



## Historic Preservation Services

Community Development & Neighborhood Services  
281 North College Avenue  
P.O. Box 580  
Fort Collins, CO 80522.0580

970.416.4250  
[preservation@fcgov.com](mailto:preservation@fcgov.com)  
[fcgov.com/historicpreservation](http://fcgov.com/historicpreservation)

### CERTIFICATE OF APPROPRIATENESS

**ISSUED: March 16, 2020**

**EXPIRATION: March 16, 2021**

Mr. Robert Hoffert  
530 Smith Street  
Via email: [mbhoffert@gmail.com](mailto:mbhoffert@gmail.com)

RE: 530 Smith Street – Application to Reroof Using Decra Stone-Coated Steel Shingles (“ShingleXD”)

Dear Mr. Hoffert:

This letter provides you with confirmation that the proposed change of roofing material on your designated Fort Collins Landmark property at 530 Smith Street has been approved by the City’s Historic Preservation Division. The work has been determined to meet the criteria and standards in Chapter 14, [Article IV](#) of the Fort Collins Municipal Code based upon the following findings:

1. The property at 530 Smith Street, the John M. Riddle House, is a Fort Collins Landmark (Ordinance No. 075, 1996) and exterior alterations are subject to approval by the Landmark Preservation Commission.
2. That the dwelling’s historic wood roof was covered with a non-historic material as early as 1952, during the building’s period of significance; and that a non-historic roofing material was present on the dwelling at the time of its designation as a Landmark in 1996.
3. That the owner did restore the roof back to wood shingles in 1996, following its designation; this roof is now 24 years old, has met its life expectancy, and has recently been damaged, necessitating the replacement of this roof in order to protect the dwelling;
4. That the owner used public funding in 1996 in order to restore the dwelling’s wood roof; and that the life expectancy of the materials and labor that received public funding has been met.
5. That the City Council has adopted the theme of environmental sustainability as a Council Priority in the 2018 Strategic Plan; and that one of the Purpose identified in Municipal Code Chapter 14, Landmark Preservation, is to “Promote...environmental sustainability through the...maintenance...of existing buildings.”
6. That Decra brand stone-coated steel shingles (“Shingle XD”) that closely match the existing wood shingles in texture, design, color and appearance will be used.
7. That Historic Preservation staff desires to study this material in situ as a test case for alternative roofing materials to determine if this is an appropriate substitute material for use on other Landmark properties, and that this can only practically be accomplished by allowing this test case.
8. That the property will retain its eligibility and standing as a Fort Collins Landmark even with this change in roofing material.

Please note that all ensuing work must conform to the approved plans. Any non-conforming alterations are subject to stop-work orders, denial of Certificate of Occupancy, and restoration requirements and penalties.

If the approved work is not completed prior to the expiration date noted above, you may apply for an extension by contacting staff at least 30 days prior to expiration. Extensions may be granted for up to 12 additional months, based on a satisfactory staff review of the extension request.

Property owners can appeal staff design review decisions by filing a written notice of appeal to the Director of Community Development & Neighborhood Services within fourteen (14) days of this decision. If you have any questions regarding this approval, or if I may be of any assistance, please do not hesitate to contact me. I may be reached at [kmcwilliams@fcgov.com](mailto:kmcwilliams@fcgov.com), or 970-224-6078.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Karen McWilliams', written over a horizontal line.

Karen McWilliams  
Historic Preservation Manager



## Design Review Application Historic Preservation Division

*Fill this form out for all applications regarding designated historic buildings within the city limits of the City of Fort Collins. Review is required for these properties under Chapter 14, [Article IV](#) of the Fort Collins Municipal Code.*

### Applicant Information

Robert Hoffert	970-493-6537	970-493-6537
Applicant's Name	Daytime Phone	Evening Phone
530 Smith Street, Fort Collins		CO 80524
Mailing Address (for receiving application-related correspondence)		State Zip Code
<a href="mailto:mbhoffert@comcast.net">mbhoffert@comcast.net</a>		
Email		

### Property Information (put N/A if owner is applicant)

Robert and Maureen Hoffert	970-493-6537	970-493-6537
Owner's Name	Daytime Phone	Evening Phone
530 Smith Street, Fort Collins		CO 80524
Mailing Address (for receiving application-related correspondence)		State Zip Code
<a href="mailto:mbhoffert@comcast.net">mbhoffert@comcast.net</a>		
Email		

### Project Description

Please provide an overview of your project. (Details about the work will be added on the next page.)

