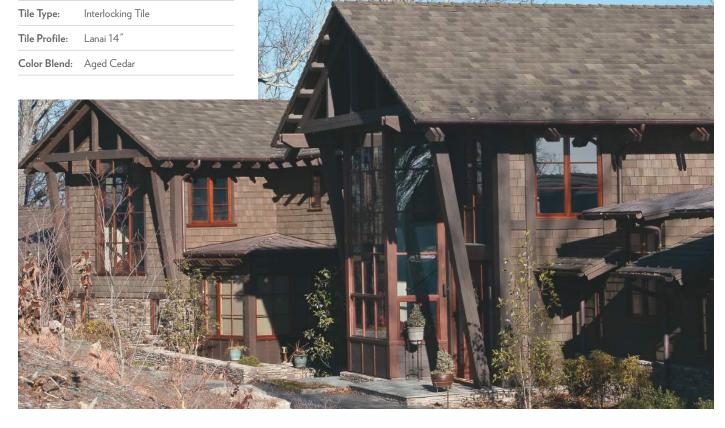


St. Simons Island, GA





Asheville, NC





SHERATON WESTPORT CHALET HOTEL

Maryland Heights, MO

Tile Type: Interlocking Tile

Tile Profile: Lanai 14"

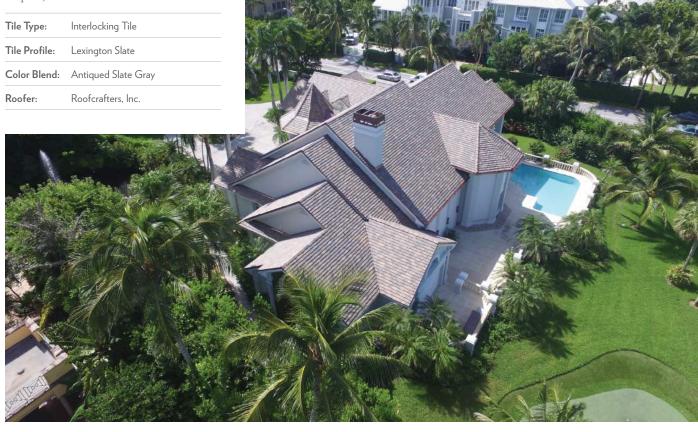
Color Blend: Weathered Burgundy; Weathered Summer Rose

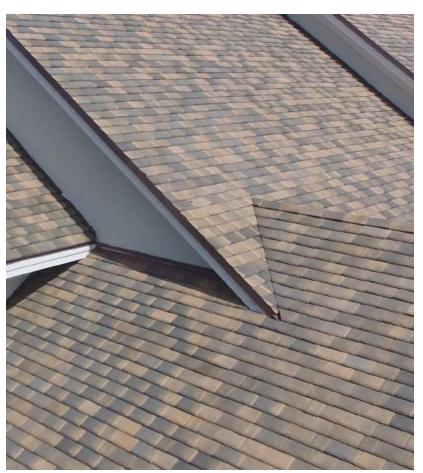
Frederic Roofing

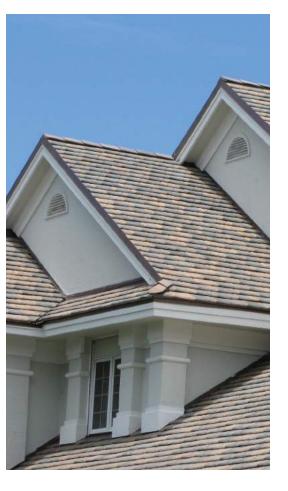


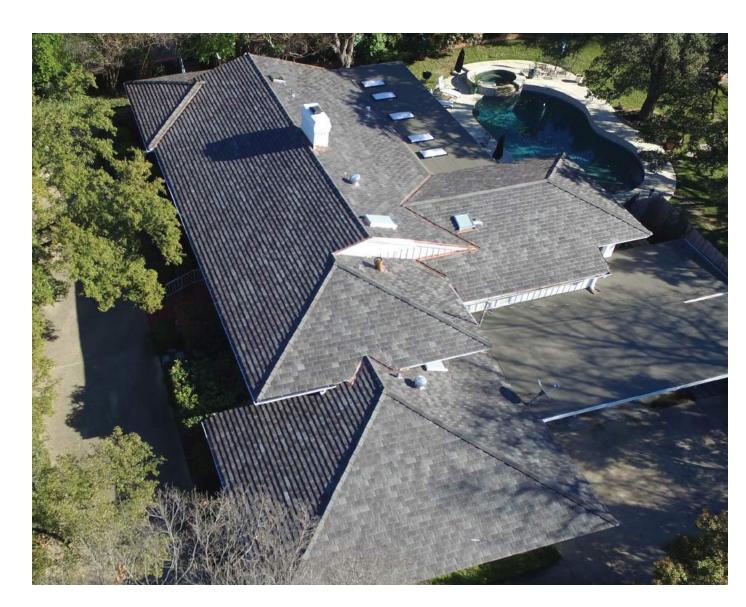


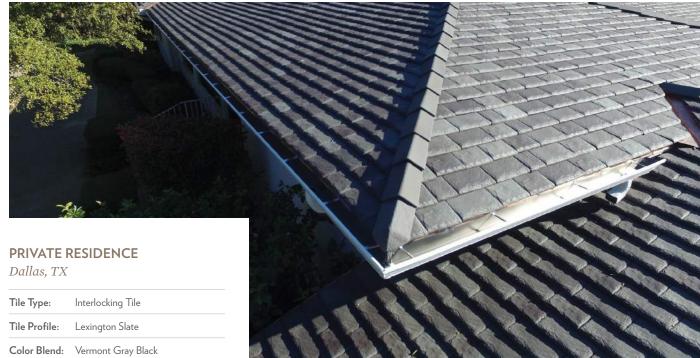
Naples, FL

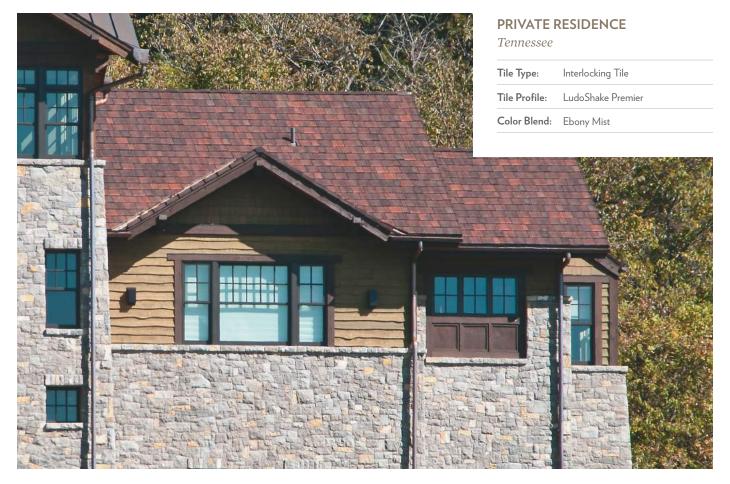




















Martinsville, VA

Tile Type: Interlocking Tile

Tile Profile: LudoShake Premier

Color Blend: Western Cedar

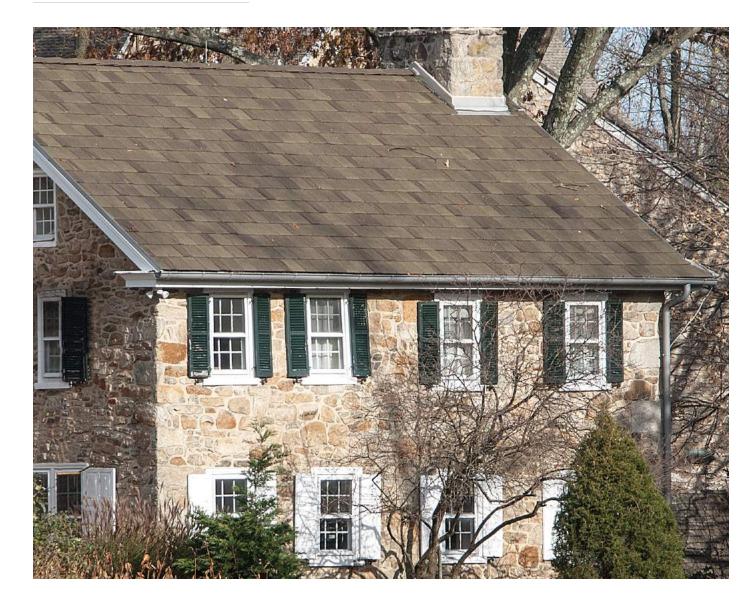
PRIVATE RESIDENCE

Glenmoore, PA

Tile Type: Interlocking Tile

Tile Profile: LudoShake Premier

Color Blend: Aged Cedar



 2



Suwanee, GA

Tile Type: Interlocking Tile

Tile Profile: LudoShake Premier

Color Blend: 70% Brunswick Black; 30% Custom Color SL3/SL1 Mist M>H

PRIVATE RESIDENCE

Linville, NC

Tile Type: Interlocking Tile

Tile Profile: LudoShake Premier







PRINCETON UNIVERSITY

Princeton, NJ

Tile Type: Interlocking Tile

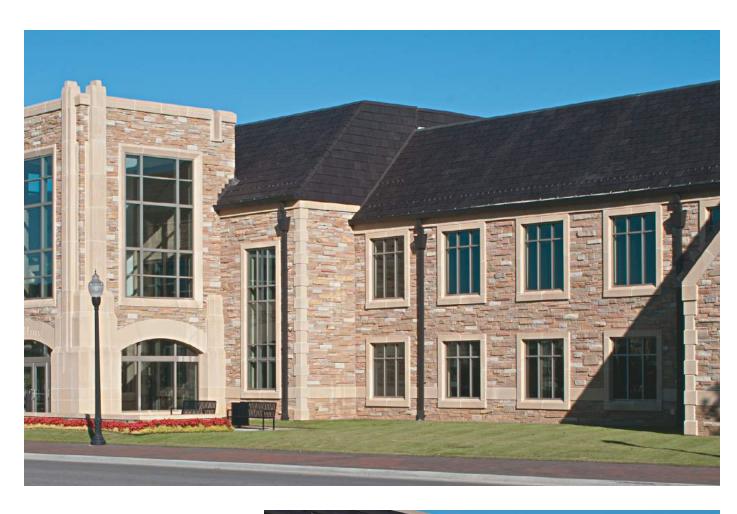
Tile Profile: LudoSlate and NeXclad

Color Blend: Custom Color 130-11M; Custom Color SL2/SL3/ 018-09M









UNIVERSITY OF TULSA

Tulsa, OK

Tile Type: Interlocking Tile

Tile Profile: LudoSlate

Color Blend: Brunswick Black





PRIVATE RESIDENCE

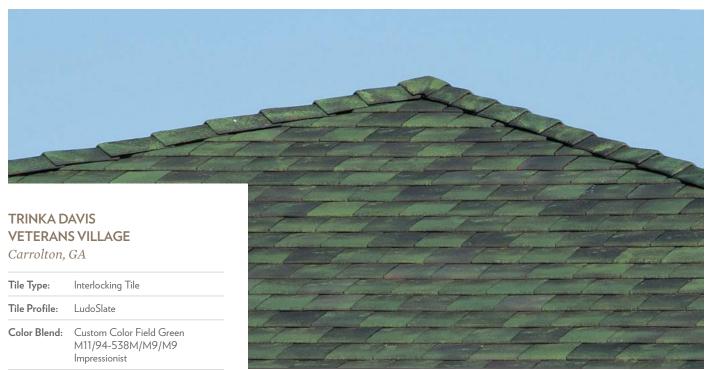
Hertford, NC

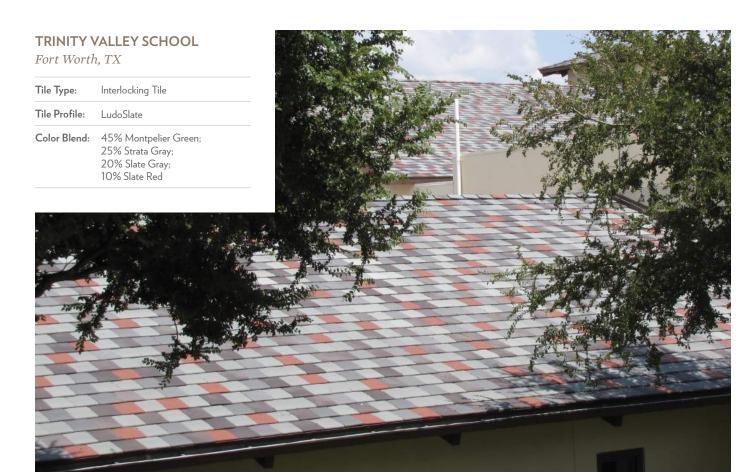
Tile Type: Interlocking Tile
Tile Profile: LudoSlate

Color Blend: Montpelier Green











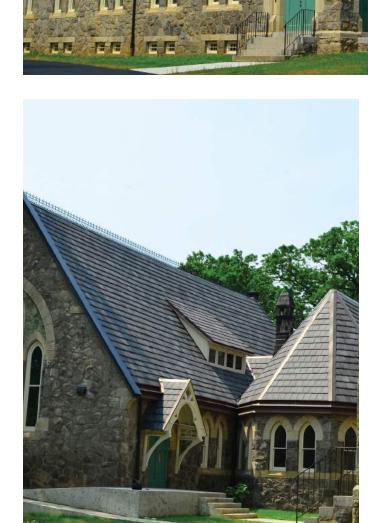
WALDORF SCHOOL OF PHILADELPHIA

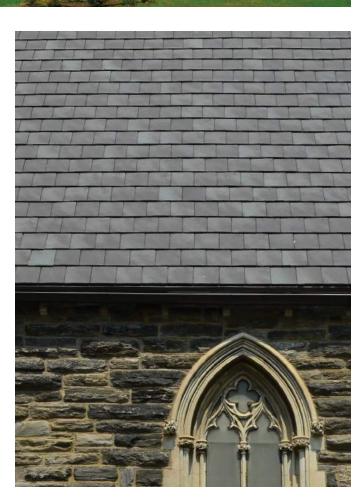
Philadelphia, PA

Tile Type: Interlocking Tile

Tile Profile: LudoSlate

Color Blend: Strata Gray





PRIVATE RESIDENCE

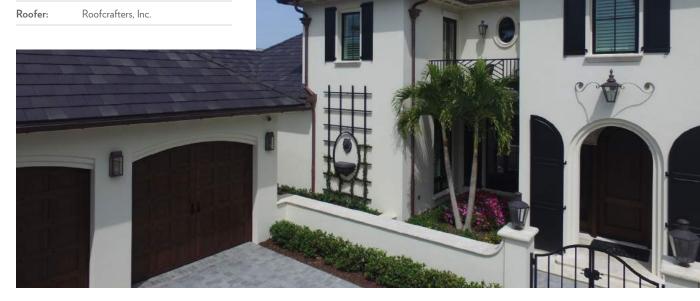
Naples, FL

Tile Type: Interlocking Tile

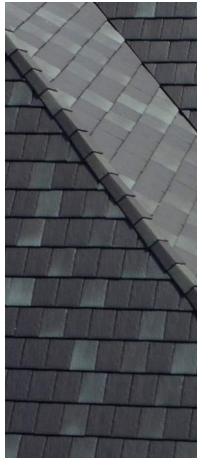
Tile Profile: LudoSlate

Color Blend: 60% Brunswick Black;
40% Custom Color SL3/SL1
Mist M>H

Architect: Jerry de Gennaro









PRIVATE RESIDENCE Atlanta, GA

Tile Type: Interlocking Tile

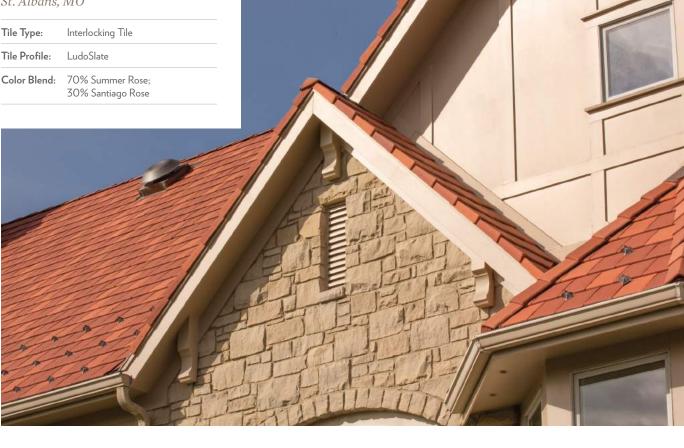
Tile Profile: LudoSlate

Color Blend: Custom Color SL3/SL1 Mist M>H

PRIVATE RESIDENCE

St. Albans, MO

Tile Type: Interlocking Tile Tile Profile: LudoSlate Color Blend: 70% Summer Rose; 30% Santiago Rose



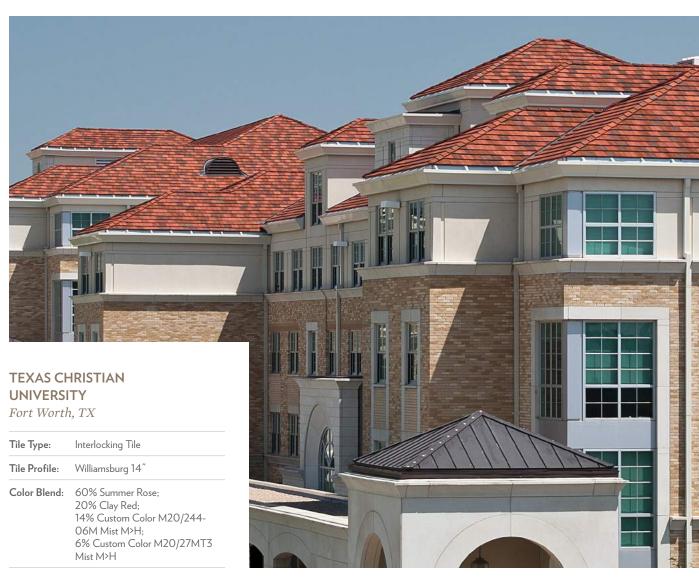




PRIVATE RESIDENCE Asheville, NC Tile Type: Interlocking Tile Tile Profile: Williamsburg 16* Color Blend: Aged Cedar