Replace hail damaged shake roof (only the house is historic)

#### The following attachments are REQUIRED:

- ☐ Complete Application for Design Review
- ☐ Detailed Scope of Work (and project plans, if available)
- ☐ Color photos of existing conditions

#### Reminders:

Complete application would need all of checklist items as well as both pages of this document.

Detailed scope of work should include measurements of existing and proposed.

*Please note: if the proposal includes partial or full demolition of an existing building or structure, a separate demolition application will need to be approved.*

*Additional documentation may be required to adequately depict the project, such as plans, elevations, window study, or mortar analysis. If there is insufficient documentation on the property, the applicant may be required to submit an intensive-level survey form (at the applicant's expense).*

**Detail of Proposed Rehabilitation Work (\*Required)**

If your project includes multiple features (e.g. roof repair and foundation repair), you must describe each feature separately.

<b>Feature A Name: Replace Roof</b>	
<p>Describe property feature and its condition:</p> <p>The home's shake roof was seriously damaged in the 7/5/19 storm.</p>	<p>Describe proposed work on feature:</p> <p>Please see attachments which include:</p> <ul style="list-style-type: none"><li>. summary statement</li><li>. insurance documents</li><li>. proposed product information</li></ul>
<b>Feature B Name:</b>	
<p>Describe property feature and its condition:</p>	<p>Describe proposed work on feature:</p>

Use Additional Worksheets as needed.



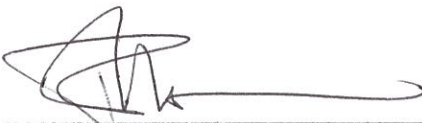
## Required Additional information

The following items must be submitted with this completed application. Digital submittals are preferred.

- ☐ At least one current photo for each side of each building and structure. Photo files or prints shall be named/labeled with applicant name and elevation. For example, smitheast.jpg, smithwest.jpg, etc. If submitted as prints, photos shall be labeled
- ☐ Photos for each feature as described in the section "Detail of Proposed Rehabilitation Work". Photo files or prints shall be named or labeled with applicant name and feature letter. For example, smitha1.jpg, smitha2.jpg, smithb.jpg, smithc.jpg, etc.

Depending on the nature of the project, one or more of the following items may need to be submitted.

- ☐ Drawing(s) with dimensions.
  - ☐ Product specification sheet(s).
  - ☐ Descriptions of all materials included in the proposed work.
  - ☐ Color sample(s) or chip(s) of all materials.
- 
- ☐ **Check if partial or full demolition** is a part of this project. Partial demolition could include taking off existing rear porches to create space for a new addition or removing an existing wall or demolishing a roof. If you are taking away pieces of the existing building or structure, you are likely undergoing some partial demolition.



Signature of Applicant

12/23/19

Date



## **REPLACE SHAKE ROOF**

**530 Smith Street, Fort Collins 80524**

**Owners – Robert and Maureen Hoffert**

**970-493-6537   [mbhoffert@comcast.net](mailto:mbhoffert@comcast.net)**

Our home has Historic Preservation designation. The roof was severely damaged by the July 5, 2019 hailstorm. It has been inspected by an insurance adjuster from our insurance company, State Farm. They will cover the full replacement cost for our roof. However, I was explicitly informed that I would not be insured for a wood shake replacement roof. Our home owners insurance would be canceled if a wood shake roof was the replacement. Therefore, I am requesting approval for a Decra Shake XD roof as our replacement roof ("Antique Chestnut" color).

I have attached the specifications from the insurance company. I have also attached a copy with information related to the Decra Shake XD product. I have been working with Lifetime Construction. The City, through Karen McWilliams, gave me the names of potential contractors for my project. I called three of them. I explained how I got their name and gave them a general sense of my need for a roof replacement. Only Lifetime Construction returned my call. They have been supportive and helpful.

We are seeking approval for a product that offers the aesthetics of a wood shake roof with none of its preservation damaging liabilities. It is wind resistant, provides the highest rating for hail protection, is non-combustible, and is non-porous. It also has a 50-year comprehensive warranty. It's contributions to preservation are unmatched.

State Farm will cover our total replacement costs and we will not lose coverage with State Farm if we use this product. State Farm has been very good to us in many ways quite apart from this roof replacement issue. We want to remain with them.

I hope we have a shared understanding that historic preservation, especially in homes that are family living places, not museums, is not just about replicating the past. It's preserving a structure and the character of that structure as much as possible for its intended purpose as a viable home. This will always require a measure of prudent change. That's why when my original cast iron pipes cracked I was not allowed to replace them with cast iron pipes. That's why when my original electrical line shorts, I have to do repairs that meet current code standards. That's why when I run into asbestos, I have to remove it, not replace it. And that's why even if wood shakes would be put on the roof now, they would not be allowed to be replaced as they were first applied.

By the way, when we put the current wood shake roof on our home in 1996/97, we removed THREE layers of synthetic shingles. The history of our home has been that of a building NOT roofed with wooden shingles. Our request honors the historic aesthetic in ways that significantly enhance our home's preservation as a historic building.

The evidence for our commitment to historic preservation is our home as it is today. It was in derelict condition when we bought it in 1976. We restored and preserved it long before it had historic preservation designation. We believe we have been responsible stewards of a historic heritage and we have done so as an act of commitment not because we were coerced to do so.

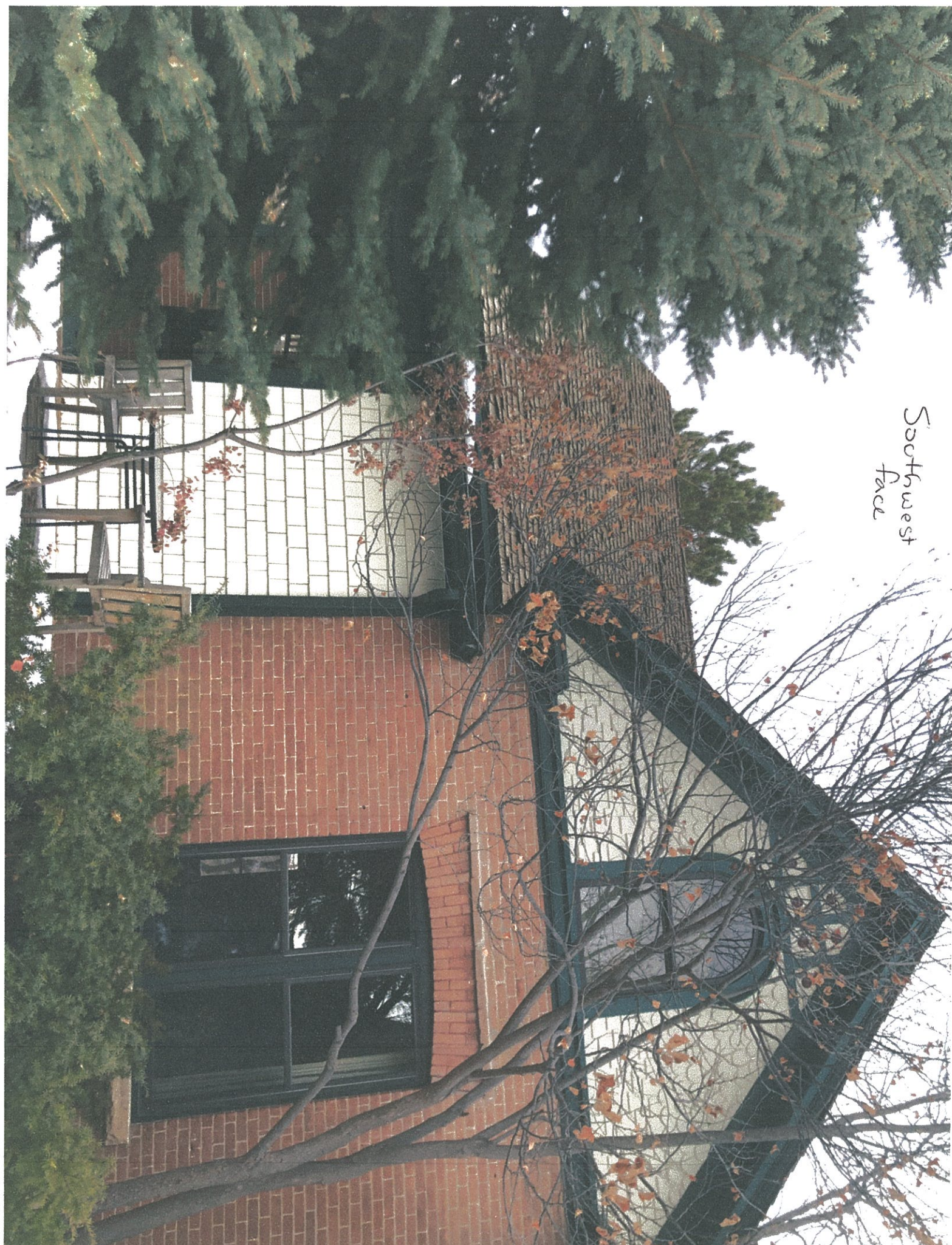


West face





Southwest  
face





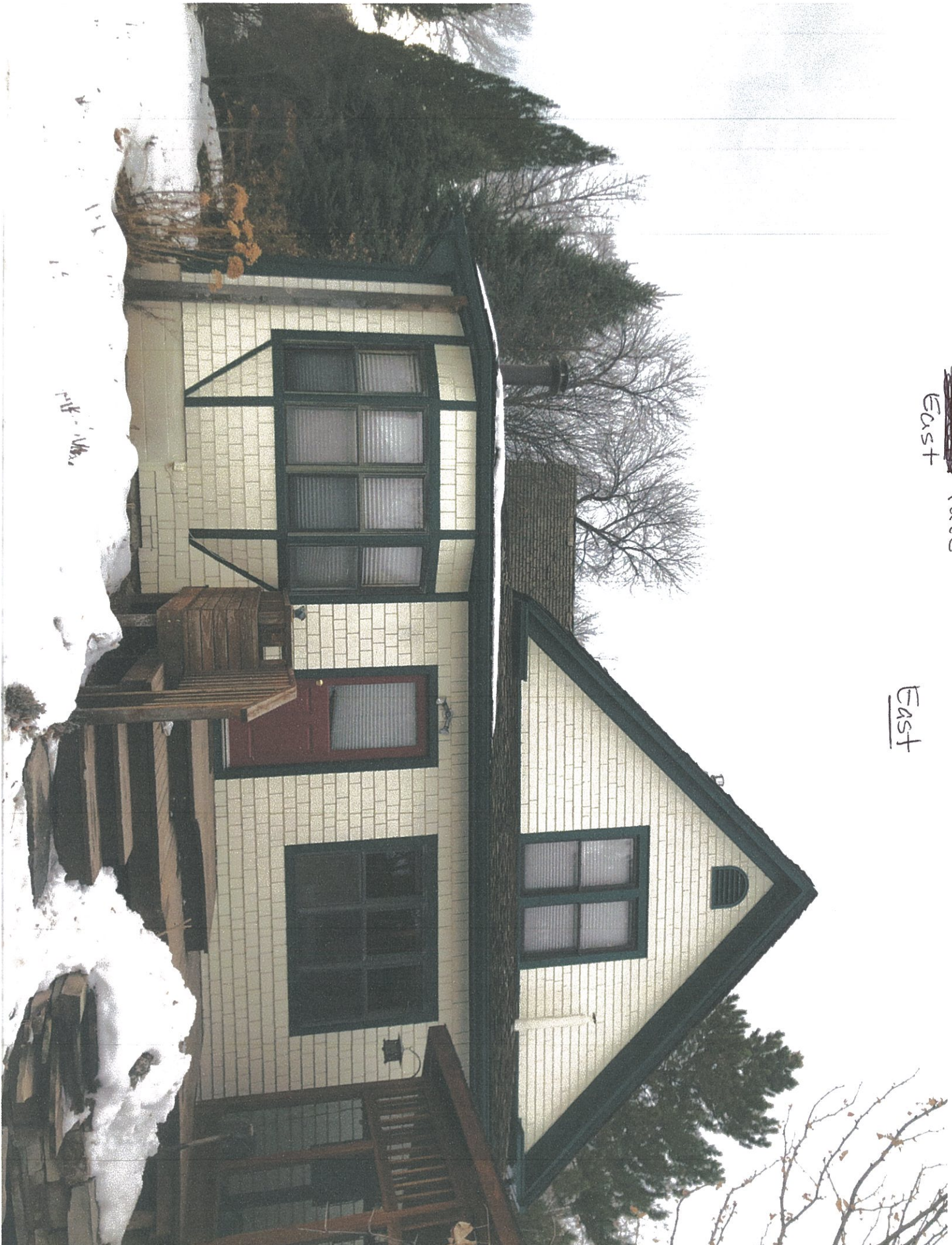


South east  
face



~~East~~ Face

East







North east  
face



Northwest face





<https://www.decra.com/metal-roofing-products/shake-xd>

# DECRA SHAKE XD

DECRA Villa Tile

DECRA Tile

DECRA Shingle  
XD ®

DECRA Shake XD  
®

DECRA Shake

RUSTIC APPEAL OF HAND-  
SPLIT SHAKE

## DECRA Shake XD

The rustic beauty and architectural detail of a thick, rustic, hand-split wood shake can endure for a lifetime with DECRA Shake XD. The durability and unsurpassed strength of stone-coated steel requires little to no maintenance and won't turn gray after a few months like traditional shake.