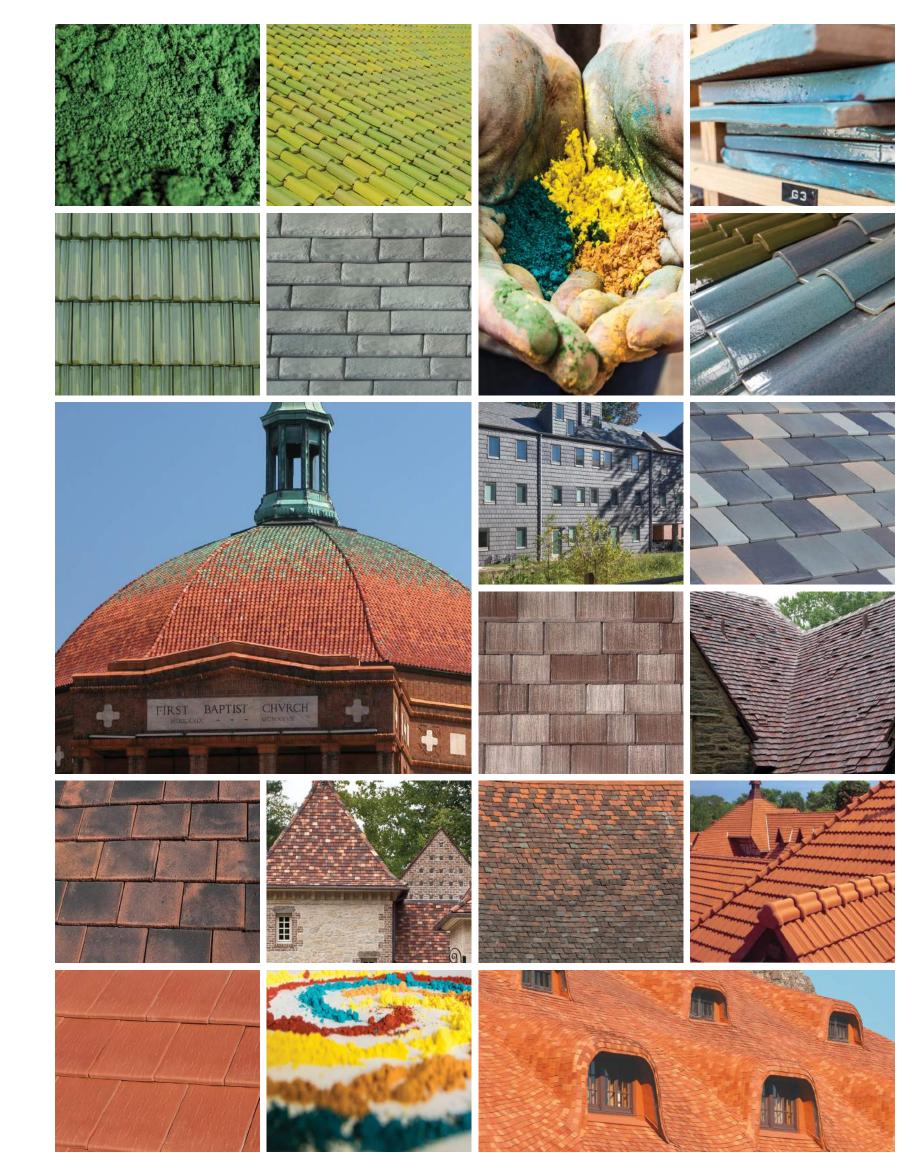






THE COLORS & TEXTURES

of Ludowici







THE ART & SCIENCE OF LUDOWICI COLOR

Terra cotta by its very nature is warm, earthy and inviting.
Enhancing the natural qualities of terra cotta by adding a glaze
mixture prior to firing can create spectacular colors that cannot be
replicated on other materials like asphalt, synthetics, wood or concrete.

Creating the color of a terra cotta roof tile is part science and part art. A range of tones always exist within any given color — it is impossible to produce a monochromatic terra cotta roof tile. The range of tones that arise from the manufacturing process is a normal and very desirable feature of natural clay tile, imparting richness, character and a more dimensional appearance to the roof.

Ludowici's high temperature firing process produces vibrant colors that do not fade, spall, effloresce, or significantly change over time. This is why we are one of the only manufacturers to include color in our industry leading 75-year material warranty.

At Ludowici, we pride ourselves on our long history of color mastery. Our expert ceramic engineers have developed an impressive array of standard design colors and hundreds of custom colors over the years to meet the needs of design professionals all over the world. They work hand in hand with architects, designers and homeowners to not only create beautiful custom colors, but also color blends, mixing multiple colors to create a subtle, or a dramatic one-of-a-kind roof statement.

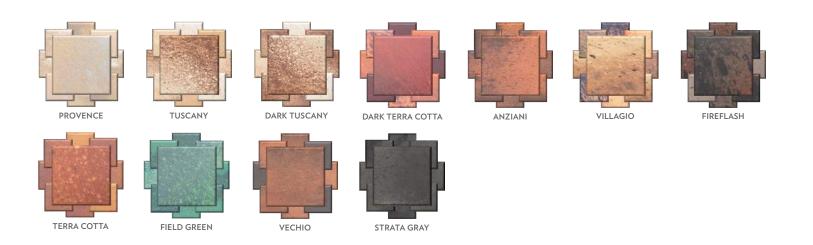
STANDARD COLOR BLENDS





IMPRESSIONIST SERIES BLENDS

The Impressionist Series utilizes two or three complementary shades applied randomly over a base color to create the patina of a century-old roof. Standard blends can be selected or custom blends can be created using different percentages of the Impressionist Series colors. The Impressionist Series colors are available on all barrel, interlocking and shingle tiles, excluding French.





SLATE COLOR BLENDS

Ludowici offers two slate alternatives – LudoSlate and Lexington Slate®. LudoSlate is a lightweight interlocking tile featuring the texture and chiseled edges of quarried slate. Lexington Slate is a thicker, horizontal interlocking tile with a pronounced quarried slate texture to give a more robust slate appearance. For an authentic slate appearance, we recommend these slate color blends:







SHAKE COLOR BLENDS

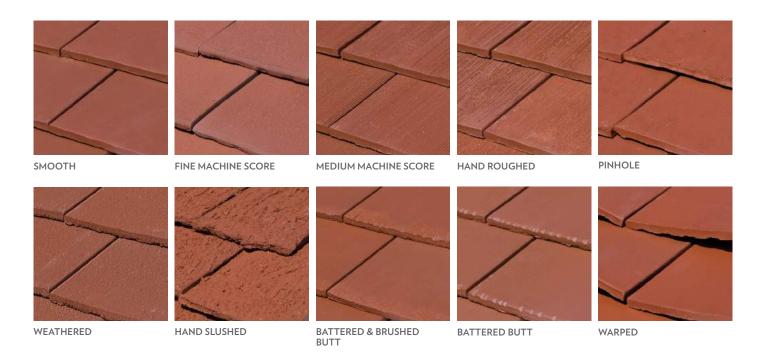
Ludowici also offers two wood shake alternatives – LudoShake and Century Shake®. LudoShake is a lightweight interlocking tile featuring the texture and varied thickness of hand-split wood shakes. For a more rustic shake appearance, Century Shake features a pronounced rough bottom edge and three tile sizes. For an authentic wood shake appearance, we recommend these color blends:





TERRA COTTA TEXTURES

At Ludowici, our skilled craftsman can recreate a number of finishes that authentically replicate the surface of age-old tiles. Custom textures can be applied to match historic applications or to meet your specific design aesthetic. Textures reduce glare reflecting off the tile and allow the true color to show through. Many tile textures are applied by hand which allows each tile to have a unique, handmade look.







Not every texture is available on every tile profile. Please see your sales representative for more details.

TECHNICAL SPECIFICATIONS

& other resources





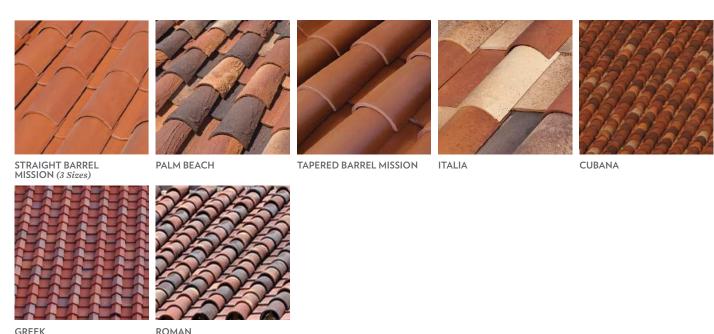


BARREL TILES

Ludowici offers a wide range of barrel tiles, so called because of their convex barrel-like shape. The tiles are divided into two varieties based on their design origin, Mission and Spanish, and they are fully customizable.

MISSION

Ludowici's Mission tiles faithfully match historic Italian, French, Spanish and Southwestern mission designs, capturing their romance and beauty.



SPANISH

The familiarity of its barrel shape and the distinctive ripple pattern it creates across the roof make Ludowici's variety of Spanish tiles an enduring favorite.

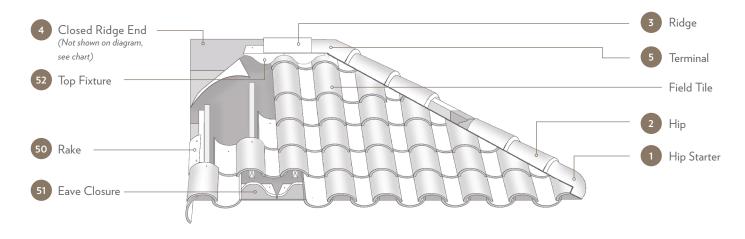


ANISH S

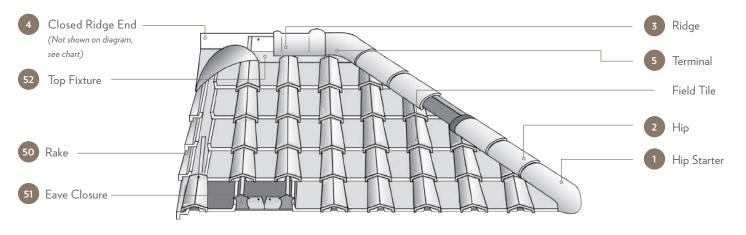
PHYSICAL CHAP	RACTERISTICS						
PROFILE	WEIGHT PER SQUARE (LBS)	PIECES PER SQUARE	OVERALL SIZE	EXPOSURE	INSTALLED BARREL HEIGHT OFF DECK	MIN. SLOPE	BASE TEXTURE
Palm Beach Mission 18 ^{3/8} "	1165	163	8" x 18 ^{3/8} "	11 ^{1/2} " C.C. x 15 ^{3/8} "	4 ^{3/8} ″ nominal	5:12	Smooth
Straight Barrel Mission 18 ^{3/8} "	1165	163	8" x 18 ^{3/8} "	11 ^{1/2} " C.C. x 15 ^{3/8} "	4 ³/8" nominal	5:12	Smooth
Straight Barrel Mission 16"	1190	192	8" x 16"	11 ½" C.C. x 13"	4 ^{3/8} " nominal	5:12	Smooth
Straight Barrel Mission 14 ^{1/4} "	1250	225	8" x 14 1/4"	11 ½" C.C. x 11 ¼"	4 ^{3/8} " nominal	5:12	Smooth
Tapered Barrel Mission 14 ^{1/4} "	1345	244	7" x 14 ^{1/4} "	10 ½" C.C. x 11 ¼4"	4 1/2" nominal	5:12	Smooth
Italia 16"	950	148	Cover - 8" x 16", Pan - 9 ^{3/4} " x 16"	15" C.C. x 13"	4 ^{3/8} " nominal	5:12	Smooth
Cubana 18 ^{3/8} "	1200	170	8 ^{1/4} " x 18 ^{3/8} "	11" C.C. x 15 ^{3/8} "	4 ^{3/8} ″ nominal	5:12	Smooth
Greek	1510	240	Cover: 6 ^{1/2} " x 12 ^{3/4} " Pan: 9 ^{3/4} " x 12 ^{3/4} "	12" C.C. x 10"	3 ^{1/4"} nominal	5:12	Smooth
Roman	1415	240	Cover: 6" x 12 ^{3/4} " Pan: 9 ^{3/4} " x 12 ^{3/4} "	12" C.C. x 10"	3 ^{1/4} " nominal	5:12	Smooth
Spanish 13 1/4"	900	171	9 ^{3/4} " x 13 ^{1/4} "	8 ^{1/4} " x 10 ^{1/4} "	3″ nominal	4:12	Smooth
Spanish 18 ^{3/8} "	800	114	9 ^{3/4} " x 18 ^{3/8} "	8 ^{1/4} " x 15 ^{3/8} "	3″ nominal	4:12	Smooth
Scandia	926	188	8 ^{3/4} " x 13 ^{1/4} "	7 ½" x 10 ¼"	3″ nominal	4:12	Smooth