## RESOURCES

Shake XD

[Brochure](#)[Shake XD  
Technical Sheet](#)[Metal Roof  
Brochure](#)[Material  
Comparison Chart](#)[Ventilation  
Calculator](#)[Homeowners  
Manual](#)[REQUEST QUOTE](#)

## About DECRA Shake XD

While wood shakes undoubtedly provide a distinctive beauty, it's a beauty that comes with a high level of maintenance. DECRA Shake XD provides the desired aesthetics of a shake roof without the need for the ongoing roof maintenance.

## Choose Your Color Options

DECRA's Shake XD selection provides all the aesthetic appeal of hand-split wood shakes, even top of-the-line cedar, are vulnerable to bacteria and fungus and are one of the most high maintenance roofing options.

We use cookies to ensure that we give you the best experience on our website. To learn more, go to the [Privacy Policy](#) <sup>x</sup>

[Metal Roofing Products](#) ▼[Shopping Tools](#) ▼[Professionals](#)[Why DECRA?](#)[Contact Us](#)

While wood shakes, even top of-the-line cedar, are vulnerable to bacteria and fungus and are one of the most high maintenance roofing options.

Designed to last a lifetime, DECRA Shake XD provides the desired aesthetics of a shake roof without the need for the ongoing roof maintenance.

[PINNACLE  
GREY](#)[WOODLAND  
GREEN](#)[REQUEST SAMPLE](#)

# THE DECRA DIFFERENCE

## THE MOST DURABLE ROOF

Interlocking panels and the unbeatable strength of steel provide unsurpassed strength against the elements

**Wind** Warrantied up to 120 mph

**Hail** Class 4 Impact Resistance (Highest Rating)

**Fire** Non-combustible Class A Fire Rated Material

**Snow & Ice** Non-porous, freeze and thaw resistant

SPECIAL OFFERS

REQUEST QUOTE

## THE MOST COMPREHENSIVE WARRANTY

## THE ORIGINAL STONE- COATED ROOF

# Ready to talk with a DECRA Advisor?

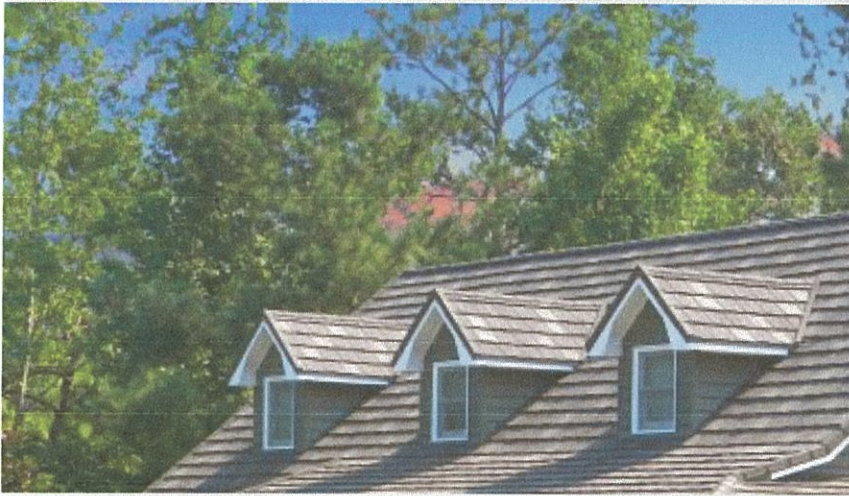
Get all your questions answered and request a free sample.

REQUEST CALL





# DECRA SHAK



RUSTIC APPEAL OF HAND-SPLIT SHAKE

## DECRA Shake XD

The rustic beauty and architectural detail of a thick, rustic, hand-split shake with DECRA Shake XD. The durability and unsurpassed strength of DECRA Shake XD, the maintenance and won't turn gray after a few months like traditional asphalt shingles.

REQUEST QUOTE

Home

Metal Roofing Products

DECRA Villa Tile

DECRA Tile

DECRA Shingle XD <sup>®</sup>

DECRA Shake XD <sup>®</sup>

DECRA Shake

Roofing Gallery

Special Offers

Why DECRA?

About

Professionals\_old

Contact Us

EN



# THE DECRA DIFFERENCE



SPECIAL OFFERS

REQUEST QUOTE

## THE MOST DURABLE ROOF

Interlocking panels and the unbeatable strength of steel provide unsurpassed strength against the elements

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## THE MOST COMPREHENSIVE WARRANTY

## THE ORIGINAL STONE-COATED ROOF

## METAL ROOFING PRODUCTS

[DECRA Villa Tile](#)

[DECRA Tile](#)

[DECRA Shingle XD ®](#)

[DECRA Shake XD ®](#)

[DECRA Shake](#)

## SHOPPING TOOLS

[Special Offers](#)

[Roofing Gallery](#)

[DECRA Homeowner Tips](#)

[Lifetime Warranty](#)

[Ventilation Calculator](#)

## COMPANY INFO

[Why DECRA?](#)

[About DECRA](#)

[Careers](#)

[Privacy Policy](#)

## CONTACT INFO

[Business Hours](#)

[Monday - Friday | 7am - 5pm PST](#)

[📍 1230 Railroad St, Corona, CA 92882](#)

[📞 \(877\) 463-3272](#)





## Rustic Detail of Hand-Split Wood Shake

The rustic beauty and architectural detail of a thick, rustic, hand-split wood shake can endure for a lifetime with DECRA Shake XD. Even the best traditional wood shakes weather quickly and colors dull after normal exposure to the elements.

Traditional shakes require extensive maintenance and chemical treatments to preserve the original appearance and achieve even minimal fire resistance. Wet/dry cycles induce cupping and warping which results in loosening around the fasteners to such an extent that wood shakes aren't warranted against wind uplift at all, and walking on a wood shake roof for maintenance can often cause more problems than it solves.

Warrantied to last a lifetime, DECRA Shake XD stands up to hail, rain, fire, storm debris, and even hurricane-force winds while retaining the new wood shake appearance in any climate.

## Unsurpassed Strength Against the Elements



**Wind**  
Up to 120 mph



**Hail**  
Class 4  
Impact Resistant



**Fire**  
Class A Rated  
Material



**Snow & Ice**  
Freeze & Thaw  
Resistant



**Weight**  
1.4-1.6 pounds/  
square foot



**Warranty**  
Best in the industry



All DECRA roofs are backed by the industry's best Lifetime Limited Warranty, covering 120 mph winds and hail penetration of any size.

Get a free sample at [DECRA.COM](http://DECRA.COM)





## DECRA Shake XD Specs

**Product Size:** 14- $\frac{1}{8}$ " x 52- $\frac{1}{8}$ "

**Installed Exposure:** 12- $\frac{3}{8}$ " x 49- $\frac{7}{8}$ "

**Panels per Square:** 23.4 per 100 sq. ft.

**Panels per Pallet:** 280

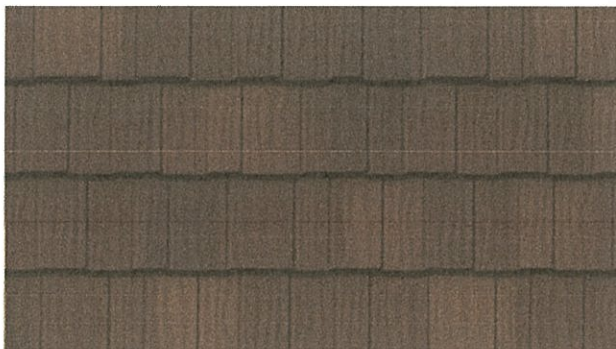
**Squares per Pallet:** 12

**Pallet Weight:** 1,719 lbs.

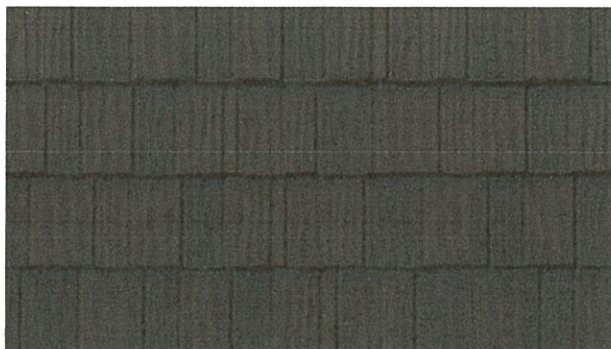
**Installed Weight:** 150 lbs. per 100 sq. ft.

**Installation Method:**

Designed to be Installed Direct to Deck



DECRA SHAKE XD **Antique Chestnut**



DECRA SHAKE XD **Midnight Eclipse**



DECRA SHAKE XD **Pinnacle Grey**



DECRA SHAKE XD **Woodland Green**

**DECRA**<sup>®</sup>  
METAL ROOFING

©2019 DECRA Roofing Systems, Inc.  
\*DECRA Lifetime Limited Warranty is only applicable to single family detached residential property in the U.S. & Canada.