MISSION TILES

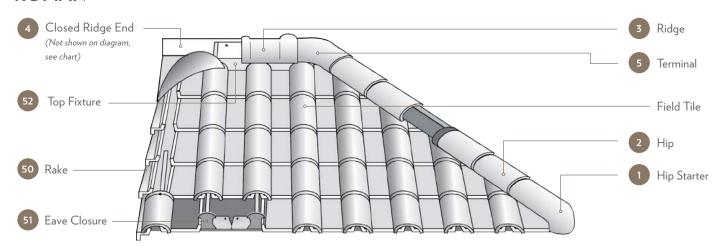
MISSION



GREEK



ROMAN



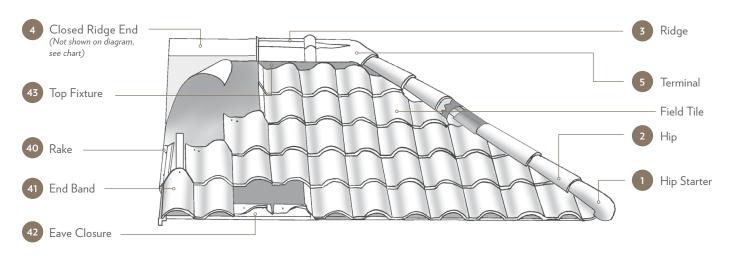
HIP & RIDGE	Visit www.ludowici.com to download a detailed product sheet on Hip, Ridge and Decorative Hip Starters.						
PROFILE	1 HIP STARTER	2 HIP	RIDGE	CLOSED RIDGE END		5 TERMINAL	
#118/#211 Hip & Ridge Trim Group	#168 Hip Starter	#118 Hip Roll	#211 Ridge	#211 Closed Ridge End	#118/#211 2 Hip 1 Ridge Terminal		
Circular Cover Hip & Ridge Trim Group	CC-Hip Starter	CC-Hip	CC-Ridge	CC-Closed Ridge End	CC- 2 Hip 1 Ridge Terminal	CC-Low Bump 2 Hip 1 Ridge Terminal	
#102/#206 Hip & Ridge Trim Group	#152 Hip Starter	#102 Hip Roll	#206 Ridge	#206 Closed Ridge End	#102/#206 2 Hip 1 Ridge Terminal	#405 High Bump 2 Hip 1 Ridge Terminal	#406 High Bump Gable Terminal

FITTINGS				
PROFILE	50 RAKES	51 EAVES	52 TOP FIXTURE	SHORT COURSE
Palm Beach Mission, Straight Barrel Mission (all sizes), Italia, Tapered Barrel Mission and Cubana				
Greek	Rolled Rake	Eave Closure Eave Closure	Top Fixture Top Fixture	Short Course
Roman	Rake	Eave Closure	Top Fixture	N/A

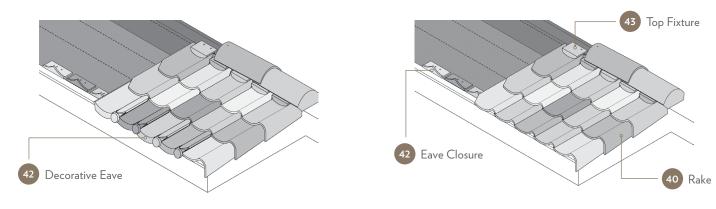


SPANISH TILES

SPANISH



SCANDIA



HIP & RIDGE	& RIDGE Visit www.ludowici.com to download a detailed product sheet on Hip, Ridge and Decorative Hip Starte							
PROFILE	1 HIP STARTER	2 HIP	RIDGE	CLOSED RIDGE END		5 TERMINAL		
Circular Cover Hip & Ridge Trim Group	CC-Hip Starter	CC-Hip	CC-Ridge	CC-Closed Ridge End	CC-2 Hip 1 Ridge Terminal	CC-Low Bump 2 Hip 1 Ridge Terminal		
#102/#206 Hip & Ridge Trim Group	#152 Hip Starter	#102 Hip Roll	#206 Ridge	#206 Closed Ridge End	#102/#206 2 Hip 1 Ridge Terminal	#405 High Bump 2 Hip 1 Ridge Terminal	#406 High Bump Gable Terminal	

FITTINGS					
PROFILE	40 RAKES	41 END BAND	`	42 AVES	TOP FIXTURE
Spanish 13 1/4"	Left Detached Gable Rake Gable Rake Gable Rake Rolled Rake	End Band	Eave Closure Beve	led Eave Closed Eave	Top Fixture Flat Top
Spanish 18 3/8*	Gable Rake Gable Rake Rolled Rake	End Band End Band	Barrel Eave Pan (end band used for covers at eave)		Top Fixture Flat Top
Scandia	Attached Rake	N/A	Eave Closure	Decorative Eave	Top Fixture

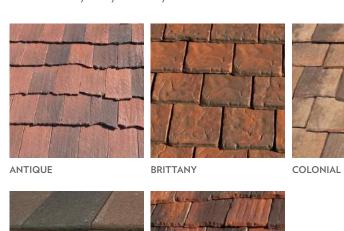


SHINGLE TILES

Ludowici's shingle tiles can be divided into two broad categories based on the aesthetic they exude: rustic and formal. With small exposures and unique surface textures, Ludowici shingles can be infinitely customized to meet your specific roofing needs.

RUSTIC

Inspired by historic regions of England and France, Ludowici's rustic shingles add the rugged warmth and charm of yesteryear to any structure.





GREENWICH

RUSTIC COLONIAL

FORMAL

Ludowici's clean-line formal shingles provide a restrained, timeless elegance that fits with virtually any architectural style.









COTSWOLD





PROVINCIAL

NORMAN

CRUDE



114

PHYSICAL CHARACTERISTICS

PROFILE

Antique

WEIGHT PER SQUARE (LBS)

1650

1900

PIECES PER SQUARE

412

412

OVERALL SIZE

7" x 12" x 1/2"

7" x 12" x 5/8"

EXPOSURE

7" x 5"

7" x 5"

BASE TEXTURE

Roughed

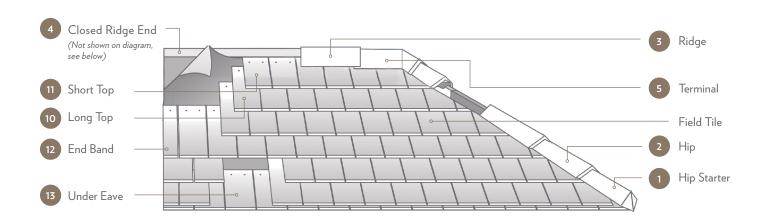
Lightly Pressed Stone

MIN. SLOPE

5:12

5:12

SHINGLE TILES



HIP & RIDGE			Visit www.ludow	vici.com to download a	detailed product sheet	on Hip, Ridge and Deco	orative Hip Starters.
PROFILE	1 HIP STARTER	2 HIP	RIDGE	CLOSED RIDGE END		TERMINAL	
V-Hip & Ridge Trim Group	V-Hip Starter	V-Hip	V-Ridge	V-Closed Ridge End	V-2 Hip 1 Ridge Terminal		
#118/#211 Hip & Ridge Trim Group	#168 Hip Starter	#118 Hip Roll	#211 Ridge	#211 Closed Ridge End	#118/#211 2 Hip 1 Ridge Terminal		
Circular Cover Hip & Ridge Trim Group	CC-Hip Starter	CC-Hip	CC-Ridge	CC-Closed Ridge End	CC-2 Hip 1 Ridge Terminal	CC-Low Bump 2 Hip 1 Ridge Terminal	
#102/#206 Hip & Ridge Trim Group	#152 Hip Starter	#102 Hip Roll	#206 Ridge	#206 Closed Ridge End	#102/#206 2 Hip 1 Ridge Terminal	#405 High Bump 2 Hip 1 Ridge Terminal	#406 High Bump Gable Terminal
Old Style Trim Group	Bonnet Hip Starter*	Bonnet Hip Roll* Aries Hip Plate*	Interlocking Ridge				

^{*} Roof slope on each intersecting roof plane needs to be identical to use these pieces.

FITTINGS					
PROFILE	10 LONG TOP	11 SHORT TOP	12 END BAND	UNDER EAVE	HEADER COURSE
All Shingle Profiles - Fittings Dimensions Vary Based on Product Chosen					



INTERLOCKING TILES

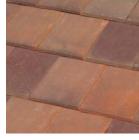
With graceful proportions and classic aesthetics, Ludowici's interlocking tiles combine an elegant appearance with installation efficiencies. Each tile features a different surface texture and interlocking sides, and you can choose from a range of flat and dimensional profiles.

FLAT INTERLOCKING TILES

The timeless elegance of Ludowici flat interlocking tiles enhances most any architectural style, while the clean-line design and larger scale allow for efficient installation.











AMERICANA (2 Sizes)

CLASSIC

LANAI (2 Sizes)

MORANDO CLOSED SHINGLE

WILLIAMSBURG

PROFILE INTERLOCKING TILES

The sculptural fluting of Ludowici dimensional profile tiles, also known as French tiles, offers visual drama. The deep channels provide exceptional drainage and the thickness creates a tile of amazing strength.



FRENCH

SLATE & SHAKE INTERLOCKING TILES

Some of Ludowici's most popular profiles are wood shake and slate alternatives. These profiles offer the true rustic aesthetic of these materials, yet they require no maintenance and won't rot, warp, or fade.