877-GO-DECRA [463-3272] | [DECRA.COM](http://DECRA.COM)



# ROOFING MATERIAL COMPARISONS

	DECRA METAL ROOFING	CONCRETE & CLAY TILE	FIBER CEMENT	ARCHITECTURAL SHINGLES	WOOD SHAKE	SYNTHETIC COMPOSITE	STANDING SEAM
COST SAVINGS	Low Life Cycle Costs <ul style="list-style-type: none"> <li>Long Use Cycle</li> <li>Lifespan is 2-3 times longer</li> </ul>	High Costs Lifespan is 20-50 years	High Costs Lifespan is 25-40 years	High Costs Lifespan is approx. 20 years	High Costs Lifespan is 20-30 years	High Costs Lifespan is unproven, expect 50 years	Low Life Cycle Cost Long Use Cycle - Lifespan is 2-3 times Longer
FIRE	Class A Rated Material	Class A Rated Material	Class A Rated Material	Class A Rated Material	Class B or C No rating if untreated	Class A or C underlayment requirements	Class A Rated Material
STORM	120 mph Wind Warranty	Wind damage not covered	75 mph Wind Warranty	60-110 mph Wind Warranty Special restrictions	Wind damage not covered	70-110 mph Wind Warranty	UL Tested
HAIL	Class 4 Impact Resistant Warranty covers hail of any size	Cracks very easily, Not rated	Class 4 Warranty limited by hail size	Class 3 or 4	Class 3 or 4	Class 4	Class 4 Warranty limited by hail size
SNOW & ICE	Freeze & Thaw Resistant	Not waterproof, when wet can absorb 15% of weight in water	Freeze/Thaw Resistant	Freeze/Thaw Resistant	Limited Freeze/Thaw Cycles	Freeze/Thaw Resistant	Freeze/Thaw Resistant (snow guards recommended)
EARTHQUAKE	Lightweight & Added Shear Strength	Heaviest weight with no added shear strength	Moderate weight with no added shear strength	Moderate weight with no added shear strength	Light to moderate weight with no added shear strength	Moderate weight with no added shear strength	N/A
ECO-FRIENDLY	Low Impact <ul style="list-style-type: none"> <li>Often no tear-off needed</li> <li>Recycled material</li> <li>End of life recyclability</li> </ul>	High Impact <ul style="list-style-type: none"> <li>High embodied energy</li> <li>Tear-off is required</li> <li>Limited recycling use</li> </ul>	Moderate Impact <ul style="list-style-type: none"> <li>Not virgin material</li> <li>Tear-off is required</li> <li>Limited recycling use</li> </ul>	High Impact <ul style="list-style-type: none"> <li>High embodied energy</li> <li>Tear-off usually required</li> <li>Limited recycling use</li> </ul>	Moderate Impact <ul style="list-style-type: none"> <li>Renewable resource</li> <li>Tear-off required</li> <li>End of life recyclability</li> </ul>	Moderate to High Impact <ul style="list-style-type: none"> <li>Limited information</li> <li>Tear-off required</li> <li>Not all are recyclable</li> </ul>	Low Impact <ul style="list-style-type: none"> <li>Often no tear-off</li> <li>Recycled material</li> <li>End of life recyclability</li> </ul>
MAINTENANCE	Low	Moderate to High (broken tiles)	Moderate to High (broken tiles)	Low	High (fire resistance maintenance required)	Moderate (replacement for breakage and curling)	Moderate to High (if repainting required)
WEIGHT	Lightest 1.4-1.6 lbs./sq.ft. Avg. Roof: 3,700 to 4,500 lbs.	6-15 lbs./sq.ft. Avg. Roof: 18,000 to 45,000 lbs.	6 lbs./sq.ft. Avg. Roof: 18,000 lbs.	2.5-4 lbs./sqft Avg. Roof: 7,500 to 12,000 lbs.	1.5-2 lbs./sq.ft. Avg. Roof: 4,500 to 6,000 lbs.	2.5-3 lbs./sq.ft. Avg. Roof: 7,500 to 9,000 lbs.	.7-1.5 lbs./sq.ft. Avg. Roof: 3,750 to 4,500 lbs.
WARRANTY	Lifetime Limited Warranty	25-50 Year Limited Warranty	50-Year Limited Warranty	25-Year to Lifetime Limited Warranty	25-40 Year Limited Warranty	50-Year Limited Warranty	Coverage varies by manufacturer