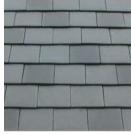




CENTURY SHAKE®

LUDOSHAKE



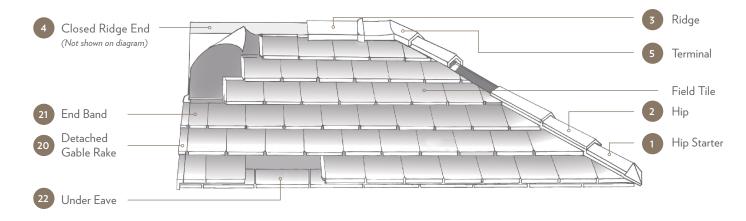


LEXINGTON SLATE®

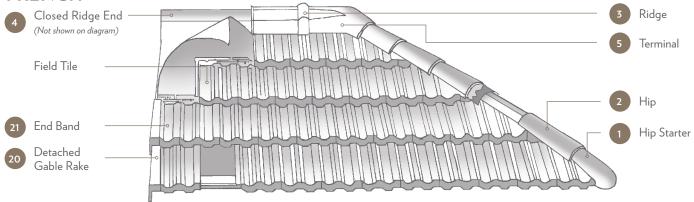
IU	DO	SLZ	T	F

PHYSICAL CHARA	CTERISTICS					
PROFILE	WEIGHT PER SQUARE (LBS)	PIECES PER SQUARE	OVERALL SIZE	EXPOSURE	MIN. SLOPE	BASE TEXTURE
Americana 16"	750	109	10 ^{3/4} ″ x 16″ x 7/8″	10 ^{1/8} " x 13" x 7/8"	3:12	Lightly Pressed Bark
Americana 14"	800	158	9" x 14" x 7/8"	8 ^{1/4} " x 11" x 7/8"	3:12	Lightly Pressed Bark
Century Shake	679	141 (Full Tile: 100; Two-Thirds Tile: 28; Half Tile: 13)	5 ½" x 14 ½" x 1"; 7 ¾6" x 14 ½" x 1"; 10 ½" x 14 ½" x 1"	5" x 11 ^{1/2} "x 1"; 6 ^{11/16"} x 11 ^{1/2} "x 1"; 10" x 11 ^{1/2} "x 1"	3:12	Scratched shake
Classic 16"	750	109	10 ^{3/4} " x 16" x 7/8"	10 ^{1/8} " x 13" x 7/8"	3:12	Smooth
Classic 14"	800	158	9″×14″×7/8″	8 ^{1/4} " x 11" x 7/8"	3:12	Smooth
French	1025	133	9" x 16 ^{1/4} "	8 ^{1/8} " x 13 ^{3/8} "	3:12	Smooth Raised Profile
Lanai 16"	750	109	10 ^{3/4} ″ x 16″ x 7/8″	10 ^{1/8} " x 13" x 7/8"	3:12	Weathered
Lanai 14"	800	158	9″ x 14″ x 7/8″	8 ^{1/4} " x 11" x 7/8"	3:12	Weathered
Lexington Slate	783	152 (Full Tile: 110; Three-Quarters Tile: 28; Half Tile: 14)	7 5/8" x 10 1/2" x 1"; 11 3/8" x 10 1/2" x 1"; 14 3/4" x 10 1/2" x 1"	7" x 7 ^{1/2} "x 1"; 10 ^{1/2"} x 7 ^{1/2} "x 1"; 14" x 7 ^{1/2} "x 1"	3:12	Quarried Slate
LudoShake	598	111	10 ^{3/4} ″ x 16″x 3/4″	10 ^{1/8} " x 13"x 3/4"	3:12	Scratched Shake
LudoShake Premier	676	119 (Full Tile: 100; Two-Thirds Tile: 9; Half Tile: 10)	5 ^{3/4} " x 16"x 3/4"; 7 ^{3/4} " x 16"x 3/4"; 10 ^{3/4} " x 16"x 3/4"	5" x 13"x 3/4"; 7" x 13"x 3/4"; 10 ^{1/8} " x 13"x 3/4"	3:12	Scratched Shake
LudoSlate	598	111	10 ^{3/4} " x 16"x 3/4"	10 ^{1/8} " x 13"x 3/4"	3:12	Quarried Slate
LudoSlate Premier	676	119 (Full Tile: 100; Two-Thirds Tile: 9; Half Tile: 10)	5 ^{3/4} " x 16"x 3/4"; 7 ^{3/4} " x 16"x 3/4"; 10 ^{3/4} " x 16"x 3/4"	5" x 13"x 3/4"; 7" x 13"x 3/4"; 10 ^{1/8} " x 13"x 3/4"	3:12	Quarried Slate
Morando Closed Shingle	1160	225	8 ^{3/4} " x 11" x 1 ^{3/16} "	8" x 8" x 1 ^{3/16} "	3:12	Smooth
Williamsburg 16"	750	109	10 ^{3/4} " x 16" x 7/8"	10 ^{1/8} " x 13" x 7/8"	3:12	Scratched
Williamsburg 14"	800	158	9" x 14" x 7/8"	8 ^{1/4} " x 11" x 7/8"	3:12	Scratched

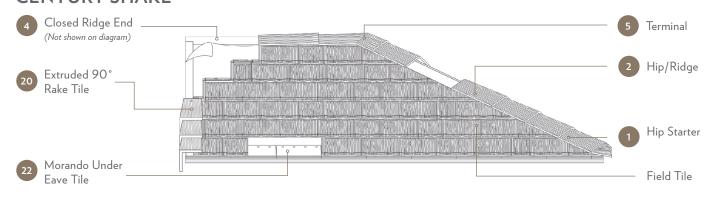
INTERLOCKING TILES



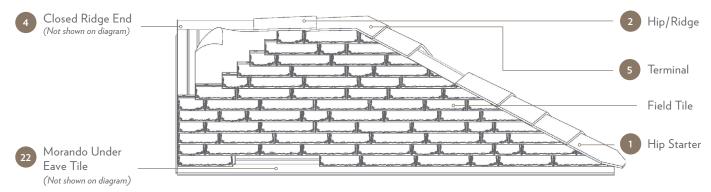
FRENCH



CENTURY SHAKE



LEXINGTON SLATE



HIP & RIDGE			Visit www	v.ludowici.com to downlo	ad a detailed product sh	eet on Hip, Ridge and De	corative Hip Starters.
PROFILE	1 HIP STARTER	2 HIP	RIDGE	CLOSED RIDGE END		TERMINAL	
V-Hip & Ridge Trim Group	V-Hip Starter	V-Hip	V-Ridge	V-Closed Ridge End	V-2 Hip 1 Ridge Terminal		
#118/#211 Hip & Ridge Trim Group	#168 Hip Starter	#118 Hip Roll	#211 Ridge	#211 Closed Ridge End	#118/#211 2 Hip 1 Ridge Terminal		
Circular Cover Hip & Ridge Trim Group	CC-Hip Starter	CC-Hip	CC-Ridge	CC-Closed Ridge End	CC-2 Hip 1 Ridge Terminal	CC-Low Bump 2 Hip 1 Ridge Terminal	
#102/#206 Hip & Ridge Trim Group	#152 Hip Starter	#102 Hip Roll	#206 Ridge	#206 Closed Ridge End	#102/#206 2 Hip 1 Ridge Terminal	#405 High Bump 2 Hip 1 Ridge Terminal	#406 High Bump Gable Terminal

FITTINGS			
	20	21	22
PROFILE	RAKES	END BAND	EAVES
Americana, Classic, Lanai, LudoShake, LudoSlate, Morando Closed Shingle and Williamsburg - Fittings Dimensions Vary Based on Product Chosen	Detached Gable Rake - Left & Right		
Century Shake	Extruded 90 Degree Rake	N/A	Morando Under Eave
French	Detached Gable Rake - Left & Right		N/A
Lexington Slate	N/A	N/A	Morando Under Eave

ACCESSORIES & TRIM

Beautifully detailed trim pieces are a signature element of a Ludowici roof. Ludowici offers a wide range of trim, from the stylized ornate #206 and #211 to the clean and simple lines of the V-Hip/Ridge and Circular Covers. Ludowici trim pieces are designed to be compatible with all profiles.

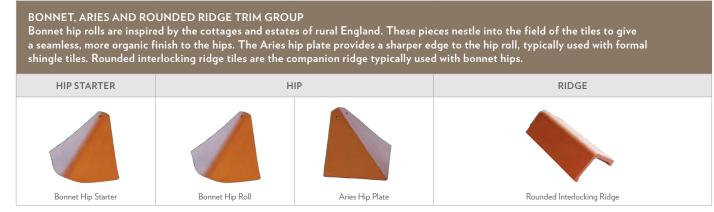
Ludowici also continues to produce numerous historic trim parts as well as custom trim in addition to standard trim parts. Please contact your Ludowici representative for more detailed information regarding your needs.

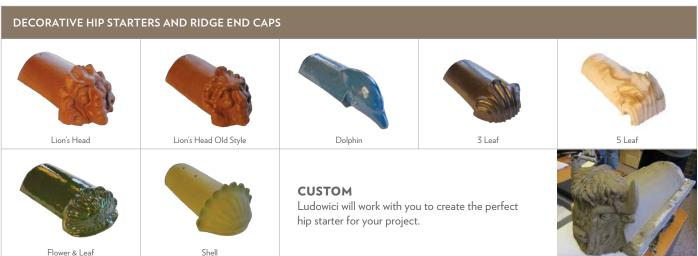




V-HIP AND RIDGE TRIM GROUP V-Hip and Ridge trim is typically used with flat interlocking and shingle tiles. This creates a clean look that can be tailored to match the color, finish and texture of the field tile. HIP STARTER HIP & RIDGE GABLE END TERMINAL V-Hip Starter V-Hip Starter V-Hip Starter V-Ridge V-Closed Ridge End V2-Hip 1 Ridge Terminal*

The #118/#211 trim group has a refined and detailed appearance. Used with any of Ludowici's flat shingle tiles or interlocking tiles, this trim group adds style and character to the clean lines of flat shingle tiles. HIP STARTER HIP RIDGE GABLE END TERMINAL #168 Hip Starter #118 Hip Roll #211 Ridge #211 Closed Ridge End #118/#211 2 Hip 1 Ridge Terminal*

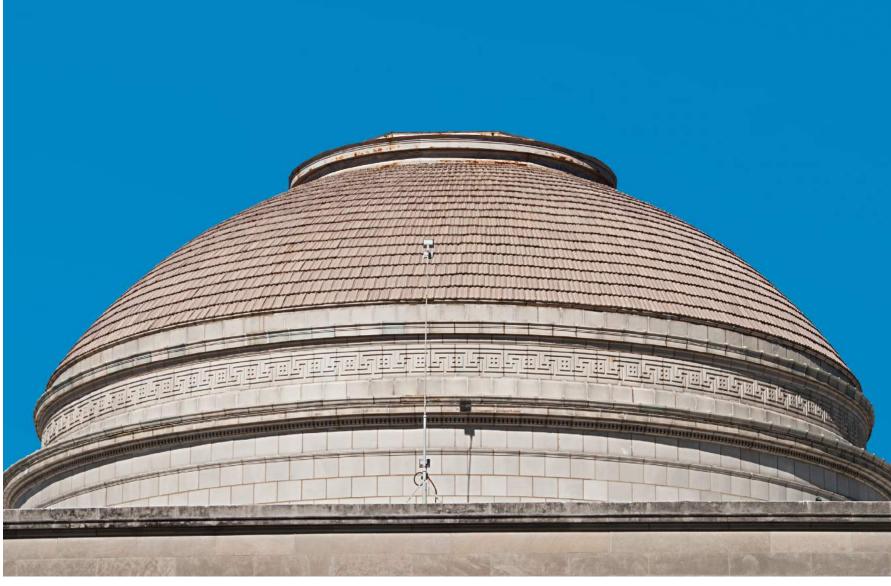




^{*}Ludowici makes ridge/hip terminals to fit any roof geometry. Contact your Ludowici representative for assistance.

#118/#211 TRIM GROUP





GRADUATED AND TOWER TILE

Crafting tile to fit curved roofs has been a specialty of Ludowici's since the late 1800s. To accommodate the geometry of a curved roof, Ludowici artfully tapers tile to become progressively smaller from the bottom to the top of a curved roof. These graduated tiles are custom designed to fit a specific roof. This custom process requires Ludowici to send technicians to the job site to take detailed field measurements of the physical structure. Ludowici craftsmen use these drawings to design patterns and molds for each row of tiles. Graduated tiles are then pressed from these molds and are finished to match the rest of the roof tiles. Ludowici crafts graduated tiles to match all of its tile profiles as well as decorative finials.

CUSTOMIZATION

Ludowici's custom tile capabilities are unsurpassed by any other manufacturer in the world. Using samples from an existing roof, Ludowici can make patterns, molds and press out new replacement tiles, or create new patterns from an architect's drawings. Ludowici's skilled craftsmen can recreate hand-finish textures such as finger streaks, hand slush or multi-directional scoring. Our ceramic engineers can develop glaze colors to match almost any historic tile as well as create new colors to meet your design goals.











HISTORIC RENOVATIONS

For over 130 years, Ludowici has crafted hundreds of different profiles of terra cotta roof tiles as well as thousands of different trim parts ranging from the heavily ornate designs of the Victorian era to the simpler lines of the second industrial revolution. The unique styling and detail of Ludowici tiles and trim are critical components to maintaining the character and charm of historic buildings. However, as architectural styles and tastes have evolved so has Ludowici's product line. Even though some profiles are no longer standard, Ludowici has a vast library of historic patterns and designs.

Using historic catalogs, drawings and technical guides going back to the 1800s, Ludowici's technical service department can identify and quote replacement parts for your historic roof. In addition to replicating Ludowici's own historic tile profiles and trim, Ludowici can match tiles from long gone manufacturers such as B. Mifflin Hood and Heinz.

RENOVATION QUICKSHIP

Ludowici's history as the leader in architectural terra cotta products in the United States since 1888 makes us a trusted partner in home renovation and historic restoration projects. Our unique Renovation QuickShip program allows you to order small quantities of frequently used historic tiles for repairing your roof. These select profiles, trim and colors usually ship in 7–14 days from receipt of a complete order.

RENOVATION QUICKSHIP ROOF TILE PROFILES

CHARACTERISTIC	SPANISH 13 ^{1/4} "	CLOSED SHINGLE	CLASSIC 14"	FRENCH
Profile				
Size	9 ^{3/4} " x 13 ^{1/4} "	8 ^{3/4} " x 11" x 1 ^{3/16} "	9" x 14"	9" x 16 ^{1/4} "
Surface	Smooth	Smooth	Smooth	Smooth
Fittings Available	Top Fixtures, Eave Closures and Gable Rakes	Gable Rakes	Under Eaves and Gable Rakes	Gable Rakes

RENOVATION QUICKSHIP HIP AND RIDGE

CHARACTERISTIC	#206 RIDGE	#102 HIP ROLL	CIRCULAR COVER HIP/RIDGE	#211 RIDGE	#118 HIP ROLL	V-HIP/RIDGE
Profile						
Length	13 3/4"	14 1/4"	16"	13 1/4"	14"	14 1/4"
Exposure	12"	12"	13"	12"	12"	12"

RENOVATION QUICKSHIP COLORS



For more information about our Renovation QuickShip program, please visit: ludowici.com/renovation-quickship

STANDARD GUIDE SPECIFICATION

Ludowici's experienced technical team is ready to assist you in specifying any Ludowici roof tile product for your next project. Below is the standard guide specification for Ludowici 13 ^{1/4}" Spanish clay roof tiles. Please contact Ludowici's technical service department at **tech@ludowici.com** for additional product guide specifications.

SECTION 07 32 13 - CLAY ROOF TILE PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Clay Roof Tile.
- B. Fasteners.
- C. Underlayment
- D. Flashings and Counterflashings.

1.2 RELATED SECTION

- A. Division 06 Section "Sheathing".
- B. Division 07 Section "Elastomeric Membrane Roofing"
- C. Division 07 Section "Sheet Metal Flashing and Trim".
- D. Division 07 Section "Roof Specialties".
- E. Division 07 Section "Roof Accessories".

1.3 REFERENCES

- A. ASTM A 167 Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
- B. ASTM B 370 Standard Specification for Copper Sheet and Strip for Building Construction.
- $C.\ ASTM\ B\ 749-Standard\ Specification\ for\ Lead\ and\ Lead\ Alloy\ Strip,\ Sheet,\ and\ Plate\ Products.$
- D. ASTM C 67 Standard Test Methods of Sampling and Testing Brick and Structural Clay Tile.
- E. ASTM C 387 Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete.
- F. ASTM C 887 Standard Specification for Packaged, Dry, Combined Materials for Surface Bonding Mortar.
- G. ASTM C 920 Standard Specification for Elastomeric Sealants.
- H. ASTM C 1167 Standard Specification for Clay Roof Tiles.
- I. ASTM D 226 Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- J. ASTM D 1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
- K. ASTM D 2626 Standard Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing.
- L. ASTM D 4586 Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- M. SMACNA Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association, Inc.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: For each type of product.
- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of clay roof tile and accessory.
- C. Shop Drawings:
- 1. Clay roof tile:
 - a. Exposure Pattern.
 - b. Locations and configurations of special shapes.
 - c. Locations and configuration of each type of flashing.

- 2. Fabricated sheet metal items:
 - a. Dimensioned profiles.
 - b. Locations and extent of each item; include joint locations.
 - c. Jointing methods and materials.
 - d. Provisions for prevention or electrolytic action between dissimilar materials.
- e. Interface with adjacent construction.
- D. Samples for Selection:
 - 1. Two sets of color charts or samples representing manufacturer's full range of available colors.
- E. Samples for Verification:
- 1. Clay Roof Tile: Three full-size field tile of each color and finish specified, representing the actual color and finish of products to be installed.
- F. Manufacturer's printed installation instructions for each product, including product storage requirements.
- G. Closeout Submittals:
- 1. Warranty documents, issued and executed by clay roof tile manufacturer, countersigned by Contractor.
- 2. Maintenance Data, maintenance letter issued by the clay roof tile manufacturer.

15 OLIALITY ASSLIBANC

- A. Installer Qualifications: Company specializing in installing roofing of the type specified in this section, with no fewer than three years of documented experience.
- B. Manufacturer Qualifications: Current ISO 9000 certification.
- C. Source Limitations: All clay roof tile products specified in this section will be supplied by a single manufacturer, experienced in designing and manufacturing clay roof tile.
- D. Mockups:
- 1. Construct mockup using materials specified in this section.

Delete one of the following two paragraphs. If second paragraph is retained, insert size requirements.

- 2. Construct mockup as directed, at location indicated.
- 3. Construct mockup at location indicated, size _____ feet by _____ feet (____m by ____m).
- 4. Obtain Architect/Owner's acceptance of mockup before beginning construction activities of this section; accepted mockup will be standard by which completed work of this section is judged.

Delete one of the following two paragraphs.

- 5. Mockup may not remain as part of Work.
- 6. Accepted mockup may remain as part of Work.

E. Pre-Installation Meeting

- 1. Convene at job site seven (7) calendar days prior to scheduled beginning of construction activities of this section to review requirements of this section.
- $2. \ {\sf Require\ attendance\ by\ representatives\ of\ the\ following:}$
 - a. Roofing contractor of this section.
- b. Other entities directly affecting, or affected by, construction activities or this section.
- 3. Notify Architect/Owner four (4) calendar days in advance of scheduled meeting date.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products of this in manufacturer's unopened packaging until installation.
- B. Maintain storage area conditions for products of this section in accordance with the manufacturer's instructions until installation.

1.7 WARRANTY

- A. Product Warranty.
- 1. The clay roof tile manufacturer shall provide a 75-year warranty guaranteeing material integrity and color fastness for the clay roof tile.
- B. Special Warranties:
- 1. Roof Contractor Warranty: The contractor warrants products of this section, as installed, to be in accordance with the Contract Documents and free from faults and defects in materials and workmanship for a period of 3 years. Combine special warranty of this section with products, as installed, of the following sections.
 - a. Section 07 53 00
 - b. Section 07 60 00

1.8 EXTRA MATERIALS

A. Provide an additional quantity of clay roof tile matching clay roof tile installed, in the amount of 3 percent of the total installed, but not less than one full carton, for Owner's use in roof maintenance.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturing facility shall be located in the United States of America:
- B. Manufacturer shall have been in continuous operation for over 100 years.
- C. Manufacturer shall be ISO 9000 certified and meet Cradle to Cradle specifications.
- D. Acceptable Clay Roof Tile Manufacturer: Ludowici Roof Tile; P.O. Box 69 4757 Tile Plant Road, New Lexington, OH 43764. Tel. (800) 945-8453. Email: info@ludowici.com. Website: www.ludowici.com.
- E. Requests for substitution will be considered in accordance with provisions of Section 01 60 00.
- F. Unless otherwise specified for an individual product or material, supply all products specified in this section from the same manufacturer.

- A. Clay Roof Tile General: Incombustible, vitrified tile manufactured from shale and fire clays, having less than 2.0 percent moisture absorption when tested in accordance with ASTM C 67, and meeting Grade 1 freeze/thaw resistance requirements when tested in accordance with ASTM C 1167. 1. Color: Clay Red
- B. Basis-of Design Clay Roof Tile: 13.25" Spanish.
- 1. Profile: A high profile tile with a simple one piece barrel design which provides a pattern of distinctive ripples across the roof.
- 2. Nominal size: 9.75 inches (247.6 mm) wide by 13.25 inches (336.6 mm) long.
- 3. Average Exposure: 8.25 inches (209.6 mm) center to center by 10.25 inches (260.4 mm) long.

Delete accessories not required for the project.

- 4. Accessory tile pieces required:
 - a. Eave Closure tile. b. Top Fixture tile.

 - c. End Band (Half) tile.
 - d. Left Detached Gable Rake tile.
 - e. Right Detached Gable Rake tile.
 - f. Circular Cover Hip tile.
 - g. Circular Cover Hip Starter tile.
 - h. Circular Cover Ridge tile.
- i. Circular Cover Closed Ridge End tile.
- j. Circular Cover Hip/Ridge Terminal tile.
- 5. Exterior Finish/Texture: Smooth

2.3 ACCESSORY MATERIALS

- A. Underlayment: 2 layers of 30 lbs/sq ASTM D 226, Type II asphalt-saturated organic felt.
- B. Wood stringers: \$4\$, maximum 19 percent moisture content, nominal 2 inch (50 mm) thick, of height required to support tile.
- C. Flashing: 16oz/sq ft (0.56 mm) thick ASTM B 370 cold rolled copper.
- D. Copper wire: 10 gauge (2.6 mm) minimum, with or without insulation.
- E. Mortar for finishing Valley Edges:
- 1. Mix the following materials in equal parts:
 - a. Factory-mixed mortar meeting requirements of ASTM C 387, Type M.
 - b. Factory-mixed surface bonding mortar meeting requirements of ASTM C 887.
- 2. Add mineral oxide pigment to match color of roof tile.
- 3. Add water and acrylic additive in accordance with mortar materials manufacturer's instructions to obtain correct mix for workability.
- F. Roof cement: Asphalt roof cement conforming to ASTM D 4586, Type I or II
- G. Sealant Used in Lieu of Flashing Cement: ASTM C 920 silicone, provide one compatible with 3M 2-Component Roof Tile Adhesive AH-160 and underlayment.
- H. Screws: No. 8 or 9 brass or stainless steel, flathead, phillips or square drive, of sufficient length to provide minimum 0.75 inch (19 mm) penetration into roof deck.
- I. Nails for Solid Wood Deck: Corrosion resistance copper or stainless steel; minimum 0.375 inch (9.5 mm) head diameter; shank minimum 11 gauge (3 mm), of sufficient length to provide minimum 0.75 inch (19 mm) penetration into roof deck but not through the underside.
- J. Nails for Plywood Deck: Slater's copper ring shank nail, 11 gauge (3 mm), of sufficient length to provide minimum 0.75 inch (19 mm) penetration into roof deck.
- K. Wood Nailers and Cant Strips: Preservative-treated wood, as specified in Section 06 10 00.

2.4 FLASHING FABRICATION

- A. Flashing and Trim: Form to profiles indicated on drawings and as required to protect roofing materials from physical damage and shed water in accordance with manufacturer's instructions for indicated project conditions.
- B. Form sections square and accurate in profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
- C. Fabricate other indicated sheet metal items as follows:
- 1. Gutters: SMACNA Plate Number ___
- 2. Conductor heads: SMACNA Plate Number ____
- 3. Downspouts: SMACNA Plate Number _
- D. Fabrication of other indicated sheet metal items is specified in Section 07 60 00.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that roofing penetrations and plumbing stacks are in place and properly flashed to deck surface.
- B. Verify that roof openings are correctly framed and of sufficient height to install required flashings.
- C. Verify that deck surfaces are dry and free of ridges, warps and voids.

3.2 PREPARATION

- A. Comply with clay roof tile manufacturer's recommendations on preparation of acceptable roof deck.
- B. Broom clean deck surfaces prior to installation of underlayment and prepare deck per the underlayment manufacturer's instructions.

3.3 UNDERLAYMENT AND ACCESSORY INSTALLATION

A Underlayment

- 1. Install per manufacturer's instructions.
- 2. Beginning at eave edge, install perpendicular to roof slope; extend minimum of 4 inches (100 mm) over gutters and valley flashing, and minimum 6 inches (150 mm) up abutting vertical surfaces.
- 3. Overlap side joints minimum 2-1/2 inches (64 mm); overlap end joints minimum 6 inches (150 mm).
- 4. Install second layer parallel to first layer, maintaining specified overlap at qutters, valley flashings, and at side and end joints; locate side joints minimum 18 inches (457 mm) from first layer side joints, and locate end joints minimum 12 inches (300 mm) from first layer end joints.
- 5. Fasten sides and ends to deck with fasteners spaced at maximum 6 inches (150 mm) on centers.
- 6. Install additional layer on rough surfaces; install additional layer of full-width high temp waterproof underlayment parallel to, and centered on, hips, ridges
- B. Flashings: Install at all locations where roof intersects side wall and head wall conditions.
- C. Valley Flashings
- 1. Install minimum 24 inch (610 mm) wide copper flashing over full-width high temp waterproofing membrane material; fasten metal to deck with cleats.
- 2. Overlap end joints minimum 12 inches (304.8 mm), do not solder joints.
- 3. Lap self-adhering waterproofing membrane material over edges of flashing 4 inches (101.6 mm).
- D. Intersections of Roof Surfaces and Abutting Vertical Surfaces:
- 1. Install continuous 18 inch (457.2 mm) wide strips of high temp waterproof membrane material to extend 12 inches (304.8 mm) across roof deck and 6 inches (152.4 mm) up vertical surface.
- 2. Install continuous copper flashing to extend 4 inches (101.6 mm) up vertical surface.
- ${\it 3. Form saddle flashings for protrusions through roof in accordance with manufacturer's instructions.}\\$
- E. Fabricate Sheet Metal Items: Install in accordance with shop drawings and SMACNA ASMM.
- F. Fabricate Sheet Metal Items: Installation is specified in Section 07 60 00.

3.4 CLAY ROOF TILE INSTALLATION

- A. Install tile roofing in strict accordance with manufacturer's instructions.
- B. Install the Eave Closure tile flush with eave.
- C. Install the first course of field tile over Eave Closure tile overhand of first course of field tile at eave should not be less than 0.75 inches (19 mm) and not more than 2 inches (51 mm). This dimension should be related to the size of the gutters and should either be shown on the drawings or specified here.
- 1. Do not drive fasteners tightly against tiles, to reduce risk of breakage and to allow for natural deck movement.
- 2. Allow tile to "hang" on its fasteners.
- D. Install each subsequent course with a maximum exposure in each course of 10.25 inches (260.4 mm). Wet cut tile at hips and valleys, using masonry saw with diamond blade
- E. At hip and ridge install bead of adhesive at butt edge of each tile of sufficient thickness to ensure adhesion between tiles and located so it is completely concealed. Install sealant as required at hip and ridge accessories to achieve watertight installation. Install type M mortar between cut field tile and nailer for hip tile.

3.5 PROTECTION

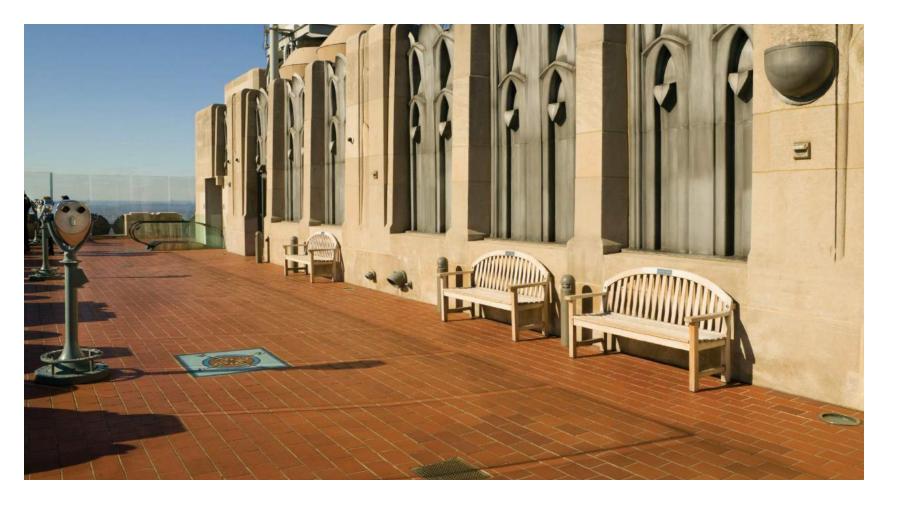
- A. Do not permit traffic over finished roof surface unless absolutely necessary.
- B. Minimize traffic over installed clay roof tile. If necessary, wear soft-soles shoes and walk on the "butt" edge of the tile in order to avoid breakage.
- C. Replace tile broken due to improper protection or traffic control.

3.6 SCHEDULES

A. Location: ___

- 1. Tile: 13.25" Spanish.
- 2. Color: Clay Red.
- 3 Texture: Smooth

END OF SECTION 074223.00



QUARRY TILE FLOORING

Ludowici quarry tile can be found at institutions across the country, including the White House, Ellis Island and Rockefeller Center. This high-traffic commercial-grade flooring is made from the same clay and firing techniques as our roof tiles. Available in standard and custom matte colors* and smooth or non-skid surfaces, it's suitable for any climate or application and comes with a 75-year material warranty.

CHARACTERISTIC	PROMENADE 6"X9"	PROMENADE 9"X9"	PROMINENCE	VALENCIA
Profile				
Weight Per Square Foot	11.26 lbs.	11.66 lbs.	4.75 lbs.	5.5 lbs.
Pieces Per Square Foot	2.37 pcs. with a 7/16" grout joint	1.62 pcs. with a 7/16" grout joint	3.41 pcs. with a 7/16" grout joint	4.03 pcs. with a 7/16" grout joint
Overall Size	6" x 9" x 3/4"	9" x 9" x 1"	6" x 9" x 1/2"	7" x 7 ^{7/8} " x 1/2"

APPROVALS & CERTIFICATIONS

- ASTM C-373
- ASTM C-648
- Water Absorption Less Than 2%

- ASTM C-501
- ASTM C-1028-96

DIABOLO®

Ludowici is excited to offer a new landscape paver system imported from France designed for tomorrow's urban landscapes, like building plazas and green roofs. The Diabolo system is an architectural idea specially developed by TERREAL and world renowned architect Renzo Piano.

Diabolo is a self-draining outdoor floor covering with a terra cotta and turf finish. The system involves laying down a series of layers of granular materials and fine sand and then placing the terra cotta Diabolos above them using polymide clips. The terra cotta Diabolos' long format (up to 130 cm) gives you perfectly horizontal lines over large surfaces.



For over 150 years, TERREAL has been a leading manufacturer of clay building materials. Designing global building envelope solutions, TERREAL focuses on: roofing, structure, façade and decoration.

TERREAL is dedicated to revealing the beauty of terra cotta in every structure by creating uniquely beautiful and functional products that promote sustainability and respect both people and the environment.

CHARACTERISTIC	DIABOLO®	PROFILE	
Dimensions	125 x 5.75 x 10 cm		
Pieces Per Square Meter	11 pcs.		

AVAILABLE COLORS





For more information about Diabolo, please visit: ludowici.com/products/floor-tiles

^{*}Gloss colors are not available for flooring products.



OLD WORLD COLLECTION

If you are seeking old-world charm in a terra cotta roof that's modestly priced, you'll love Ludowici's unique Old World Collection. This special collection includes larger dimension barrel tiles and other tile profiles made popular long ago in Europe and Mexico and treated to look centuries old. Manufactured by TERREAL and exclusive partners, these clay tiles come in a range of profiles, colors and sizes and are available through Ludowici.

LANGUEDOCIENNE







Prominent in the architecture across the Mediterranean and the south of France, the Languedocienne mission barrel system features generously curved terra cotta tiles comprised of tapered mission caps and pans with a smooth surface. The long length tile results in fewer pieces per square, creating one of the most economical roof tile systems on the market. Available in five standard finishes and five special order finishes, Languedocienne is the perfect roof tile for restoration and new construction projects alike. Languedocienne is manufactured in France by TERREAL and is sold exclusively by Ludowici in North America.

CHARACTERISTIC	LANGUEDOCIENNE	PROFILE
Weight Per Square	948 lbs.	
Pieces Per Square	158 pcs.	
Overall Size	19 ¹/²″ x 8″ x 6″	
Exposure	11" C.C. x 16 1/2"	
Minimum Slope	4:12	

STANDARD COLORS



SPECIAL ORDER FINISHES



Terra Cotta WALL CLADDING & SOLAR SHADES

Through our subsidiary Terreal North America, Ludowici offers a wide variety of highly innovative terra cotta wall cladding products. Beautiful, durable ventilated façades, acoustic claddings and terra cotta panels offer limitless architectural possibilities for projects in any climate.









CLASSIC MATERIAL MEETS MODERN DESIGN

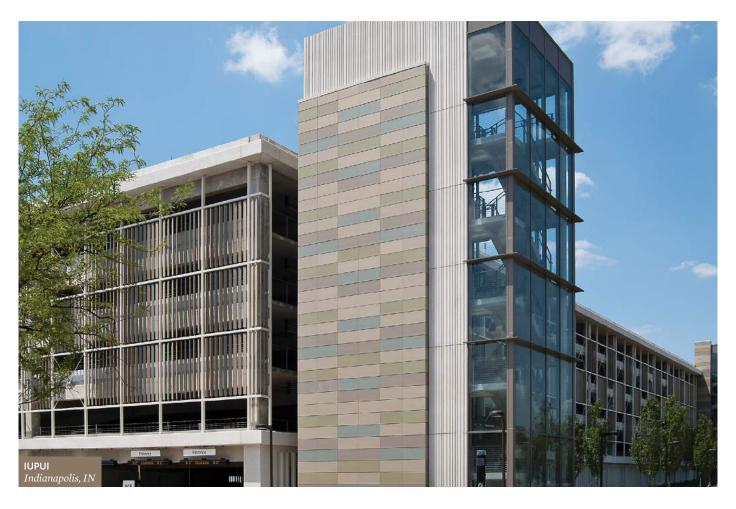
Advantages of Terreal Terra Cotta Wall Cladding:

- Affordable cladding and solar shade solutions
- Sustainable, natural, time-proven building material
- Non-fading, through body colors
- Maintenance free
- Easy to install, in all weather conditions
- High impact resistance
- Increased building envelope insulating performance
- Reduced solar heat gain through solar shading

TERRA COTTA SOLAR SHADES

Terra cotta solar shades provide a beautiful way to absorb and diffuse sunlight from building exteriors, creating an effective barrier against summer heat. Terreal North America offers TERREAL solar shades that come in a wide range of lengths, cross-sections and colors.

The terra cotta baguette profiles range from a modest square or circle to an ovoid to a unique airfoil design. The solar shade and attachment systems are designed to meet project specific requirements that include horizontal or vertical orientation, spacing, and rotation of the solar shade elements. They are truly a unique and beautiful way to achieve solar heat gain reduction, day lighting and wind load resistance.

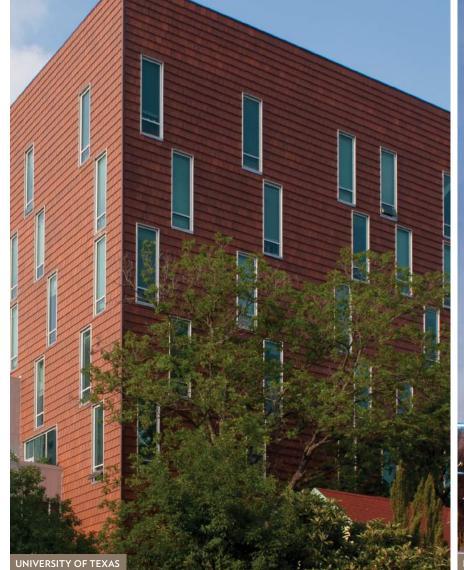


Tap into our engineers' expertise for help designing a cladding and/or shade system that meets the specific functional and decorative needs of your project. For more information please visit terrealna.com or call 888-582-9052.











$NEXCLAD^{\text{\tiny TM}}$

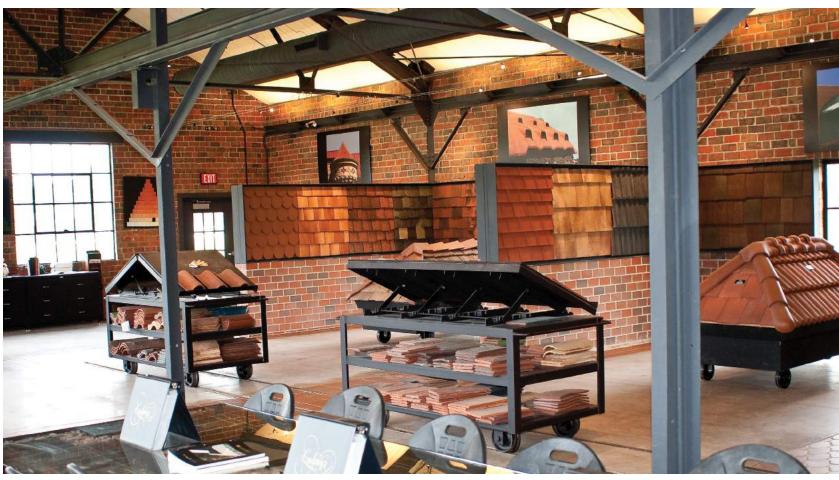
NeXclad is a single-skin, small module terra cotta cladding system developed by Ludowici and sold through our subsidiary Terreal North America. Currently available in three standard sizes and a variety of surface textures: from smooth-to-slate-and-beyond, and endless color options. NeXclad is a shingle-style wall cladding that provides wonderful texture and shadow lines on a wall surface. It can be installed direct to sheathing or in a rainscreen application and can be used in conjunction with Ludowici roof tiles to create seamless transitions from roof to wall. NeXclad is manufactured in the United States and provides a 75-year material warranty.

NEXCLAD™ TRUE

The newest product from Ludowici's collaboration with Terreal North America is NeXclad True. Designed to install with a flush surface texture, this small module terra cotta cladding offers design professionals the durability and customization capabilities of a NeXclad clay tile with the sleek streamlined look of a flush panel. Currently available in an 8"x12" size with endless color options and a 75-year material warranty.

For more information about NeXclad products, please visit: terrealna.com or call 888-582-9052.





FACTORY OF IDEAS

Ludowici's Factory of Ideas design center is a unique hands-on facility where visitors work one-on-one with our experts to design their new roof. Housed in a renovated 128-year-old factory building, visitors can browse our entire product line including decorative and historic tiles and trim, select clay tiles for their project, experiment with colors and blends and build mock-ups at the correct pitch and proper orientation for their project.

Visitors can study transitions, explore different trim styles and solve unique construction challenges with Ludowici experts, all with full-size tile and trim pieces. Once approved by the client, the mock-up serves as the template for the project.

And be sure to leave time in your schedule for a tour of our manufacturing facility. See firsthand how we create your tile and visit with Ludowici artisans at work.