## PRODUCT PROFILES



DECRA VILLA TILE



DECRA TILE



DECRA SHINGLE XD



DECRA SHAKE XD



DECRA SHAKE

## WARRANTY/COMPOSITION

### Warranties

- Lifetime Limited Warranty\*
- 120 mph Wind Speed Warranty
- Hail Stone Penetration Warranty

### Composition

- Steel – Aluminum-Zinc Alloy Coating
- Acrylic Priming System
- Basecoat
- Ceramic Coated Stone Granules
- Overglaze

\*DECRA offers a Lifetime Limited Warranty on single family residential in the U.S. & Canada.

## PRODUCT SPECIFICATIONS

	DECRA VILLA TILE	DECRA TILE	DECRA SHINGLE XD®	DECRA SHAKE XD®	DECRA SHAKE
<b>Min Roof Pitch ▶</b>	3:12	3:12	4:12	3:12	3:12
<b>Panel Size ▶</b>	17" x 44-1/4"	16-1/2" x 52"	14-1/8" x 52-3/8"	14-1/8" x 52-1/8"	14-5/8" x 53"
<b>Installed Exposure ▶</b>	14-1/2" x 39-1/2"	14-1/2" x 50"	12-1/4" x 49-1/2"	12-3/8" x 49-7/8"	12-5/8" x 51"
<b>Panels per Square ▶</b>	25.2	20	23.8	23.4	22.4
<b>Installed Weight ▶</b>	160 lbs. / sq.	150 lbs. / sq.	150 lbs. / sq.	150 lbs. / sq.	150 lbs. / sq.

## AVAILABLE COLORS (Final color selection should be made from an actual product sample)

### DECRA VILLA TILE

Amalfi Sand



Capri Clay



Pompeii Ash



Rustico Clay



Venetian Gold



### DECRA TILE

Charcoal



Chestnut



Garnet



Granite Grey



Shadowwood



Terracotta



Weathered Timber



Tuscan Sun



### DECRA SHINGLE XD

Classic Cobblestone



Midnight Eclipse



Natural Slate



Old Hickory



Woodland Green



### DECRA SHAKE XD

Antique Chestnut



Pinnacle Grey



Woodland Green



Midnight Eclipse



### DECRA SHAKE

Charcoal



Chestnut



Granite Grey



Shadowwood



Weathered Timber





## DECRA Products Meet Requirements For:

### City of Los Angeles Reports

- [LA Report #24151 – Tile & Shake](#)

### International Code Council (formerly ICBO)

- [ESR-2901 \(IBC/IRC\) – Tile & Shake \(battens\)](#)
- [ESR-1754 \(IBC/IRC\) – Villa Tile, Shake XD, Shingle XD \(direct to deck\)](#)

### Miami - Dade County, Florida

- [Miami Dade County NOA#18-1015.06 Tile, Villa Tile, Shake, Shingle Plus, Shake XD](#)
- [Miami Dade County NOA#17-1227.02 DECRA Ridge Vent](#)

### Florida Building Code

- [Approval #9759-R7: Shake, Tile, Shingle XD, Shake XD, Villa Tile, Shingle Plus](#)
- [Installation: FL11255-R6 2017](#)
- [DECRA Ridge Vent: FL17492-R3 II NOA 17122702 2017](#)

### Texas Department of Insurance

- [TDI Form for Homeowners](#)
- [Qualifying Product of Impact Resistance](#)
- [TDI Report #RC-281 Wind Resistance – Tile, Shake, Shingle Plus](#)

- [TDI Report #RC-282 Wind Resistance – Villa Tile](#)
- [TDI Report #RC-235 Wind Resistance – Shake XD, Shingle XD](#)
- [TDI Report #RC-280 Wind Resistance – Shingle](#)

### Underwriters Laboratories, Inc – Listings File #R14710

- Fire – UL 790 (ASTM E108 – A, B & C)
- Fire – UL CAN/ULC-S107 (Canada)
- Hail – UL 2218 (Class 4)
- Uplift – UL 580 & UL 1897 – Class 90
  - Tile
  - Shake Plus
  - Shingle
- ISO9001:2008; OHSAS 18001; ISO 14001:2004

### Additional Testing for LEED® & ENERGY STAR®

- ASTM – E903 Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres
- ASTM – E408 Total Normal Emittance of Surfaces Using Inspection-Meter Techniques
- ASTM – E1980 Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces





