



DUTCH QUALITY
STONE®

TECHNICAL SUBMITTAL PACKET

WELCOME

COMPANY NAME:	
CONTACT NAME:	
PROJECT TITLE:	
STREET ADDRESS:	
CITY, STATE, ZIP:	

We would like to congratulate you on your upcoming project which incorporates adhered concrete masonry veneer products. Enclosed in this packet are the required Dutch Quality Stone submittal forms and technical documents. We have also enclosed additional support materials and installation details commonly requested by architects and contractors.

Visit dutchqualitystone.com/resources to view all digital materials available for download.

Submittal Form
Technical Data Sheet
50-Year Warranty
Certificate of Quality
3-Part Specification

ICC-ES Evaluation Report
Technical Evaluation Report
Safety Data Sheet
UL Environmental Claim Validation Summary

As part of our commitment to service, we would like to recommend that you take advantage of our consulting services.

We have trained Technical Field Service representatives that will walk through your project with you prior to installation. This can help prevent improper installations and in some cases identify where additional stone or accessories may be needed.

Thank you again for choosing Dutch Quality Stone. Should you have any questions, please do not hesitate in contacting us. We are grateful for the opportunity to be a part of your project needs.

Sincerely,

Sales Representative
Dutch Quality Stone

SUBMITTAL FORM

Please fill out all known information and email completed form to **cs@westlake.com**.

PROJECT DETAILS	DUTCH QUALITY STONE
PROJECT NAME:	PROFILE:
PROJECT ADDRESS:	COLOR:
CITY, STATE, ZIP:	APPROX. SQ FT:
	MANUFACTURING LOCATION:

	COMPANY NAME	CITY, STATE	CONTACT NAME	CONTACT PHONE
OWNER				
ARCHITECT				
BUILDER				
MASON				

Project Notes:

Pre-Installation Project Team Meeting Scheduled? Y ☐ N ☐ Date Scheduled:

Your signature below acknowledges receipt of Dutch Quality Stone's "Submittal Packet," and the above information is accurate to the best of your knowledge.

Received by:

Date:

Company:

Phone:

Dutch Quality Stone Representative:

Date:

TECHNICAL DATA

ADHERED VENEERS



DUTCH QUALITY
STONE

Dutch Quality Stone is designed to meet or exceed building code requirements. Independent testing confirms compliance with ICC-ES Acceptance Criteria 51 and ASTM C1670, standard specification for Adhered Stone Veneer and ASTM C1670 standard specification for Adhered Manufactured Stone Masonry Veneer Units. Local building codes may vary by area. Always check with your local building authorities before installing stone. Supporting test data is available upon request. For additional technical information please visit: dutchqualitystone.com.

INGREDIENTS

Light weight aggregate ASTM C33, C330 and C331
Portland cement ASTM C150, ACI 318
Mineral oxide pigments ASTM C979

CODE ACCEPTABILITY & CERTIFICATION

UL Registered
Mineral composition units
Surface burning characteristics
Flame Spread 0
Smoke Developed 0
ICC-ES ESR 1942
ASTM C1670
CE Declaration of Conformity NR #290905-5

FREEZE-THAW DURABILITY

Tested in accordance with ASTM C666 & C1364
Less than 1.5 percent weight loss at 50 cycles; passed
Less than 5 percent weight loss at 300 cycles; passed

SHEAR BOND (ADHESION)

Tested in accordance with ASTM C482
Greater than 50 psi shear bond strength



ABSORPTION

Tested in accordance with ASTM C1670

SATURATED DENSITY

Tested in accordance with ASTM C1670
Weight less than 15 lbs. per sq. ft., saturated

THERMAL RESISTANCE

Tested in accordance with ASTM C177
R value: 0.528 (ft²-F-hr)/BTU at 1.48" thickness

COMPRESSIVE STRENGTH

Testing in accordance with C192 & C39
Compressive strength is greater than 2100 psi

WEIGHT PER SQUARE FOOT

Tested in concordance with ASTM C1670
All adhered veneer profiles weigh less than 15 lbs. per square foot

WIND LOAD TESTING

Tested in accordance with ASTM E330 at 150 mph wind speed; passed

Dutch Quality Stone, 18012 Dover Road, Mt. Eaton, Ohio 44659

PH: 330.359.7866 FAX: 330.359.5990 877.359.7866

dutchqualitystone.com

Westlake
Royal Stone Solutions™

CERTIFICATE OF QUALITY

DATE:	
ATTN:	
PROJECT TITLE:	
PRODUCT 1 (STONE PROFILE/COLOR):	
PRODUCT 2 (STONE PROFILE/COLOR):	
ARCHITECT:	
GENERAL CONTRACTOR:	
MASONRY CONTRACTOR:	

This document verifies that the product manufactured by Dutch Quality Stone, for the project listed above, meets ASTM C1670 as required by the International Building Code and International Residential Codes for Adhered Manufactured Stone Masonry Veneer Units.

Sincerely,



Hector Monroy
Quality Manager



TECHNICALLY SPEAKING



VIDEO TUTORIALS

Our 20-part installation video series provides an in-depth and easy-to-follow breakdown of manufactured stone veneer installation techniques and best practices straight from our stone experts.

Watch Videos

dutchqualitystone.com/technically-speaking

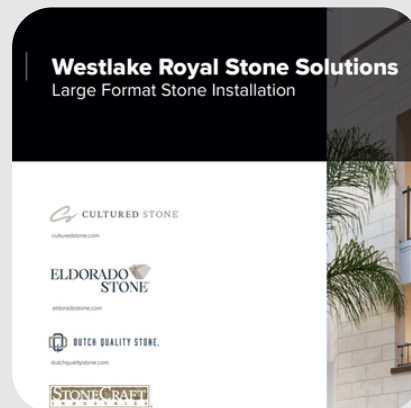
INSTALLATION GUIDES

The Concrete Masonry & Hardscapes Association (CMHA) sets the industry standard for MSV installation. Our Supplemental and Large Format guides detail best practices and techniques directly from our experts.

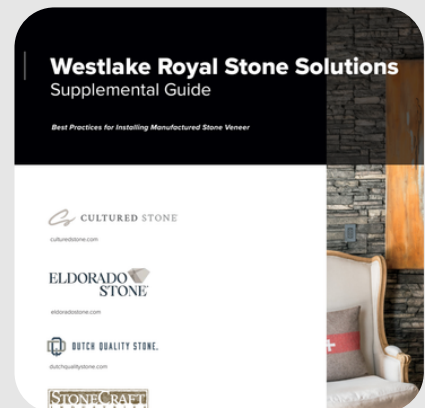
dutchqualitystone.com/resources



CMHA GUIDE



LARGE FORMAT GUIDE



SUPPLEMENTAL GUIDE

MAKE A STATEMENT WITH STONE



TOP PRODUCTS

- [Weather Ledge](#)
- [Dry Stack](#)
- [Limestone](#)
- [Ledgestone](#)
- [Handformed Brick™](#)

View All Textures

dutchqualitystone.com/products

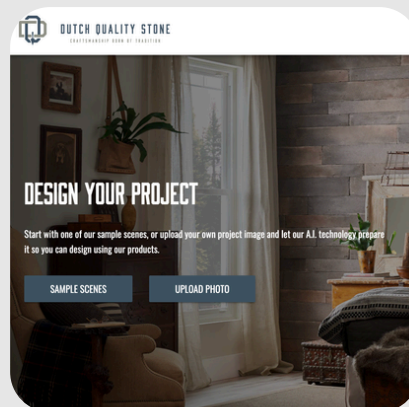
GET INSPIRED

Explore a variety of online resources to spark your creativity with Dutch Quality Stone manufactured stone veneer. From design galleries to interactive tools, find the inspiration you need to bring your vision to life.



BROCHURE

dutchqualitystone.com/brochure



STONE VISUALIZER

dutchqualitystone.com/visualizer



GALLERY

dutchqualitystone.com/gallery

CMHA CERTIFIED PARTNERS

As a trusted partner with the Concrete Masonry & Hardscapes Association (CMHA), our teams put an unmatched depth of technical expertise and practical resources in your hands.



TESTED. TRUSTED. CERTIFIED.

Dutch Quality Stone has worked with the CMHA to certify each of our facilities and manufactured stone veneer products. CMHA-Certified Manufactured Stone Veneer products help architects, builders, and spec writers add efficiency and confidence to their process with trusted materials and the backing of qualified Manufactured Stone Veneer professionals for troubleshooting.



CONSISTENCY

Nationally-recognized requirements and product certifications ensure consistency in manufacturing, eliminating the range of quality and simplifying the specification process.

QUALITY

A higher standard requires manufacturers to commit to quality in production through a documented quality system program, guaranteeing a dependable, long-lasting result.

REPUTATION & EXPERTISE

Companies with certified products show credibility, knowledge, and experience, guaranteeing you are using the most trusted materials in the market.

DIFFERENTIATION

Choosing products that meet standard requirements proves a commitment to quality and efficiency, helping you stand out from the competition.

RELIABILITY

Testing must be performed by qualified third-party labs, and compliance with certification requirements ensure products meet current building code requirements.

CERTIFIED INSTALLER PROGRAM

Join the ranks of elite installers and get certified through our two-day training program in partnership with the Concrete Masonry & Hardscapes Association.



ABOUT THE PROGRAM

As certified trainers of the CMHA, we strive to offer support, knowledge and technical expertise at your fingertips. The Certified Installer Program promotes fundamental manufactured stone veneer installation guidelines with industry best practices and is considered a highly valued credential by consumers and the broader marketplace.

dutchqualitystone.com/certified-installer

BENEFITS

- Differentiation in the market with higher credibility of quality work
- Qualify to bid future projects requiring CMHA certification
- Opportunity to be listed on the CMHA website
- Drive more business as a trusted installer of Manufactured Stone Veneer
- Upon passing, certification lasts 3 years with CMHA



BUILDING CODES HAVE CHANGED

Our manufactured stone veneer products have been tested and certified to meet or exceed the standards lined out in ASTM C1670.

dutchqualitystone.com/astm-c1670



WHAT IS ASTM C1670?

ASTM C1670 is the standard for Manufactured Stone Veneer (MSV) that provides guidance and direction for trade professionals who are looking to use products that are manufactured with quality and durability in mind. Created by a team of construction experts, ASTM C1670 establishes a clear guideline for manufacturers to demonstrate compliance in their materials through various testing methods, such as Compressive Strength and Freeze/Thaw Durability.

WHY IS IT IMPORTANT?

Masonry adds resilience, beauty and a sense of permanence to any project and is one of the most prolific building materials. The standardization of ASTM C1670 solidifies MSV's presence and viability in today's building ecosystem. Builders and contractors will be looking to product manufacturers more and more to demonstrate adherence to the standard at each of their manufacturing facilities which then establishes confidence in the long-term use and durability of the MSV products themselves.

CARE & MAINTENANCE

We pride ourselves in designing stone veneer that not only enhances the beauty of your space but is also easy to maintain. To ensure the longest lifespan and enduring performance of our stone veneer, please follow the care and maintenance tips outlined below.

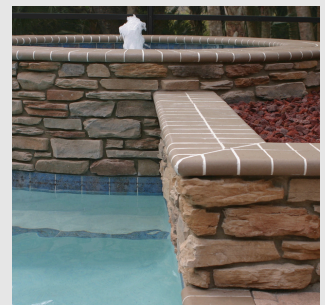


CLEANING

To clean dirt or other particles, first try a simple soft bristle brush. If necessary, use a solution of mild detergent with water and scrub the surface with a soft bristle brush. Rinse with clean water to remove any cleaning solution that might remain on the surface. If the stone has a white stain deposit (efflorescence), see below recommendations. Never use wire brushes, acid cleaners, power washers, bleach, paint remover, or any other type of concrete cleaner.

EFFLORESCENCE

When efflorescence occurs, as it does with many masonry products, it is usually the result of moisture migration through the masonry substrate. Once the moisture is on the masonry surface, it evaporates, depositing dissolved salts in the form of efflorescence. Efflorescence naturally disappears over time as long as the moisture source is controlled or eliminated. If the stain will not wash off, do not apply chemicals or cleaners to the stone. Call Westlake Royal Stone Solutions customer service to discuss optional solutions.



PROTECTIVE TREATMENT

It is not required to seal our manufactured stone veneer. A sealer will provide added protection and will usually be easier to clean if the surface becomes dirty. If you choose to use a sealer for added protection, use only a silane or siloxane-based penetrating, breathable masonry sealer.

Note: A sealer may affect the stone color and may create a gloss or matte finish. Always test a small area beforehand.



DUTCH QUALITY STONE®
CRAFTSMANSHIP BORN OF TRADITION

Dutch Quality Stone®
18012 Dover Road
Mt. Eaton, OH 44659
(877) 359-7866
cs@westlake.com
www.dutchqualitystone.com

SECTION 04 70 00

MANUFACTURED MASONRY VENEER

GENERAL NOTES TO SPECIFIER:

THIS SPECIFICATION SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS IN THE PREPARATION OF PROJECT OR OFFICE MASTER SPECIFICATIONS. IT FOLLOWS GUIDELINES ESTABLISHED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI), AND THEREFORE MAY BE USED WITH MOST MASTER SPECIFICATION SYSTEMS WITH MINOR EDITING.

EDIT CAREFULLY TO SUIT PROJECT REQUIREMENTS. MODIFY AS NECESSARY AND DELETE ITEMS THAT ARE NOT APPLICABLE. VERIFY THAT REFERENCED SECTION NUMBERS AND TITLES ARE CORRECT. (NUMBERS AND TITLES REFERENCED ARE BASED ON *MASTERFORMAT*, 2004 EDITION).

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING SECTIONS 01 25 13–PRODUCT SUBSTITUTION PROCEDURES, 01 33 00–SUBMITTAL PROCEDURES, 01 62 00–PRODUCT OPTIONS, 01 66 00–PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01 74 00–CLEANING AND WASTE MANAGEMENT, 01 77 00–CLOSEOUT PROCEDURES, AND 01 78 00–CLOSEOUT SUBMITTALS. CLOSE COORDINATION WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN THESE SECTIONS, ADDITIONAL INFORMATION SHOULD BE INCLUDED UNDER THE APPROPRIATE ARTICLES.

THIS IS A CLOSED PROPRIETARY SPECIFICATION.

NOTES TO THE SPECIFIER ARE CONTAINED IN BOXES AND SHOULD BE DELETED FROM FINAL COPY.

GREY HIGHLIGHTED GREEN TEXT AND NOTES RELATE TO LEED® PROJECTS AND CAN BE DELETED IF THE PROJECT IS NOT INTENDED TO ATTAIN LEED® CERTIFICATION. CREDIT REFERENCES REFER TO LEED® FOR NEW CONSTRUCTION, V2.2.

OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G. [35] [40] [45]. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS.

ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED BLANK SPACES, E.G. _____.

OPTIONAL PARAGRAPHS REQUIRING SELECTION OF ONE OF THE OPTIONS ARE SEPARATED BY “OR” WITHIN A BOX, E.G.

OR

BOLD FACE TEXT IDENTIFIES OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE INCLUDED OR DELETED DEPENDING ON PROJECT REQUIREMENTS. CONVERT THE BOLD FACE TEXT TO REGULAR TEXT WHEN INCLUDING THESE PARAGRAPHS OR FEATURES. WHEN DELETING A PARAGRAPH, BE CERTAIN THAT ALL SUBPARAGRAPHS ARE ALSO DELETED.

REVISE FOOTER TO SUIT PROJECT/OFFICE REQUIREMENTS.

ELECTRONIC VERSIONS OF THIS SPECIFICATION UTILIZE AUTOMATIC PARAGRAPH NUMBERING.

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Portland cement based manufactured [stone] veneer and trim.
- B. Related Sections:

INCLUDE ALL DIVISION 01 SECTIONS CONTAINING LEED® REQUIREMENTS.

- 1. _____ . Wall Framing.
- 2. _____ . Wall Sheathing.
- 3. 07 60 00–Flashing and Sheet Metal.
- 4. 07 92 00–Joint Sealants.
- 5. 09 24 00–Portland Cement Plastering.
- 6. 10 30 00–Fireplaces and Stoves.

INCLUDE APPROPRIATE LANGUAGE BELOW IF PRODUCTS SPECIFIED IN THIS SECTION ARE TO BE BID AS ALTERNATES. OTHERWISE DELETE FOLLOWING PARAGRAPH.

C. Alternates:

- 1. Reference Section 01 23 00–Alternates.

1.02 REFERENCES

A. American National Standards Institute (ANSI):

- 1. ANSI A118.4 or ANSI A118.15 – Specifications for Latex-Portland Cement Mortar.
- 2. ANSI A118.15 – American National Standard Specification for Improved Modified Dry-Set Cement Mortar

B. American Society for Testing and Materials (ASTM):

- 1. ASTM C140/C140M – Standard Test Method for Sampling and Testing Concrete Masonry Units and Related Units
- 2. ASTM C270 – Standard Specification for Mortar for Unit Masonry.
- 3. ASTM C847 – Standard Specification for Metal Lath
- 4. ASTM C933 – Standard Specification for Welded Wire Lath
- 5. ASTM C1670/C1670M – Standard Specification for Adhered Manufactured Stone Masonry Veneer Units
- 6. ASTM C1714/C1714M – Standard Specification for Preblended Dry Mortar Mix for Unit Masonry
- 7. ASTM C1780 – Standard Practice for Installation Methods for Cement-Based Adhered Masonry Veneer
- 8. ASTM D226/D226M – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
- 9. ASTM E2556/E2556M – Standard Specification for vapor Permeable Flexible Sheet Water-Resistive Barriers Intended for Mechanical Attachment
- 10. ICC AC308 – Acceptance Criteria for Water Resistive Barriers

C. International Code Council (ICC):

- 1. ESR Report ESR-1942

D. LEED®: US Green Building Council's Leadership in Energy and Environmental Design Green Building Rating System™.

E. Underwriter's Laboratory (UL): Building Materials Directory

1.03 SUBMITTALS

- A. Reference Section 01 33 00–Submittal Procedures; submit following items:
1. Product Data.
 2. Samples:
 - a. Standard sample board consisting of small-scale pieces of veneer units showing full range of textures and colors.
 - b. **Full range of mortar colors.**
 3. **Verification Samples: Following initial sample selection submit “laid-up” sample board using the selected stone and mortar materials and showing the full range of colors expected in the finished Work; minimum sample size: 3 by 3 feet (1 by 1 m).**
 4. Quality Assurance/Control Submittals:
 - a. Qualifications:
 - 1) Proof of manufacturer qualifications.
 - 2) Proof of installer qualifications.
 - b. Regulatory Requirements: Evaluation reports.
 - c. Veneer manufacturer's installation instructions.
 - d. Installation instructions for other materials.
 5. **LEED® Submittals:**
 - a. **Credit MR 4.1, 4.2 Recycled Content: Provide percentage of recycled content (post- consumer and pre-consumer).**
 - b. **Credit MR 5.1, 5.2 Regional Materials:**
 - 1) **Provide distance between Project site and extraction site.**
 - 2) **Provide distance between Project site and final manufacturing location.**

MANUFACTURED MASONRY CAN ALSO CONTRIBUTE TO CREDIT EA 1 FOR OPTIMIZING ENERGY PERFORMANCE AND CREDITS ID 1.1-1.4 FOR INNOVATION IN DESIGN, HOWEVER, NO SPECIFIC SUBMITTALS ARE REQUIRED IN THIS SECTION.

- B. Closeout Submittals: Reference Section 01 78 00–Closeout Submittals; submit following items:
1. Maintenance Instructions.
 2. Special Warranties.

1.04 QUALITY ASSURANCE

- A. Qualifications:
1. Manufacturer Qualifications: Dutch Quality Stone.
 2. Installer Qualifications: Experienced mason familiar with installation procedures and related local, state and federal codes masonry.
- B. Certifications:
1. **ICC- Evaluation Service – Evaluation Service Report ESR-1942**
 2. **ASTM C1670**
 3. **UL – Classification listing in Building Materials Directory: R8022 Zero Flame Spread and Zero Smoke Developed.**
- C. Field Sample:

COMPLETE FOLLOWING SUBPARAGRAPH TO INCLUDE DESIRED DETAILS SUCH AS CORNERS, TRIM, MORTAR JOINTS AND JOINT DETAILS ABUTTING OTHER MATERIALS.

1. Prepare [4 by 4 foot (1200 by 1200 mm)] [__ by __ foot (____ by ____ mm)] sample at a location on the structure as selected by the Architect. Use approved selection sample materials and colors. Include _____.
2. Obtain Architect's approval.
3. Protect and retain sample as a basis for approval of completed manufactured stone work. Approved sample may be incorporated into completed work.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Reference Section 01 66 00–Product Storage and Handling Requirements.
- B. Follow manufacturer's instructions.

1.06 PROJECT/SITE CONDITIONS

- A. Environmental Requirements: When air temperature is 40 degrees F (4.5 degrees C) or below, consult local building code for Cold-Weather Construction requirements.

1.07 WARRANTY

- A. Special Warranty: Manufacturer's standard warranty coverage against defects in materials when installed in accordance with manufacturer's installation instructions.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Acceptable Manufacturer: Dutch Quality Stone®, which is located at: 18012 Dover Rd, Mt. Eaton, OH 44659; Toll Free Tel: (877) 359-7866; Email to request info: cs@westlake.com; Web: www.dutchqualitystone.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 – Product Requirements.

INSERT NAME, ADDRESS AND CONTACT INFORMATION OF LOCAL DISTRIBUTOR BELOW.

1. Manufacturer's Distributor:

2.02 MATERIALS

A. Stone & Brick Veneer:

SELECT DESIRED PROFILE FROM THE DUTCH QUALITY STONE WEBSITE [PRODUCTS](#) PAGE; INSERT PROFILE AND COLOR SPECIFICATION BELOW.

1. Profile: _____. Include matching corner pieces.
2. Color: _____.

SELECT DESIRED STONE ACCESSORIES FROM THE DUTCH QUALITY STONE WEBSITE [ACCESSORIES](#) PAGE; INSERT DESIRED ACCESSORIES BELOW AND INSERT TEXTURE IF REQUIRED. VERIFY THAT DIMENSIONS, IF REQUIRED, ARE SHOWN ON THE DRAWINGS.

B. Accessories

1. Stone Accessories: _____.
2. Color: _____.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates upon which work will be installed.
- B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.

- C. Commencement of work by installer is acceptance of substrate.
- 3.02 PREPARATION
 - A. Protection: Protect adjacent work from contact with mortar.
 - B. Surface Preparation: Prepare substrate in accordance with manufacturer's installation instructions for the type of substrate being covered.
- 3.03 INSTALLATION
 - A. Install and clean stone in accordance with manufacturer's installation instructions for Standard Installation (Grouted Joint) or Jointless/Dry-Stacked installation as specified above.
 - B. Apply sealer in accordance with sealer manufacturer's installation instructions.
- 3.04 FIELD QUALITY CONTROL
 - A. **Manufacturer's Field Services: Request a Manufacturer's Field Service Representative site visits for pre-construction meeting to review installation guidelines.**
- 3.05 CLEANING
 - A. Reference Section 01 74 00–Cleaning and Waste Management.
 - B. Remove protective coverings from adjacent work.
 - C. Cleaning Veneer Units:
 - 1. Wash with soft bristle brush and water/granulated detergent solution.
 - 2. Rinse immediately with clean water.
 - D. Removing Efflorescence:
 - 1. Allow veneer to dry thoroughly.
 - 2. Scrub with soft bristle brush and clean water.
 - 3. Rinse immediately with clean water; allow to dry
 - 4. If efflorescence is still visible, contact Dutch Quality Stone Customer Service for assistance

END OF SECTION¹

¹ This specification was prepared specifically for Dutch Quality Stone by ASC Specification Consultants. Comments or suggestions for improvement should be addressed to Dutch Quality Stone via the contact information on page one.

Revised: March 2, 2026

ICC-ES Evaluation Report

ESR-1942

Reissued March 2026

Subject to renewal March 2027

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

Copyright © 2026 ICC Evaluation Service, LLC. All rights reserved.

DIVISION: 04 00 00— MASONRY Section: 04 71 00— Manufactured Brick Masonry Section: 04 73 00— Manufactured Stone Masonry	REPORT HOLDER: WESTLAKE ROYAL BUILDING PRODUCTS (USA) INC. dba WESTLAKE ROYAL BUILDING PRODUCTS	EVALUATION SUBJECT: DUTCH QUALITY STONE ADHERED VENEER	
--	--	---	---

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2024, 2021, 2018, 2015 [International Building Code® \(IBC\)](#)
- 2024, 2021, 2018, 2015 [International Residential Code® \(IRC\)](#)

Properties evaluated:

- Veneer strength and durability
- Thermal resistance

1.2 Evaluation to the following green code(s) and/or standards:

- 2025 [California Green Building Standards Code \(CALGreen\)](#), Title 24, Part 11
- 2020, 2015, 2012 and 2008 [ICC 700 National Green Building Standard™](#) (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC 700-2008)

Attributes verified:

- See Section 3.0

2.0 USES

Dutch Quality Stone Adhered Veneer is used as an adhered, nonload-bearing, exterior veneer on wood-framed or light gage steel stud walls, concrete walls or masonry walls.

3.0 DESCRIPTION

The veneer is a precast concrete product made to resemble natural stone in color and in texture. The concrete is composed of cement, aggregate, water, admixtures and coloring. The veneer units are molded and cured at the plant. Evaluated styles and accessories are as follows:

Styles	Drystack, Fieldstone, Ledgestone, Limestone, River Rock, Rough Ashlar, Stack Ledge, Tuscan Ridge, Weather Ledge, Weathered Plank 4, Weathered Plank 6
Accessories	Row Locks 4x5, Row Locks 5.7, Half Brick, Full Brick, Flat Window Trim, Jack Arch Wings, Receptacle Block, Light Block, Water Hydrant, Circle Vent, Arch Top Vent, Address Block

The stone veneer has an R -value of 0.42 when tested in accordance with ASTM C177 at a thickness of 1.5 inches (38 mm).

The attributes of the stone veneer have been verified as conforming to the provisions of (i) CALGreen Section A4.405.1.3 for prefinished building materials and Section A5.406.1.2 for reduced maintenance; (ii) ICC 700-2020 Sections, ICC 700-2015 and ICC 700-2012 Sections 602.1.6 and 11.602.1.6 for termite-resistant materials; (iii) ICC 700-2020 Sections 601.7 and 11.601.7 and ICC 700-2015 and ICC 700-2012 Sections 601.7, 11.601.7, and 12.1(A).601.7 for site-applied finishing materials; and (iv) ICC 700-2008 Section 602.8 for termite-resistant materials and Section 601.7 for site-applied finishing materials. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

4.0 INSTALLATION

4.1 Design:

The veneer units described in this report comply with ASTM C1670 which is referenced in TMS 402-22 (for the 2024 IBC), 2021 and 2018 IBC Section 2103.1 and 2024, 2021 and 2018 IRC Section R606.2.6. The veneer units also comply with the unit dimensional limitations for prescriptively designed adhered veneer in Section 13.3.2.2 of TMS 402-22.

The saturated weight of the veneer units does not exceed 15 pounds per square foot (73.2 kg/m²). The weight of the mortar setting bed and scratch coat are outside the scope of this report.

Under the 2024 IBC and IRC, the detailing of the veneer must address the effects of differential movement, as required by Section 13.1 of TMS 402-22. Deflection of horizontal members supporting the veneer must be limited in accordance with Section 13.1.2.3 of TMS 402-22. Expected out-of-plane deflection of the supporting wall must comply with Section 13.3.1.2 of TMS 402-22.

For installation in accordance with the 2021, 2018 and 2015 IBC, supporting wall construction must be designed to support the weight of the veneer system. Horizontal framing members, such as lintels and headers, which support the veneer, must be designed to limit deflection to $1/600$ of the span.

Expansion or control joints used to limit the effect of differential movement of veneer supports must be specified by the architect, designer or veneer manufacturer, in that order. Consideration must be given to movement caused by temperature changes, shrinkage, creep and deflection.

In jurisdictions adopting the IRC, where the seismic provisions of Section R301.2.2 apply, the average weight of the wall supporting the veneer, including the weight of the veneer system, must be determined. When this weight exceeds the applicable limits of IRC Section R301.2.2.2, an engineered design of the wall construction must be performed in accordance with IRC Section R301.1.3.

4.2 Installation:

Installation of Dutch Quality Stone Adhered Veneer must comply with this report, the manufacturer's published installation instructions, and the applicable code. The manufacturer's published installation instructions must be available at the jobsite at all times during installation. Installation must be in accordance with IBC Section 1404.11 (2021 and 2018 IBC Section 1404.10; 2015 IBC Section 1405.10) or IRC Section R703.12, as applicable.

4.3 Special Inspection:

Under the 2024 IBC, special inspection requirements for installation of adhered masonry veneer are addressed in Table 4 of TMS 602-22, referenced in 2024 IBC Section 1705.4.

5.0 CONDITIONS OF USE:

The Dutch Quality Stone adhered veneer described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The veneer units are manufactured and identified as described in this report.
- 5.2 Dutch Quality Stone Adhered Veneer is manufactured under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the [ICC-ES Acceptance Criteria for Adhered Manufactured Stone Masonry Veneer \(AC51\)](#), dated June 2018 (Editorially revised February 2024).
- 6.2 Report of testing in accordance with ASTM C177.

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-1942) along with the name, registered trademark, or registered logo of the report holder (Westlake Royal Stone) must be included in the product label.
- 7.2 In addition, each package of veneer is identified with the brand name (Dutch Quality Stone), the product name and the style name.
- 7.3 The report holder's contact information is the following:

WESTLAKE ROYAL BUILDING PRODUCTS (USA) INC. dba WESTLAKE ROYAL BUILDING PRODUCTS
2801 POST OAK BOULEVARD, SUITE 600
HOUSTON, TEXAS 77056
(855)769-2585
www.royalbuildingproducts.com/boral



Listing and Technical Evaluation Report™

A Duly Authenticated Report from an Approved Agency

Report No: 1312-01



Issue Date: February 5, 2014

Revision Date: March 16, 2026

Subject to Renewal: April 1, 2027

Westlake Royal Stone Adhered Masonry Veneer Applications Over Continuous Insulation

Trade Secret Report Holder:

Westlake Royal Stone, LLC

Phone: 234-258-5467

Website: www.westlakeroyalbuildingproducts.com

Email: bruce.swartz@westlake.net

Additional Listees:

Eldorado Stone® 350 Tower Rd American Canyon, CA 94503 Camino Martin 2500 Ranchos Dos Palmas Baja California, Mexico 22650 181 Antrim Commons Dr Greencastle, PA 17225-1621	Dutch Quality Stone® 350 Tower Rd American Canyon, CA 94503 18012 Dover Rd Mount Eaton, OH 44659 8300 County Rd 189 Holmesville, OH 44633	Cultured Stone® 350 Tower Rd American Canyon, CA 94503 8300 County Rd 189 Holmesville, OH 44633 590 Ecology Ln Chester, SC 29706	StoneCraft Industries® 8300 County Rd 189 Holmesville, OH 44633 181 Antrim Commons Dr Greencastle, PA 17225-1621
---	--	---	---

CSI Designations:

DIVISION: 04 00 00 - MASONRY

Section: 04 70 00 - Manufactured Masonry

Section: 04 73 00 - Manufactured Stone Masonry

1 Innovative Products Evaluated¹

1.1 Westlake Royal Stone Products:

- 1.1.1 Eldorado Stone Adhered Masonry Veneer
- 1.1.2 Dutch Quality Stone Adhered Masonry Veneer
- 1.1.3 Cultured Stone Adhered Masonry Veneer
- 1.1.4 StoneCraft Industries Adhered Masonry Veneer

2 Product Description and Materials

2.1 The innovative products evaluated in this report are shown in **Figure 1**.



Figure 1. Examples of Westlake Royal Stone Products Product Finishes

2.2 Westlake Royal Stone Products are manufactured, precast, concrete veneer products made from Portland cement, aggregate, water, admixtures, and coloring used as adhered, non-bearing exterior veneer or as an interior finish.

2.3 Westlake Royal Stone Products have the following characteristics:

- 2.3.1 Color and texture similar to various stone or brick surfaces (Examples are shown in **Figure 1**).
- 2.3.2 Patterns have a maximum per unit area of 720 square inches (0.465 m²).
- 2.3.3 Patterns have a maximum per unit dimension of 36" (914 mm).
- 2.3.4 Patterns have a maximum average thickness of 1.65" (42 mm).
- 2.3.5 Patterns have a nominal oven dry density less than 105 lb/ft³ (1,682 kg/m³) and a maximum saturated weight not to exceed 15 lb/ft² (73.2 kg/m²).
- 2.3.6 The total cladding system weight, including the mortar setting bed, lath, and scratch coat, is a maximum of 25 lb/ft² (122 kg/m²) when fully saturated.
- 2.3.7 Product profiles and information is available in the appendices:
 - 2.3.7.1 **Appendix A.** Eldorado Stone
 - 2.3.7.2 **Appendix B.** Dutch Quality Stone
 - 2.3.7.3 **Appendix C.** Cultured Stone
 - 2.3.7.4 **Appendix D.** Stone Craft

2.4 As needed, review material properties for design in **Section 6** and the regulatory evaluation in **Section 8**.

3 Definitions²

- 3.1 New Materials³ are defined as building materials, equipment, appliances, systems, or methods of construction, not provided for by prescriptive and/or legislatively adopted regulations, known as alternative materials.⁴ The design strength and permissible stresses shall be established by tests⁵ and/or engineering analysis.⁶
- 3.2 Duly authenticated reports⁷ and research reports⁸ are test reports and related engineering evaluations that are written by an approved agency⁹ and/or an approved source.¹⁰
 - 3.2.1 This report utilizes intellectual property and/or trade secrets to create public domain material properties for commercial end-use.
 - 3.2.1.1 This report protects confidential Intellectual Property and trade secrets under the regulation, 18.U.S.Code.90, also known as Defend Trade Secrets Act of 2016 (DTSA).¹¹



- 3.3 An approved agency is “approved” when it is ANAB ISO/IEC 17065 accredited. DrJ Engineering, LLC (DrJ) is accredited and listed in the ANAB directory.
- 3.4 An approved source is “approved” when a professional engineer (i.e., Registered Design Professional, hereinafter RDP) is properly licensed to transact engineering commerce. The regulatory authority governing approved sources is the state legislature via its professional engineering regulations.¹²
- 3.5 Testing and/or inspections conducted for this duly authenticated report were performed by an ISO/IEC 17025 accredited testing laboratory, an ISO/IEC 17020 accredited inspection body, and/or a licensed RDP.
 - 3.5.1 The Center for Building Innovation (CBI) is ANAB¹³ ISO/IEC 17025 and ISO/IEC 17020 accredited.
- 3.6 The regulatory authority shall enforce¹⁴ the specific provisions of each legislatively adopted regulation. If there is a non-conformance, the specific regulatory section and language of the non-conformance shall be provided in writing¹⁵ stating the nonconformance and the path to its cure.
- 3.7 The regulatory authority shall accept duly authenticated reports from an approved agency and/or an approved source with respect to the quality and manner of use of new materials or assemblies as provided for in regulations regarding the use of alternative materials, designs, or methods of construction.¹⁶
- 3.8 ANAB is an International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA) signatory. Therefore, recognition of certificates and validation statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA with the appropriate scope shall be approved.¹⁷ Thus, all ANAB ISO/IEC 17065 duly authenticated reports are approval equivalent,¹⁸ and can be used in any country that is an MLA signatory found at this link: <https://iaf.nu/en/recognised-abs/>
- 3.9 Approval equity is a fundamental commercial and legal principle.¹⁹

4 Applicable Local, State, and Federal Approvals; Standards; Regulations²⁰

4.1 Local, State, and Federal

- 4.1.1 Approved in all local jurisdictions pursuant to ISO/IEC 17065 duly authenticated report use, which includes, but is not limited to, the following featured local jurisdictions: Austin, Baltimore, Broward County, Chicago, Clark County, Dade County, Dallas, Detroit, Denver, DuPage County, Fort Worth, Houston, Kansas City, King County, Knoxville, Las Vegas, Los Angeles City, Los Angeles County, Miami, Nashville, New York City, Omaha, Philadelphia, Phoenix, Portland, San Antonio, San Diego, San Jose, San Francisco, Seattle, Sioux Falls, South Holland, St. Louis County, Texas Department of Insurance, and Wichita.²¹
- 4.1.2 Approved in all state jurisdictions pursuant to ISO/IEC 17065 duly authenticated report use, which includes, but is not limited to, the following featured states: California, Florida, New Jersey, Oregon, New York, Texas, Washington, and Wisconsin.²²
- 4.1.3 Approved by the Code of Federal Regulations Manufactured Home Construction: Pursuant to Title 24, Subtitle B, Chapter XX, Part 3282.14²³ and Part 3280²⁴ pursuant to the use of ISO/IEC 17065 duly authenticated reports.
- 4.1.4 Approved means complying with the requirements of local, state, or federal legislation.

4.2 Regulations

- 4.2.1 *IBC – 18, 21, 24: International Building Code®*
- 4.2.2 *IRC – 18, 21, 24: International Residential Code®*
- 4.2.3 *FBC-B—20, 23: Florida Building Code²⁵ – Building (FL 41520)*
- 4.2.4 *FBC-R—20, 23: Florida Building Code²⁵ – Residential (FL 41520)*



4.3 Standards

- 4.3.1 *ACI 318: Building Code Requirements for Structural Concrete*
- 4.3.2 *AISI S100: North American Specification for the Design of Cold-formed Steel Structural Members*
- 4.3.3 *ANSI/AWC NDS: National Design Specification (NDS) for Wood Construction*
- 4.3.4 *ANSI/AWC SDPWS: Special Design Provisions for Wind and Seismic*
- 4.3.5 *ANSI/AWC WFCM: Wood Frame Construction Manual for One- and Two-Family Dwellings*
- 4.3.6 *ASCE/SEI 7: Minimum Design Loads and Associated Criteria for Buildings and Other Structures*
- 4.3.7 *ASTM C90: Standard Specification for Loadbearing Concrete Masonry Units*
- 4.3.8 *ASTM C150: Standard Specification for Portland Cement*
- 4.3.9 *ASTM C578: Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation*
- 4.3.10 *ASTM C1063: Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster*
- 4.3.11 *ASTM C1289: Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board*
- 4.3.12 *ASTM D5206: Standard Test Method for Windload Resistance of Rigid Plastic Siding*
- 4.3.13 *ASTM E330: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference*
- 4.3.14 *ASTM F1667: Standard Specification for Driven Fasteners: Nails, Spikes, and Staples*

5 Listed²⁶

- 5.1 Equipment, materials, products, or services included in a List published by a nationally recognized testing laboratory (e.g., CBI), an approved agency (e.g., CBI and DrJ), and/or and approved source (e.g., DrJ), or other organization(s) concerned with product evaluation (e.g., DrJ), that maintains periodic inspection (e.g., CBI) of production of listed equipment or materials, and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

6 Tabulated Properties Generated from Nationally Recognized Standards

- 6.1 Westlake Royal Stone Products are used as an exterior wall covering in accordance with the applicable sections of IBC Chapter 14, IBC Chapter 25, and IRC Section R703. They are installed over wood or steel framed walls and Wood Structural Panels (WSP) capable of supporting the imposed loads in accordance with IBC Section 1609 and IRC Section R301.2.1, including all required transverse wind loads.
- 6.2 Westlake Royal Stone Products are used as an exterior wall covering installed over wood-framed or steel framed walls: (1) where the WSP is over sheathed with continuous insulation, or (2) onto masonry or concrete walls that are sheathed with continuous insulation. The maximum foam thicknesses for various framing and fastener types are as shown in **Table 1**, **Table 2**, and **Table 3**.



Table 1. Fastener Requirements to Support Cladding Weight for Westlake Royal Stone Products
Installation Over Continuous Insulation – Wood^{8,11,12}

Fastener Penetration Into	Fastener Type ⁴	Substrate	Minimum Fastener Length ⁷ (in)	Maximum Distance from Face of Framing to Underside of Fastener Head ^{5,6} (in) (GAP)	Maximum Vertical Spacing (in) of Fasteners Along Each Stud ¹³					
					Maximum Cladding Weight (psf)					
					5	10	15	18	22	25
Wood ^{2,3}	8d nail (0.131 in. dia.)	Lath ¹ /Mortar	See table footnote 4	≤ 1 ¹ / ₈	7	7	7	7	7	7
			2 ¹ / ₂	1 ⁵ / ₈	7	7	7	7	6	5
	12d nail (0.148 in. dia.)		3 ¹ / ₄	≤ 1 ⁵ / ₈	7	7	7	7	7	7
	TRUFAST® SIP TP ¹⁰		See table footnote 4	≤ 3 ⁵ / ₈	7	7	7	7	7	7
			6	4 ¹ / ₈	7	7	7	7	7	6
			6 ¹ / ₂	4 ⁵ / ₈	7	7	7	7	7	6
	TRUFAST SIP LD ¹⁰		See table footnote 4	≤ 3 ⁵ / ₈	7	7	7	7	7	7
	HeadLOK® ⁹		See table footnote 4	≤ 3 ¹ / ₈	7	7	7	7	7	7
Wood ^{2,3}	TRUFAST SIP TP ¹⁰	Permabase or Durarock	2 ¹ / ₂	≤ 7 ⁷ / ₈	8	8	8	8	8	8
			3	1 ¹ / ₈	8	8	8	8	8	7
			3 ¹ / ₂	1 ⁵ / ₈	8	8	8	8	7	6
			4	2 ¹ / ₈	8	8	8	7	6	5
			4 ¹ / ₂	2 ⁵ / ₈	8	8	7	6	5	4
			5	3 ¹ / ₈	8	8	7	5	4	4
			5 ¹ / ₂	3 ⁵ / ₈	8	8	6	5	4	-
			6	4 ¹ / ₈	8	8	5	4	-	-
			6 ¹ / ₂	4 ⁵ / ₈	8	7	5	4	-	-
	TRUFAST SIP LD ¹⁰		See table footnote 4	≤ 7 ⁷ / ₈	8	8	8	8	8	8
			4	1 ¹ / ₈	8	8	8	8	8	7
			4 ¹ / ₂	1 ⁵ / ₈	8	8	8	8	7	6
			5	2 ¹ / ₈	8	8	8	7	6	5
			5 ¹ / ₂	2 ⁵ / ₈	8	8	8	6	5	4
			6	3 ¹ / ₈	8	8	7	5	4	4
			6 ¹ / ₂	3 ⁵ / ₈	8	8	6	5	4	-



Table 1. Fastener Requirements to Support Cladding Weight for Westlake Royal Stone Products Installation Over Continuous Insulation – Wood^{8,11,12}

Fastener Penetration Into	Fastener Type ⁴	Substrate	Minimum Fastener Length ⁷ (in)	Maximum Distance from Face of Framing to Underside of Fastener Head ^{5,6} (in) (GAP)	Maximum Vertical Spacing (in) of Fasteners Along Each Stud ¹³					
					Maximum Cladding Weight (psf)					
					5	10	15	18	22	25
Wood ^{2,3}	HeadLOK ⁹	Permbase or Durarock	See table footnote 4	$\leq 2\frac{1}{8}$	8	8	8	8	8	8
			6	$2\frac{5}{8}$	8	8	8	8	8	7
			$6\frac{1}{2}$	$3\frac{1}{8}$	8	8	8	8	7	6

SI: 1 in = 25.4 mm, 1 psf = 0.0479 kN/m²

- Lath shall be minimum 2.5-lb. metal lath having a minimum 0.020" thickness and shall be attached in accordance with **Section 9.3.9**. Tensile strength of the lath steel shall be minimum 43,900-psi.
- Maximum stud spacing is 16" o.c. Expanded metal lath shall be attached with fasteners, vertically along each stud, at a maximum of 7" o.c.
- Wood studs shall have a minimum specific gravity of 0.42.
- Screws shall be corrosion-resistant, self-drilling, self-tapping and have a wafer or pancake head or a washer with a diameter sufficient to prevent the head from pulling through the openings in the lath and shall be in accordance with ASTM C954 or ASTM C1002. Screws shall penetrate the studs a minimum of 1 $\frac{1}{4}$ " in addition to the tapered point.
- For thicker continuous insulation applications, design is required in accordance with accepted engineering practice.
- The total distance from the face of the stud to the underside of the fastener head shall not be more than that listed above. This includes any additional sheathing materials such as OSB, Gypsum, DensGlass®, plywood, lath, rain screen, or airspace incorporated in the design of the wall assembly. Where OSB or plywood is separately attached directly to the stud, the distance from framing to the underside of fastener head may be calculated from the face of the OSB or plywood.
- Not all fasteners are commonly available in the lengths specified. Proprietary fasteners of equal strength and size are permitted.
- This table provides some options evaluated by DrJ for the attachment of Westlake Royal Stone Products over foam plastic insulating sheathing. Other methods, such as the Cascadia Clip® or Knight® Wall Systems, may be considered, but have not been evaluated by DrJ.
- HeadLOK screws are proprietary fasteners manufactured by OMG®, Inc. (dba FastenMaster®). For HeadLOK fastener code-compliance issues, see the manufacturer product literature and code-compliance reports.
- TRUFAST fasteners are proprietary fasteners manufactured by TRUFAST®, LLC. For TRUFAST fastener code-compliance issues, see the manufacturer product literature and code-compliance reports.
- Framing is defined as wood studs.
- Continuous insulation shall be foam plastic sheathing with a minimum compressive strength of 15-psi in accordance with ASTM C578 or ASTM C1289.
- Values were calculated considering only eccentric gravity loads. Where transverse load resistance is required, withdrawal resistance of the fastener shall also be considered.



**Table 2. Fastener Requirements to Support Cladding Weight for Westlake Royal Stone Products
Installation Over Continuous Insulation – Steel^{7,8,9}**

Fastener Penetration Into	Fastener Type ³	Substrate	Minimum Fastener Length ⁶ (in)	Maximum Distance from Face of Framing to Underside of Fastener Head ^{4,5} (in) (GAP)	Maximum Vertical Spacing (in) of Fasteners along Each Stud ¹⁰						
					Maximum Cladding Weight (psf)						
					5	10	15	18	22	25	
Steel Framing ² (33 mil, 20-gauge, 33-ksi)	#6 Screw	Lath ^{1/} Mortar	1	5/8	7	7	7	7	7	6	
			1	7/8	7	7	7	7	6	6	
			1½	1⅛	7	7	7	7	6	6	
			2	1⅝	7	7	7	6	4	4	
			2½	2⅛	7	7	6	4	4	-	
			3	2⅝	7	4	-	-	-	-	
			3½	3⅛	4	-	-	-	-	-	
	#8 Screw		1	5/8	7	7	7	7	7	7	7
			1	7/8	7	7	7	7	7	7	6
			1½	1⅛	7	7	7	7	7	7	6
			2	1⅝	7	7	7	7	6	4	4
			2½	2⅛	7	7	7	6	4	4	4
			3	2⅝	7	7	6	4	4	-	-
			3½	3⅛	7	6	4	-	-	-	-
	#10 Screw		4	3⅝	6	-	-	-	-	-	-
			See table footnote 3	≤ 1⅛	7	7	7	7	7	7	7
			2	1⅝	7	7	7	7	6	6	6
			2½	2⅛	7	7	7	7	6	4	4
			3	2⅝	7	7	7	6	4	4	4
			3½	3⅛	7	7	6	4	4	-	-
			4	3⅝	7	6	4	-	-	-	-
	#12 Screw		4½	4⅛	7	4	-	-	-	-	-
			See table footnote 3	≤ 1⅛	7	7	7	7	7	7	7
			2	1⅝	7	7	7	7	7	6	6
			2½	2⅛	7	7	7	7	6	6	6
			3	2⅝	7	7	7	7	6	4	4



Table 2. Fastener Requirements to Support Cladding Weight for Westlake Royal Stone Products
Installation Over Continuous Insulation – Steel^{7,8,9}

Fastener Penetration Into	Fastener Type ³	Substrate	Minimum Fastener Length ⁶ (in)	Maximum Distance from Face of Framing to Underside of Fastener Head ^{4,5} (in) (GAP)	Maximum Vertical Spacing (in) of Fasteners along Each Stud ¹⁰							
					Maximum Cladding Weight (psf)							
					5	10	15	18	22	25		
Steel Framing ² (33 mil, 20-gauge, 33-ksi) Continued	#12 Screw Continued	Lath ¹ / Mortar	3½	3⅛	7	7	7	6	4	4		
			4	3⅝	7	7	6	4	4	-		
			4½	4⅛	7	6	4	-	-	-		
			5	4⅝	7	4	-	-	-	-		
	#14 Screw		See Table footnote 3	≤ 1⅝	7	7	7	7	7	7	7	
			2½	2⅛	7	7	7	7	7	7	6	
			3	2⅝	7	7	7	7	7	6	6	
			3½	3⅛	7	7	7	7	7	6	4	
			4	3⅝	7	7	7	7	6	4	4	
			4½	4⅛	7	7	6	4	4	4	-	
			5	4.625	7	6	4	4	4	-	-	
	TRUFAST SIP LD		3	≤ 7⁄8	7	7	7	7	7	7	7	
			3	1⅛	7	7	7	7	7	7	6	
			3	1⅝	7	7	7	7	7	6	4	
			3	2⅛	7	7	6	6	6	4	4	
			3	2⅝	7	7	4	4	4	4	-	
			3½	3⅛	7	6	4	4	-	-	-	
			4	3⅝	6	-	-	-	-	-	-	
Steel Framing ² (43 mil, 18-gauge, 33-ksi)	#6 Screw	Lath ¹ / Mortar	See table footnote 3	≤ 1⅛	7	7	7	7	7	7		
			2	1⅝	7	7	7	7	7	7	6	
			2½	2⅛	7	7	7	7	6	6	4	
			3	2⅝	7	7	4	4	4	4	-	
			3½	3⅛	7	4	-	-	-	-	-	
	#8 Screw		See table footnote 3	≤ 1⅝	7	7	7	7	7	7	7	
			2½	2⅛	7	7	7	7	7	7	7	6
			3	2⅝	7	7	7	7	6	6	6	4



Table 2. Fastener Requirements to Support Cladding Weight for Westlake Royal Stone Products
Installation Over Continuous Insulation – Steel^{7,8,9}

Fastener Penetration Into	Fastener Type ³	Substrate	Minimum Fastener Length ⁶ (in)	Maximum Distance from Face of Framing to Underside of Fastener Head ^{4,5} (in) (GAP)	Maximum Vertical Spacing (in) of Fasteners along Each Stud ¹⁰						
					Maximum Cladding Weight (psf)						
					5	10	15	18	22	25	
Steel Framing ² (43 mil, 18-gauge, 33-ksi) Continued	#8 Screw	Lath ¹ / Mortar	3½	3⅛	7	7	6	4	4	-	
			4	3⅝	7	4	-	-	-	-	
	#10 Screw		See table footnote 3	≤ 2⅛	7	7	7	7	7	7	7
			3	2⅝	7	7	7	7	7	6	6
			3½	3⅛	7	7	7	6	6	4	4
			4	3⅝	7	7	6	4	4	-	-
			4½	4⅛	7	4	-	-	-	-	-
			See table footnote 3	≤ 2⅝	7	7	7	7	7	7	7
	#12 Screw		3½	3⅛	7	7	7	7	7	6	6
			4	3⅝	7	7	7	6	6	4	4
			4½	4⅛	7	7	6	4	4	4	4
			5	4⅝	7	6	4	-	-	-	-
			See table footnote 3	≤ 3⅛	7	7	7	7	7	7	7
	#14 Screw		4	3⅝	7	7	7	7	7	6	6
			4½	4⅛	7	7	7	7	6	4	4
			5	4⅝	7	7	6	6	4	4	4
			3	≤ 1⅝	7	7	7	7	7	7	7
	TRUFAST SIP LD		3	2⅛	7	7	7	7	7	6	6
			3	2⅝	7	7	7	6	6	4	4
			3½	3⅛	7	7	6	4	4	-	-
			4	3⅝	7	4	-	-	-	-	-
			Steel Framing ² (54 mil, 16-gauge, 50-ksi)	#6 Screw	Lath ¹ / Mortar	See table footnote 3	≤ 1⅝	7	7	7	7
2½	2⅛	7	7			7	7	7	6	6	
3	2⅝	7	7			7	6	4	4	4	
3½	3⅛	7	4			-	-	-	-	-	
#8 Screw	See table footnote 3	≤ 2⅛	7	7		7	7	7	7	7	



Table 2. Fastener Requirements to Support Cladding Weight for Westlake Royal Stone Products Installation Over Continuous Insulation – Steel^{7,8,9}

Fastener Penetration Into	Fastener Type ³	Substrate	Minimum Fastener Length ⁶ (in)	Maximum Distance from Face of Framing to Underside of Fastener Head ^{4,5} (in) (GAP)	Maximum Vertical Spacing (in) of Fasteners along Each Stud ¹⁰					
					Maximum Cladding Weight (psf)					
					5	10	15	18	22	25
Steel Framing ² (54 mil, 16-gauge, 50-ksi) Continued	#8 Screw	Lath ¹ / Mortar	3	2 ⁵ / ₈	7	7	7	7	7	6
			3½	3 ¹ / ₈	7	7	7	6	6	4
			4	3 ⁵ / ₈	7	6	4	4	-	-
	#10 Screw		See table footnote 3	≤ 2 ⁵ / ₈	7	7	7	7	7	7
			3½	3 ¹ / ₈	7	7	7	7	7	6
			4	3 ⁵ / ₈	7	7	7	6	6	4
			4½	4 ¹ / ₈	7	7	4	4	-	-
	#12 Screw		See table footnote 3	≤ 3 ⁵ / ₈	7	7	7	7	7	7
			4½	4 ¹ / ₈	7	7	7	7	6	4
			5	4 ⁵ / ₈	7	7	6	4	4	-
	#14 Screw		See table footnote 3	≤ 4 ¹ / ₈	7	7	7	7	7	7
			5	4 ⁵ / ₈	7	7	7	7	6	6
	TRUFAST SIP LD		3	≤ 2 ¹ / ₈	7	7	7	7	7	7
			3	2 ⁵ / ₈	7	7	7	7	7	6
			3½	3 ¹ / ₈	7	7	7	6	4	4
			4	3 ⁵ / ₈	7	6	4	-	-	-

SI: 1 in = 25.4 mm, 1 psf = 0.0479 kN/m²

- Lath shall be minimum 2.5-lb. metal lath having a minimum 0.020" thickness and shall be attached in accordance with **Section 9.3.9**. Tensile strength of the lath steel shall be minimum 43,900-psi.
- Maximum stud spacing is 16" o.c. Expanded metal lath shall be attached with fasteners, vertically along each stud, a maximum of 7" o.c.
- Screws shall be corrosion-resistant, self-drilling, self-tapping and penetrate a minimum of ³/₈" and have a wafer or pancake head or a washer with a diameter sufficient to prevent the head from pulling through the openings in the lath and shall be in accordance with ASTM C954 or ASTM C1002.
- For thicker continuous insulation applications, design is required in accordance with accepted engineering practice.
- The total distance from the face of the stud to the underside of the fastener head shall not be more than that listed above. This includes any additional sheathing materials such as OSB, plywood, Gypsum, DensGlass, lath, rain screen or airspace incorporated in the design of the wall assembly.
- Not all fasteners are commonly available in the lengths specified. Proprietary fasteners of equal strength and size are permitted.
- This table provides some options evaluated by DrJ for the attachment of Westlake Royal Stone Products over foam plastic insulating sheathing. Other methods, such as the Cascadia Clip or Knight Wall Systems, may be considered, but have not been evaluated by DrJ.
- Framing is defined as steel studs.
- Continuous insulation shall be foam plastic sheathing with a minimum compressive strength of 15-psi in accordance with ASTM C578 or ASTM C1289.
- Values were calculated considering only eccentric gravity loads. Where transverse load resistance is required, withdrawal resistance of the fastener shall also be considered.



**Table 3. Fastener Requirements to Support Cladding Weight for Westlake Royal Stone Products
Installation Over Continuous Insulation – Masonry & Concrete^{8,11}**

Lath ¹ Fastener Substrate ²	Lath Fastener Type	Maximum Veneer Weight (Includes Lath, Scratch Coat, and Mortar Setting Bed) (psf)	Maximum Distance From Face of Framing to Underside of Fastener Head ^{5,6} (in)	Lath Fastener – Minimum Size ⁷ (Diameter x Length)
Concrete ⁴ (minimum 2,500-psi)	TRUFAST ¹⁰ TRUGRIP, TRUFAST SIP LD, or Tapcon ^{®9} Hex Screw	15	1 ³ / ₈	TRUFAST SIP LD or TRUFAST TRUGRIP 3" or Tapcon Hex Screw 3/16" x 3 1/4"
			1 ⁷ / ₈	TRUFAST SIP LD or TRUFAST TRUGRIP 3 1/2" or Tapcon Hex Screw 1/4" x 3 3/4"
			2 ³ / ₈	TRUFAST SIP LD or TRUFAST TRUGRIP 4" or Tapcon Hex Screw 1/4" x 4"
			3 ³ / ₈	TRUFAST TRUGRIP 4 1/2" or Tapcon Hex Screw 1/4" x 5"
		18	1 ³ / ₈	TRUFAST SIP LD or TRUFAST TRUGRIP 3" or Tapcon Hex Screw 3/16" x 3 1/4"
			1 ⁷ / ₈	TRUFAST SIP LD or TRUFAST TRUGRIP 3 1/2" or Tapcon Hex Screw 1/4" x 3 3/4"
			2 ³ / ₈	TRUFAST SIP LD or TRUFAST TRUGRIP 4" or Tapcon Hex Screw 1/4" x 4"
			3 ³ / ₈	Tapcon Hex Screw 1/4" x 5"
		22	1 ³ / ₈	TRUFAST SIP LD or TRUFAST TRUGRIP 3" or Tapcon Hex Screw 1/4" x 3 1/4"
			1 ⁷ / ₈	TRUFAST TRUGRIP 3.5" or Tapcon Hex Screw 1/4" x 3 3/4"
			2 ³ / ₈	TRUFAST TRUGRIP 4" or Tapcon Hex Screw 1/4" x 4"
			3 ³ / ₈	Tapcon Hex Screw 1/4" x 5"
		25	1 ³ / ₈	TRUFAST TRUGRIP 3" or Tapcon Hex Screw 1/4" x 3 1/4"
			1 ⁷ / ₈	TRUFAST TRUGRIP 3 1/2" or Tapcon Hex Screw 1/4" x 3 3/4"
			2 ³ / ₈	Tapcon Hex Screw 1/4" x 4"
			3 ³ / ₈	Tapcon Hex Screw 5/16" x 5"



**Table 3. Fastener Requirements to Support Cladding Weight for Westlake Royal Stone Products
Installation Over Continuous Insulation – Masonry & Concrete^{8,11}**

Lath ¹ Fastener Substrate ²	Lath Fastener Type	Maximum Veneer Weight (Includes Lath, Scratch Coat, and Mortar Setting Bed) (psf)	Maximum Distance From Face of Framing to Underside of Fastener Head ^{5,6} (in)	Lath Fastener – Minimum Size ⁷ (Diameter x Length)
Masonry ³ (medium/normal Hollow CMU per ASTM C90)	TRUFAST SIP LD, or Tapcon Hex Screw	15	1 ³ / ₈	TRUFAST SIP LD 3" or Tapcon Hex Screw 3/ ₁₆ " x 2 ³ / ₄ "
			1 ⁷ / ₈	TRUFAST SIP LD 3 ¹ / ₂ " or Tapcon Hex Screw 3/ ₁₆ " x 3 ¹ / ₄ "
			2 ³ / ₈	Tapcon Hex Screw 1/ ₄ " x 3 ³ / ₄ "
			3 ³ / ₈	Tapcon Hex Screw 1/ ₄ " x 5"
		18	1 ³ / ₈	TRUFAST SIP LD 2 ¹ / ₂ " or Tapcon Hex Screw 3/ ₁₆ " x 2 ³ / ₄ "
			1 ⁷ / ₈	Tapcon Hex Screw 3/ ₁₆ " x 3 ¹ / ₄ "
			2 ³ / ₈	Tapcon Hex Screw 1/ ₄ " x 3 ³ / ₄ "
			3 ³ / ₈	Tapcon Hex Screw 1/ ₄ " x 5"
		22	1 ³ / ₈	Tapcon Hex Screw 1/ ₄ " x 2 ³ / ₄ "
			1 ⁷ / ₈	Tapcon Hex Screw 1/ ₄ " x 3 ¹ / ₄ "
			2 ³ / ₈	Tapcon Hex Screw 1/ ₄ " x 3 ³ / ₄ "
			3 ³ / ₈	Tapcon Hex Screw 5/ ₁₆ " x 5"
		25	1 ³ / ₈	Tapcon Hex Screw 1/ ₄ " x 2 ³ / ₄ "
			1 ⁷ / ₈	Tapcon Hex Screw 1/ ₄ " x 3 ¹ / ₄ "
			2 ³ / ₈	Tapcon Hex Screw 1/ ₄ " x 3 ³ / ₄ "

SI: 1 in = 25.4 mm, 1 psf = 0.0479 kN/m²

- Lath shall be minimum 2.5 lb. metal lath having a minimum 0.020" thickness and shall be attached in accordance with **Section 9.3.9**. Tensile strength of the lath steel shall be minimum 43,900-psi.
- Maximum fastener spacing in masonry and concrete is 16" o.c. horizontally and 7" o.c. vertically.
- Masonry Construction: Tapcon fasteners shall penetrate a minimum of 1". TRUFAST SIP LD and TRUGRIP fasteners shall penetrate a minimum of 1¹/₂".
- Concrete Construction: Tapcon fasteners shall have a minimum penetration depth of 1¹/₂". TRUFAST SIP LD and TRUGRIP fasteners shall penetrate a minimum of 1¹/₂".
- For thicker continuous insulation applications, design is required in accordance with accepted engineering practice.
- The total distance from concrete or masonry to the underside of the fastener head shall not be more than that listed above. This includes any additional sheathing materials such as OSB, plywood, Gypsum, DensGlass, rain screen or airspace incorporated in the design of the wall assembly.
- Not all fasteners are commonly available in the lengths specified. Proprietary fasteners of equal strength and size are permitted.
- This table provides some options evaluated by DrJ for the attachment of Westlake Royal Stone Products over foam plastic insulating sheathing. Other methods, such as the Cascadia Clip or Knight Wall Systems, may be considered, but have not been evaluated by DrJ.
- Tapcon fasteners are proprietary fasteners manufactured by ITW Buildex. For Tapcon fastener code-compliance issues, see the manufacturer product literature and code-compliance reports.
- TRUFAST fasteners are proprietary fasteners manufactured by TRUFAST, LLC. For TRUFAST fastener code-compliance issues, see the manufacturer product literature and code-compliance reports.
- Continuous insulation shall be foam plastic sheathing with a minimum compressive strength of 15-psi in accordance with ASTM C578 or ASTM C1289.



6.3 Westlake Royal Stone Products are used as an exterior wall covering installed over furring. The furring is placed over the continuous insulation and fastened to the wood or steel studs or concrete or masonry substrate. The maximum foam thickness for various fastener sizes and types is listed in **Table 4**.

Table 4. Maximum Foam Thickness for Fastener Type and Size^{1,13,15}

Furring Material ^{2,3,4,5}	Framing Member ²⁰	Minimum Fastener Penetration into Wall Framing	Cladding Weight ¹⁶ (psf)	Maximum Distance from the Face of Framing to the Underside of Furring Material ¹⁴ (in)	Fastener Type and Minimum Size ^{10,11,12,17,18,19} (diameter x length)
Minimum 1 x 3 Wood Furring	Minimum 2x Wood Stud ⁶	See Table Footnote 6	15	1	0.148" x 3 1/4" Nail or HeadLOK 4 1/2", or TRUFAST SIP (LD or TP) 4"
				1 1/2	HeadLOK 4 1/2" or TRUFAST SIP (LD or TP) 4 1/2"
				2	HeadLOK 5" or TRUFAST SIP (LD or TP) 5"
				3	HeadLOK 6" or TRUFAST SIP (LD or TP) 7"
			18	1	0.148" x 3 1/4" Nail or HeadLOK 4 1/2" or TRUFAST SIP (LD or TP) 4"
				1 1/2	HeadLOK 4 1/2" or TRUFAST SIP (LD or TP) 4 1/2"
				2	HeadLOK 5" or TRUFAST SIP (LD or TP) 5"
				3	HeadLOK 6" or TRUFAST SIP (LD or TP) 7"
			22	1	0.148" x 3 1/4" Nail or HeadLOK 4 1/2" or TRUFAST SIP (LD or TP) 4"
				1 1/2	HeadLOK 4 1/2" or TRUFAST SIP (LD or TP) 4 1/2"
				2	HeadLOK 5" or TRUFAST SIP (LD or TP) 6"
				3	HeadLOK 6" or TRUFAST SIP (LD or TP) 7"



Table 4. Maximum Foam Thickness for Fastener Type and Size^{1,13,15}

Furring Material ^{2,3,4,5}	Framing Member ²⁰	Minimum Fastener Penetration into Wall Framing	Cladding Weight ¹⁶ (psf)	Maximum Distance from the Face of Framing to the Underside of Furring Material ¹⁴ (in)	Fastener Type and Minimum Size ^{10,11,12,17,18,19} (diameter x length)
Minimum 1 x 3 Wood Furring Continued	Minimum 2x Wood Stud ⁶ Continued	See Table Footnote 6 Continued	25	1	0.148" x 3 1/4" Nail or HeadLOK 4 1/2" or TRUFAST SIP (LD or TP) 4"
				1 1/2	HeadLOK 4 1/2" or TRUFAST SIP (LD or TP) 5 1/2"
				2	HeadLOK 5" or TRUFAST SIP (LD or TP) 6"
				3	None
Steel Hat Channel (Minimum 33 mil, 33-ksi)	Steel Stud ⁷ (33 mil or thicker, 33-ksi)	Steel Thickness + 3 Threads	15	1	#4 (0.112" x 1 1/2") or TRUFAST SIP LD 1 1/2"
				1 1/2	#6 (0.138" x 2") or TRUFAST SIP LD 2"
				2	#6 (0.138" x 2 1/2") or TRUFAST SIP LD 2 1/2"
				3	#10 (0.186" x 3 1/2") or TRUFAST SIP LD 3 1/2"
			18	1	#4 (0.112" x 1 1/2") or TRUFAST SIP LD 1 1/2"
				1 1/2	#6 (0.138" x 2") or TRUFAST SIP LD 2"
				2	#8 (0.164" x 2 1/2") or TRUFAST SIP LD 2 1/2"
				3	#12 (0.216" x 3 1/2") or TRUFAST SIP LD 3 1/2"
			22	1	#6 (0.138" x 1 1/2") or TRUFAST SIP LD 1 1/2"
				1 1/2	#8 (0.164" x 2") or TRUFAST SIP LD 2"
				2	#10 (0.186" x 2 1/2") or TRUFAST SIP LD 2 1/2"
				3	#14 (0.242" x 3 1/2") or TRUFAST SIP LD 3 1/2"



Table 4. Maximum Foam Thickness for Fastener Type and Size^{1,13,15}

Furring Material ^{2,3,4,5}	Framing Member ²⁰	Minimum Fastener Penetration into Wall Framing	Cladding Weight ¹⁶ (psf)	Maximum Distance from the Face of Framing to the Underside of Furring Material ¹⁴ (in)	Fastener Type and Minimum Size ^{10,11,12,17,18,19} (diameter x length)
Steel Hat Channel (Minimum 33 mil, 33-ksi) Continued	Steel Stud ⁷ (33 mil or thicker, 33-ksi) Continued	Steel Thickness + 3 Threads Continued	25	1	#8 (0.164" x 1 1/2") or TRUFAST SIP LD 1 1/2"
				1 1/2	#10 (0.186" x 2") or TRUFAST SIP LD 2"
				2	#12 (0.216" x 3 1/2") or TRUFAST SIP LD 2 1/2"
				3	#16 (0.268" x 3 1/2") or TRUFAST SIP LD 3 1/2"
Steel Hat Channel (Minimum 33 mil, 33-ksi)	Steel Stud (43 mil or Thicker, 33-ksi)	Steel Thickness + 3 Threads	15	1	#4 (0.112" x 1 1/2") or TRUFAST SIP LD 1 1/2"
				1 1/2	#6 (0.138" x 2") or TRUFAST SIP LD 2"
				2	#6 (0.138" x 2 1/2") or TRUFAST SIP LD 2 1/2"
				3	#8 (0.164" x 3 1/2") or TRUFAST SIP LD 3 1/2"
			18	1	#4 (0.112" x 1 1/2") or TRUFAST SIP LD 1 1/2"
				1 1/2	#6 (0.138" x 2") or TRUFAST SIP LD 2"
				2	#6 (0.138" x 2 1/2") or TRUFAST SIP LD 2 1/2"
				3	#10 (0.186" x 3 1/2") or TRUFAST SIP LD 3 1/2"
			22	1	#6 (0.138" x 1 1/2") or TRUFAST SIP LD 1 1/2"
				1 1/2	#6 (0.138" x 2") or TRUFAST SIP LD 2"
				2	#8 (0.164" x 2 1/2") or TRUFAST SIP LD 2 1/2"
				3	#10 (0.186" x 3 1/2") or TRUFAST SIP LD 3 1/2"



Table 4. Maximum Foam Thickness for Fastener Type and Size^{1,13,15}

Furring Material ^{2,3,4,5}	Framing Member ²⁰	Minimum Fastener Penetration into Wall Framing	Cladding Weight ¹⁶ (psf)	Maximum Distance from the Face of Framing to the Underside of Furring Material ¹⁴ (in)	Fastener Type and Minimum Size ^{10,11,12,17,18,19} (diameter x length)
Steel Hat Channel (Minimum 33 mil, 33-ksi) Continued	Steel Stud (43 mil or Thicker, 33-ksi) Continued	Steel Thickness + 3 Threads Continued	25	1	#6 (0.138" x 1 1/2") or TRUFAST SIP LD 1 1/2"
				1 1/2	#8 (0.164" x 2") or TRUFAST SIP LD 2"
				2	#8 (0.164" x 2 1/2") or TRUFAST SIP LD 2 1/2"
				3	#12 (0.216" x 3 1/2") or TRUFAST SIP LD 3 1/2"
Steel Hat Channel (Minimum 33 mil, 33-ksi)	Masonry ⁸ (Medium/Normal Hollow CMU per ASTM C90)	See Table Footnote 8	15	1	3/16" x 2 1/4" Tapcon Hex Screw or TRUFAST SIP LD 2 1/2"
				1 1/2	3/16" x 2 3/4" Tapcon Hex Screw or TRUFAST SIP LD 3"
				2	3/16" x 3 1/4" Tapcon Hex Screw or TRUFAST SIP LD 3 1/2"
				3	1/4" x 5" Tapcon Hex Screw or TRUFAST SIP LD 4"
			18	1	3/16" x 2 1/4" Tapcon Hex Screw or TRUFAST SIP LD 2 1/2"
				1 1/2	3/16" x 2 3/4" Tapcon Hex Screw or TRUFAST SIP LD 3"
				2	1/4" x 3 1/4" Tapcon Hex Screw or TRUFAST SIP LD 3 1/2"
				3	1/4" x 5" Tapcon Hex Screw
			22	1	3/16" x 2 1/4" Tapcon Hex Screw or TRUFAST SIP LD 2 1/2"
				1 1/2	1/4" x 2 3/4" Tapcon Hex Screw or TRUFAST SIP LD 3"
				2	1/4" x 3 1/4" Tapcon Hex Screw or TRUFAST SIP LD 3 1/2"
				3	1/4" x 5" Tapcon Hex Screw



Table 4. Maximum Foam Thickness for Fastener Type and Size^{1,13,15}

Furring Material ^{2,3,4,5}	Framing Member ²⁰	Minimum Fastener Penetration into Wall Framing	Cladding Weight ¹⁶ (psf)	Maximum Distance from the Face of Framing to the Underside of Furring Material ¹⁴ (in)	Fastener Type and Minimum Size ^{10,11,12,17,18,19} (diameter x length)
Steel Hat Channel (Minimum 33 mil, 33-ksi) Continued	Masonry ⁸ (Medium/Normal Hollow CMU per ASTM C90) Continued	See Table Footnote 8 Continued	25	1	1/4" x 2 1/4" Tapcon Hex Screw or TRUFAST SIP LD 2 1/2"
				1 1/2	1/4" x 2 3/4" Tapcon Hex Screw or TRUFAST SIP LD 3"
				2	1/4" x 3 1/4" Tapcon Hex Screw or TRUFAST SIP LD 3 1/2"
				3	5/16" x 5" Tapcon Hex Screw
Steel Hat Channel (Minimum 33 mil, 33-ksi)	Concrete ⁹ (Minimum 2,500-psi)	See Table Footnote 9	22	1	3/16" x 2 3/4" Tapcon Hex Screw or TRUFAST SIP LD or TRUFAST TRUGRIP 3"
				1 1/2	3/16" x 3 1/4" Tapcon Hex Screw or TRUFAST SIP LD or TRUFAST TRUGRIP 3 1/2"
				2	3/16" x 3 3/4" Tapcon Hex Screw or TRUFAST SIP LD or TRUFAST TRUGRIP 4"
				3	3/16" x 5" Tapcon Hex Screw or TRUFAST SIP LD or TRUFAST TRUGRIP 5"
			25	1	3/16" x 2 3/4" Tapcon Hex Screw or TRUFAST SIP LD or TRUFAST TRUGRIP 3"
				1 1/2	3/16" x 3 1/4" Tapcon Hex Screw or TRUFAST SIP LD or TRUFAST TRUGRIP 3 1/2"
				2	3/16" x 3 3/4" Tapcon Hex Screw or TRUFAST SIP LD or TRUFAST TRUGRIP 4"
				3	1/4" x 5" Tapcon Hex Screw or TRUFAST SIP LD or TRUFAST TRUGRIP 5"



Table 4. Maximum Foam Thickness for Fastener Type and Size^{1,13,15}

Furring Material ^{2,3,4,5}	Framing Member ²⁰	Minimum Fastener Penetration into Wall Framing	Cladding Weight ¹⁶ (psf)	Maximum Distance from the Face of Framing to the Underside of Furring Material ¹⁴ (in)	Fastener Type and Minimum Size ^{10,11,12,17,18,19} (diameter x length)
SI: 1 in = 25.4 mm, 1 psf = 0.0479 kN/m² - Lath shall be minimum 2.5 lb. metal lath having a minimum 0.020" thickness and shall be attached in accordance with Section 9.3.9. Tensile strength of the lath steel shall be minimum 43,900-psi. - Where furring is installed vertically over wall studs, maximum stud spacing shall be 16" o.c., and furring shall be attached to each stud at a maximum of 7" o.c. along the length of the stud. Where furring is attached vertically to concrete or masonry walls, it shall be spaced a maximum of 16" o.c. and fastened a maximum of 7" o.c. vertically. - Where furring is installed horizontally over wall studs, maximum stud spacing shall be 16" o.c., and furring shall be installed at a maximum 7" o.c. along the length of the stud and attached to each wall stud. Where furring is attached horizontally to concrete or masonry, it shall be spaced a maximum of 7" o.c. and shall be fastened to the concrete or masonry with fasteners spaced a maximum of 16" o.c. - Wood furring shall be a minimum 3/4" thick. Wood furring and wood studs shall have a minimum specific gravity of 0.42. - Steel hat-channel furring shall be a minimum 33 mil thick steel (33-ksi) with a depth of 7/8". <i>Wood Construction:</i> Nails shall penetrate wood framing a minimum of 1 1/2" and have a head size or a washer with a diameter sufficient to prevent the head from pulling through the openings in the lath. Screws shall penetrate the studs a minimum of 1 1/4". Nails supporting the furring strips shall penetrate the studs a minimum of 1 1/2". <i>Steel Framing:</i> Screws shall be corrosion-resistant, self-drilling, self-tapping and penetrate a minimum of 3/8" and have a wafer or pancake head or a washer with a diameter sufficient to prevent the head from pulling through the openings in the lath. <i>Masonry Construction:</i> Tapcon fasteners shall penetrate a minimum of 1". TRUFAST SIP LD and TRUGRIP fasteners shall penetrate a minimum of 1 1/2". <i>Concrete Construction:</i> Tapcon fasteners shall have a minimum penetration depth of 1 1/2". TRUFAST SIP LD and TRUGRIP fasteners shall penetrate a minimum of 1 1/2". - Corrosion-resistant, self-drilling, self-tapping screw fasteners for connection of siding to steel framing shall comply with the requirements of AISI S200. Other approved fasteners of equivalent or greater diameter and bending strength shall be permitted. - Nail fasteners shall be common or box nails and shall comply with ASTM F1667, except nail length shall be permitted to exceed ASTM F1667 standard lengths. Minimum bending yield strength for nails with a diameter up to 0.148", 0.162", and 0.225" shall be 90,000-psi, 90,000-psi and 80,000-psi, respectively. - A minimum 2x wood furring shall be used where the required wall covering fastener penetration into wood material exceeds 3/4" (19 mm) and is not more than 1 1/2" (38 mm), unless approved deformed shank siding nails or siding screws are used to provide equivalent withdrawal strength, allowing the wall covering connection to be placed into 1x wood furring. - Continuous insulation shall be foam plastic sheathing with a minimum compressive strength of 15-psi in accordance with ASTM C578 or ASTM C1289. - The total distance from the face of the stud, concrete, or masonry to the underside of the furring shall not be more than the maximum thickness listed above. This includes any additional sheathing materials such as OSB, plywood, Gypsum, DensGlass, rain screen or airspace incorporated in the design of the wall assembly. Cladding shall be attached to the furring in accordance with the manufacturer installation instructions. Not all fasteners are commonly available in the lengths specified. Proprietary fasteners of equal strength and size are permitted. - This table provides some options evaluated by DrJ for the attachment of Westlake Royal Stone Products over foam plastic insulating sheathing. Other methods, such as the Cascadia Clip or Knight Wall Systems, may be considered, but have not been evaluated by DrJ. - Materials in the assembly, other than the veneer, lath and mortar setting bed and furring, are assumed to be separately attached and are not included in the fastener size calculations. Furring weight shall be included as part of the listed cladding weight. - HeadLOK Screws are proprietary fasteners manufactured by OMG, Inc. (dba FastenMaster). For HeadLOK fastener code compliance issues, see the manufacturer product literature and code compliance reports. - Tapcon fasteners are proprietary fasteners manufactured by ITW Buildex. For Tapcon fastener code-compliance issues, see the manufacturer product literature and code-compliance reports. - TRUFAST fasteners are proprietary fasteners manufactured by TRUFAST, LLC. For TRUFAST fastener code-compliance issues, see the manufacturer product literature and code-compliance reports. - Framing is defined as wood studs, steel studs, concrete, or masonry substrates.					



6.4 Transverse Wind Loads

- 6.4.1 Westlake Royal Stone Products shall not be installed in areas where the design wind pressure exceeds the capacity of the cladding and its attachment to resist the load in accordance with **Table 5**.
- 6.4.2 **Table 5** provides the maximum design wind pressure allowed for the installation of Westlake Royal Stone Products. The maximum wind speed that corresponds with this wind pressure is provided to aid the user in determining where the product can be used. See the applicable building code for the maximum design wind speed allowed for the location of the building. The wind speed listed in **Table 5** shall exceed the required design wind speed from the applicable code.

Table 5. Maximum Allowable Wind Pressure and Wind Speeds for Westlake Royal Stone Products Lath Fasteners

Exposure Category	Maximum Allowable Wind Pressure ^{2,5} (psf)	Maximum Wind Speed ^{1,3,4} V_{ult}/V_{asd} (mph)
B	70	≤ 200/155
C		≤ 185/145
D		≤ 170/130

SI: 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/h

- The first wind speed listed is V_{ult} , per ASCE 7-16 and 7-22, and is the maximum allowed wind speed for the Exposure Category shown with a maximum Mean Roof Height (MRH) of 30'. The second wind speed capacity shown for each exposure category is the ASCE 7-16 and 7-22 ultimate wind speed converted to V_{asd} for allowable stress design and rounded to the nearest 5 mph.
- Design wind pressure is per ASCE 7-16 and 7-22 for components and cladding ($K_d = 0.85$), Method 1 for the condition shown.
- Maximum allowable wind speeds are based on the average ultimate loads tested for each condition divided by an allowable stress design reduction factor of 1.6, in accordance with SDPWS Section 3.2.1.
- Pressure Equalization factor in accordance with ASTM D5206, Procedure B equals 1.0. Additional assumptions include:
 - Enclosed Building ($GC_{pi} = \pm 0.18$)
 - Topographic Factor, $K_{zt} = 1.0$
 - Ground Elevation Factor, $K_e = 1.0$
 - Zone 5 with an effective area of 10 ft² ($GC_p = -1.4$)
- Wind pressure resistance is based on the lowest published withdraw capacity for the fasteners shown. Fasteners of equal or greater withdrawal resistance and equal or greater head size are permitted.

- 6.4.3 For additional information or use in other applications, consult the manufacturer installation instructions:

- 6.4.3.1 Eldorado Stone: www.westlakeroyalbuildingproducts.com/stone/eldorado-stone
- 6.4.3.2 Dutch Quality Stone: www.westlakeroyalbuildingproducts.com/stone/dutch-quality-stone
- 6.4.3.3 Cultured Stone: www.westlakeroyalbuildingproducts.com/stone/cultured-stone
- 6.4.3.4 StoneCraft: www.westlakeroyalbuildingproducts.com/stone/stonecraft

- 6.5 Alternative techniques shall be permitted in accordance with accepted engineering practice and experience. These provisions for the use of alternative materials, designs, and methods of construction are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed herein. This includes, but is not limited to, the following areas of engineering: mechanics of materials, structures, building science, and fire science.



7 Certified Performance²⁷

- 7.1 All construction methods shall conform to accepted engineering practices to ensure durable, livable, and safe construction and shall demonstrate acceptable workmanship reflecting journeyman quality of work of the various trades.²⁸
- 7.2 The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis or by suitable load tests to simulate the actual loads and conditions of application that occur.²⁹

8 Regulatory Evaluation and Accepted Engineering Practice

- 8.1 Westlake Royal Stone Products Adhered Masonry Veneer products comply with the following legislatively adopted regulations and/or accepted engineering practice for the following reasons:
 - 8.1.1 Westlake Royal Stone Products were evaluated to determine:
 - 8.1.1.1 The ability of various fasteners to support the gravity and transverse loads induced by the products when installed over wood or steel light-frame construction with the addition of continuous insulation installed between the framing and the Westlake Royal Stone Products.
 - 8.1.1.2 The ability of various fasteners to support the gravity and transverse loads induced by the products when installed over concrete and masonry construction with the addition of continuous insulation installed between the framing and the Westlake Royal Stone Products.
 - 8.2 Use in applications requiring a fire-resistance rating are outside the scope of this evaluation.
 - 8.3 Any building code, regulation and/or accepted engineering evaluations (i.e., research reports, duly authenticated reports, etc.) that are conducted for this Listing were performed by DrJ, which is an ISO/IEC 17065 accredited certification body and a professional engineering company operated by RDP or approved sources. DrJ is qualified³⁰ to practice product and regulatory compliance services within its scope of accreditation and engineering expertise,³¹ respectively.
 - 8.4 Engineering evaluations are conducted with DrJ's ANAB accredited ICS code scope of expertise, which is also its areas of professional engineering competence.

9 Installation

- 9.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this report, and the applicable building code.
- 9.2 In the event of a conflict between the manufacturer installation instructions and this report, contact the manufacturer for counsel on the proper installation method.
- 9.3 *Installation Procedure*
 - 9.3.1 Westlake Royal Stone Products shall be installed in accordance with the manufacturer published installation instructions, the Masonry Veneer Manufacturer Association's Installation Guide, and this report. In the event of a conflict between the manufacturer installation instructions, the Masonry Veneer Manufacturer Association's Installation Guide, and this report, the more restrictive shall govern.
 - 9.3.2 Installation is subject to the conditions of use set forth in **Section 12**.
 - 9.3.3 Veneer must be applied to a wall framing system in which the studs are spaced a maximum of 16" o.c. (406 mm).
 - 9.3.4 Westlake Royal Stone Products may be installed over continuous insulation on masonry or concrete walls, and attached in accordance with **Table 3**.



- 9.3.5 Westlake Royal Stone Products may be installed over continuous insulation on wood or steel-framed walls, with or without WSP sheathing, and attached in accordance with **Table 1**, **Table 2**, or **Table 4**.
- 9.3.5.1 Where WSP sheathing is used, it shall be installed in accordance with the applicable building code or other standards as permitted by the building code (such as SDPWS or WFCM), and shall comply with one of the following minimum requirements:
- 9.3.5.1.1 Minimum $7/16$ " Structural 1, Exposure 1 OSB complying with PS 2
- 9.3.5.1.2 Minimum $1/2$ " Structural 1 rated, exterior grade plywood complying with PS 1
- 9.3.6 Westlake Royal Stone Products must be installed over two (2) layers of a Water-Resistant Barrier (WRB) in accordance with IBC Section 1402.2, IBC Section 1403.2, IBC Section 2510.6, and IRC Section R703.2. The base layer WRB may be liquid-applied, a sheet material, or a rigid continuous insulation with taped joints where the continuous insulation is approved for use as a WRB.
- 9.3.6.1 *Exception:* The WRB is not required when installed over concrete or masonry substrate.
- 9.3.7 Weep screeds and code compliant flashing must be installed at the bottom of walls, the top of windows, doors, and fenestrations, and at all horizontal terminations of the veneer.
- 9.3.7.1 The weep screed must comply with and be installed in accordance with IBC Section 1404.11.1.2.1,³² IBC Section 2512.1.2, or IRC Section R703.7.2.1.
- 9.3.7.2 *Exception:* The weep screed is not required when installed over concrete or masonry substrate.
- 9.3.8 Veneer must be installed over 2.5 lb/yd² (1.4 kg/m²) galvanized diamond mesh metal lath, 3.4 lb/yd² (1.8 kg/m²) $3/8$ " thick (9 mm) galvanized expanded metal lath, 18-gauge, 0.051" thick (1.30 mm), galvanized woven wire mesh or other code-approved lath of equal or better performance.
- 9.3.9 Lath shall be:
- 9.3.9.1 Installed per the manufacturer installation instructions or ASTM C1063.
- 9.3.9.2 Installed over the two (2) WRB layers, unless one of the following conditions are met:
- 9.3.9.2.1 Lath is paper-backed, in which case only one (1) additional WRB is required, except as noted in **Section 9.3.9**.
- 9.3.9.2.2 If foam sheathing is used and has been qualified by the manufacturer to perform as a WRB, then only one (1) additional WRB is required.
- 9.3.9.2.3 If a rain screen is used, only one WRB is required, in accordance with IBC Section 2510.6.
- 9.3.9.3 Fastened through continuous insulation to each stud at 7" o.c. (178 mm) vertically along the stud, or as shown in **Table 2** and **Table 4**.
- 9.3.9.4 When the lath is installed over furring, the furring shall be fastened to the wood, steel, or concrete substrate in accordance with **Table 4**.
- 9.3.10 Installations in Climate Zones 1A, 2A, or 3A must incorporate a drainage space of not less than $3/16$ " (5 mm) or utilize a drainage material with a minimum ninety percent (90%) drainage efficiency between the WRB and the lath in accordance with IBC Section 2510.6 and IRC Section R703.7.3.
- 9.3.11 Westlake Royal Stone Products shall be adhered to the supporting walls with a $1/2$ " thick to $3/4$ " thick (13 to 19 mm) mortar setting bed.
- 9.3.11.1 The mortar shall comply with IBC Section 2103.2 or IRC Table R606.2.8 for the application.
- 9.3.11.2 Other mortars of equal or greater performance shall be permitted when installed in accordance with the manufacturer installation instructions.
- 9.3.11.3 All other installation and flashing details germane to the project shall be in accordance with the applicable building code and the manufacturer installation instructions.



10 Substantiating Data

- 10.1 Testing has been performed under the supervision of a professional engineer and/or under the requirements of ISO/IEC 17025 as follows:
- 10.1.1 Wind-load resistance testing in accordance with ASTM E330
 - 10.1.2 Calculations in accordance with AWC NDS, AISI S100, and ACI 318 performed by DrJ Engineering
- 10.2 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies, approved sources, and/or an RDP. Accuracy of external test data and resulting analysis is relied upon.
- 10.3 Where applicable, testing and/or engineering analysis are based upon provisions that have been codified into law through state or local adoption of regulations and standards. The developers of these regulations and standards are responsible for the reliability of published content. DrJ's engineering practice may use a regulation-adopted provision as the control. A regulation-endorsed control versus a simulation of the conditions of application to occur establishes a new material as being equivalent to the regulatory provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.
- 10.4 The accuracy of the provisions provided herein may be reliant upon the published properties of raw materials, which are defined by the grade mark, grade stamp, mill certificate, or duly authenticated reports from approved agencies and/or approved sources provided by the supplier. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this duly authenticated report, may be dependent upon published design properties by others.
- 10.5 *Testing and Engineering Analysis*
- 10.5.1 The strength, rigidity, and/or general performance of component parts and/or the integrated structure are determined by suitable tests that simulate the actual conditions of application that occur and/or by accepted engineering practice and experience.³³
- 10.6 Where additional condition of use and/or regulatory compliance information is required, please search for Westlake Royal Stone Products on the DrJ Certification website.

11 Findings

- 11.1 As outlined in **Section 6**, Westlake Royal Stone Products have performance characteristics that were tested and/or meet applicable regulations. In addition, they are suitable for use pursuant to its specified purpose.
- 11.2 When used and installed in accordance with this duly authenticated report and the manufacturer installation instructions, Westlake Royal Stone Products shall be approved for the following applications:
- 11.2.1 For use as an exterior wall covering in accordance with the applicable sections of IBC Chapter 14, IBC Chapter 25, and IRC Section R703.
- 11.3 Fasteners used in accordance with **Table 1**, **Table 2**, **Table 3**, and **Table 4** are adequate for the support of Westlake Royal Stone Products in applications where there is a layer of continuous insulation installed between the products and the underlying substrate (e.g., light-frame wood or steel-framed walls, concrete, or masonry walls).
- 11.4 Any application specific issues not addressed herein can be engineered by an RDP. Assistance with engineering is available from Westlake Royal Stone, LLC.
- 11.5 IBC Section 104.2.3³⁴ (IRC Section R104.2.2³⁵ and IFC Section 104.2.3³⁶ are similar) in pertinent part state:

104.2.3 Alternative Materials, Design and Methods of Construction and Equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.



- 11.6 **Approved:**³⁷ Building regulations require that the building official shall accept duly authenticated reports.³⁸
- 11.6.1 An approved agency is “approved” when it is ANAB ISO/IEC 17065 accredited.
- 11.6.2 An approved source is “approved” when an RDP is properly licensed to transact engineering commerce.
- 11.6.3 Federal law, Title 18 US Code Section 242, requires that, where the alternative product, material, service, design, assembly, and/or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved. Denial without written reason deprives a protected right to free and fair competition in the marketplace.
- 11.7 DrJ is a licensed engineering company, employs licensed RDPs and is an ANAB Accredited Product Certification Body – Accreditation #1131.
- 11.8 Through the IAF Multilateral Arrangement (MLA), this duly authenticated report can be used to obtain product approval in any jurisdiction or country because all ANAB ISO/IEC 17065 duly authenticated reports are equivalent.³⁹

12 Conditions of Use

- 12.1 As defined in **Section 6**, where material and/or engineering mechanics properties are created for load resisting design purposes, the resistance to the applied load shall not exceed the ability of the defined properties to resist those loads using the principles of accepted engineering practice.
- 12.2 As listed herein, Westlake Royal Stone Products shall be used:
- 12.2.1 Installation shall be on exterior walls consisting of wood framing, steel framing, masonry, or concrete, capable of supporting the imposed loads, including transverse wind loads.
- 12.2.2 Where the seismic provisions of IRC Section R301.2.2 apply, the wall assembly shall not exceed the weight limits of IRC Section R301.2.2.2, unless an engineered design is provided in accordance with IRC Section R301.1.3.
- 12.2.3 Walls shall be braced to resist in-plane shear (racking) load by other means and in accordance with the applicable code.
- 12.2.4 Exterior wall framing shall be limited to a maximum out-of-plane deflection of H/360 (H equals the height of the wall)
- 12.2.5 Interior adhered masonry veneers under IBC Section 1404.11.3⁴⁰ to a maximum weight of 20-psf (0.958 kg/m²) and must be supported by framing designed to limit deflection to L/600.
- 12.3 When required by adopted legislation and enforced by the building official, also known as the Authority Having Jurisdiction (AHJ) in which the project is to be constructed:
- 12.3.1 Any calculations incorporated into the construction documents shall conform to accepted engineering practice and, when prepared by an approved source, shall be approved when signed and sealed.
- 12.3.2 This report and the installation instructions shall be submitted at the time of permit application.
- 12.3.3 These innovative products have an internal quality control program and a third-party quality assurance program.
- 12.3.4 At a minimum, these innovative products shall be installed per **Section 9**.
- 12.3.5 The review of this report by the AHJ shall comply with IBC Section 104.2.3.2 and IBC Section 105.3.1.
- 12.3.6 These innovative products have an internal quality control program and a third party quality assurance program in accordance with IBC Section 104.7.2, IBC Section 110.4, IBC Section 1703, IRC Section R104.7.2, and IRC Section R109.2.
- 12.3.7 The application of these innovative products in the context of this report is dependent upon the accuracy of the construction documents, implementation of installation instructions, inspection as required by IBC Section 110.3, IRC Section R109.2, and any other regulatory requirements that may apply.



- 12.4 The approval of this report by the AHJ shall comply with IBC Section 1707.1, where legislation states in part, *“the building official shall make, or cause to be made, the necessary tests and investigations; or the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in Section 104.2.3”*, all of IBC Section 104, and IBC Section 105.3.
- 12.5 Design loads shall be determined in accordance with the regulations adopted by the jurisdiction in which the project is to be constructed and/or by the building designer (i.e., owner or RDP).
- 12.6 The actual design, suitability, and use of this report for any particular building, is the responsibility of the owner or the authorized agent of the owner.

13 Identification

- 13.1 Westlake Royal Stone Products Adhered Masonry Veneer (Eldorado Stone, Dutch Quality Stone, Cultured Stone, and StoneCraft Industries Adhered Masonry Veneers), as listed in **Section 1.1**, are identified by a label on the board or packaging material bearing the manufacturer name, product name, this report number, and other information to confirm code compliance.
- 13.2 Additional technical information can be found at www.westlakeroyalbuildingproducts.com.
- 13.2.1 Eldorado Stone: www.westlakeroyalbuildingproducts.com/stone/eldorado-stone
- 13.2.2 Dutch Quality Stone: www.westlakeroyalbuildingproducts.com/stone/dutch-quality-stone
- 13.2.3 Cultured Stone: www.westlakeroyalbuildingproducts.com/stone/cultured-stone
- 13.2.4 StoneCraft: www.westlakeroyalbuildingproducts.com/stone/stonecraft

14 Review Schedule

- 14.1 This report is subject to periodic review and revision. For the latest version, visit www.drjcertification.org.
- 14.2 For information on the status of this report, please contact [DrJ Certification](#).



Appendix A. Eldorado Stone

Profile Name	Weight of Total Façade Includes Lath, Scratch, Bond Mortar, and Stone, Saturated (psf)	Weight of Total Façade Includes 1/2" Cement Board, Bond Mortar, and Stone, Saturated (psf)
Ashlar	20.4	17.1
Bluff Stone	19.3	16.1
Brick, Adobe	21.1	17.8
Brick, Arabian	18.5	15.3
Brick, Modena	17.0	13.7
Brick, Roma	19.6	16.3
Brick, Tundra	16.8	13.6
Brick, Via	18.4	15.1
Broken Top	22.4	19.2
Castlestone, English	20.0	16.7
Cliffstone	20.7	17.4
Coarsed Stone	21.3	18.0
Coastal Reef	20.6	17.3
Cobblestone	22.8	19.6
Country Rubble	21.0	17.7
Country Rubble, Oversized	24.9	21.7
Cut Coarsed Stone	22.2	19.0
Cypress Ridge	19.6	16.3
European Ledge Cut	22.2	18.9
Field Ledge	19.2	15.9
Top Rock	20.4	17.1
Hillstone	22.0	18.8
Latitude30	21.6	18.3
Ledgecut33	22.3	19.0
Limestone	21.2	18.0
Longitude24	21.6	18.3
Mountain Ledge Panel	22.0	18.8



Profile Name	Weight of Total Façade Includes Lath, Scratch, Bond Mortar, and Stone, Saturated (psf)	Weight of Total Façade Includes 1/2" Cement Board, Bond Mortar, and Stone, Saturated (psf)
Mountain Ledge	22.1	18.9
Ridgetop 18	21.6	18.3
River Rock, Northwest	21.7	18.5
River Rock, Creek Cobble	16.7	13.5
River Rock, Streamstone	22.5	19.3
River Rock, White Water	20.2	16.9
Rough Cut	22.2	18.9
Rustic Ledge	20.1	16.9
Shadow Rock	23.3	20.1
Sierra Cut24	27.3	24
Stack Stone	19.4	16.1
Vantage30	21.6	18.3
Vintage Ranch	20.5	17.2
Weathered Edge	22.0	18.8
Zen24	21.6	18.3

SI: 1 psf = 0.0479 kN/m²

1. This table is provided by the manufacturer to aid in selecting fasteners. DrJ Engineering has not independently verified the values in these tables.



Appendix B. Dutch Quality Stone

Profile Name	Weight of Total Façade Includes Lath, Scratch, Bond Mortar and Stone, Saturated (psf)	Weight of Total Façade Includes 1/2" Cement Board, Bond Mortar and Stone, Saturated (psf)
CastleStone	20.0	16.8
Drystack	20.5	17.3
FieldStone	19.6	16.3
Ledgestone	20.1	16.8
Limestone	20.7	17.5
Michigan Split Granite	22.0	18.8
River Rock	20.5	17.3
Stack Ledge	21.3	18.1
Tuscan Ridge	21.4	18.1
Tuscany Veneer	20.2	16.9
Weather Ledge	20.5	17.3
SI: 1 psf = 0.0479 kN/m ² 1. This table is provided by the manufacturer to aid in selecting fasteners. DrJ Engineering has not independently verified the values in these tables.		



Appendix C. Cultured Stone

Product Style	Stone Saturated Weight (psf)	Saturated Density Stone and Scratch and Lath and Bonding Mortar (psf)	Saturated Density Stone and Cement Board and Bonding Mortar (psf)
Ancient Villa Ledgerstone	11.4	21.4	18.1
Cast-Fit 12x24	12.0	22.0	18.7
Cast-Fit 8x16	13.8	23.8	20.5
Cobblefield	13.9	23.9	20.6
Coral Stone	10.1	20.1	16.8
Country Ledgerstone	12.6	22.6	19.3
Cultured Brick Veneer-Handmade Brick	10.2	20.2	16.9
Cultured Brick Veneer-Used Brick	11.2	21.2	17.9
Del Mare Ledgerstone	12.3	22.3	19.0
Dressed Fieldstone	14.3	24.3	21.0
Drystack Ledgerstone	14.7	24.7	21.4
European Castle Stone	10.0	20.0	16.7
Hewn Stone 308	14.2	24.2	20.9
Hewn Stone 314	14.7	24.7	21.4
Hewn Stone 514	14.5	24.5	21.2
Hewn Stone 522	13.9	23.9	20.6
Hewn Stone 822	13.0	23.0	19.7
Limestone	13.6	23.6	20.3
Old Country Fieldstone	13.5	23.5	20.2
Pro-Fit Alpine Ledgerstone	13.3	23.3	20.0
Pro-Fit Ledgerstone	10.3	20.3	17.0
Pro-Fit Modera Ledgerstone	12.0	22.0	18.7
Pro-Fit Terrain Ledgerstone	12.2	22.2	18.9
River Rock	13.4	23.4	20.1
Rock Face	12.5	22.5	19.2
Southern Ledgerstone	12.6	22.6	19.3



Product Style	Stone Saturated Weight (psf)	Saturated Density Stone and Scratch and Lath and Bonding Mortar (psf)	Saturated Density Stone and Cement Board and Bonding Mortar (psf)
Split Face	13.3	23.3	20.0
Stream Stone	9.6	19.6	16.3

SI: 1 psf = 0.0479 kN/m²

1. This table is provided by the manufacturer to aid in selecting fasteners. DrJ Engineering has not independently verified the values in these tables.



Appendix D. Stone Craft

Profile ID	Weight of Total Façade Includes Lath, Scratch, Bond Mortar and Stone, Saturated (psf)	Weight of Total Façade Includes 1/2" Cement Board, Bond Mortar and Stone, Saturated (psf)
Cobble	24.4	21.2
Dutchcraft	24.5	21.3
Farmledge	21.6	18.4
Fieldstone	20.7	17.5
Heritage	24.2	20.9
Laurel Cavern	22.3	19.0
Ledgestone	23.7	20.5
Monarch	20.9	17.7
River Rock	23.2	19.9
Top Rock	21.6	18.4
SI: 1 psf = 0.0479 kN/m ² 1. This table is provided by the manufacturer to aid in selecting fasteners. DrJ Engineering has not independently verified the values in these tables.		



Issue Date: December 6, 2023

Supplement Revision Date: March 16, 2026

Subject to Renewal: April 1, 2027

FBC Supplement to Report Number 1312-01

REPORT HOLDER: Westlake Royal Stone, LLC

1 Evaluation Subject

1.1 Westlake Royal Stone Products:

- 1.1.1 Eldorado Stone Adhered Masonry Veneer
- 1.1.2 Dutch Quality Stone Adhered Masonry Veneer
- 1.1.3 Cultured Stone Adhered Masonry Veneer
- 1.1.4 StoneCraft Industries Adhered Masonry Veneer

2 Purpose and Scope

2.1 Purpose

- 2.1.1 The purpose of this Report Supplement is to show Westlake Royal Stone Products, recognized in Report Number 1312-01, have also been evaluated for compliance with the codes listed below as adopted by the Florida Building Commission.

2.2 Applicable Code Editions

- 2.2.1 *FBC-B—20, 23: Florida Building Code – Building (FL 41520)*
- 2.2.2 *FBC-R—20, 23: Florida Building Code – Residential (FL 41520)*

3 Conclusions

- 3.1 Westlake Royal Stone Products, described in Report Number 1312-01, comply with the FBC-B and FBC-R and are subject to the conditions of use described in this supplement.
- 3.2 Where there are variations between the IBC and IRC and the FBC-B and FBC-R applicable to this report, they are listed here:
 - 3.2.1 FBC-B Section 104 is reserved.
 - 3.2.2 FBC-B Section 110.4 is reserved and replaces IBC Section 110.4.
 - 3.2.3 FBC-B Section 104.6 is reserved and replaces IBC Section 104.4.
 - 3.2.4 FBC-B Section 104.11 replaces IBC Section 104.2.3 and Section 104.2.3.2.
 - 3.2.5 FBC-B Section 105.3 replaces IBC Section 105.3.
 - 3.2.6 FBC-B Section 105.3.1 replaces IBC Section 105.3.1.
 - 3.2.7 FBC-B Section 110.3 replaces IBC Section 110.3.
 - 3.2.8 FBC-B Section 1403.2 replaces IBC Section 1402.2.
 - 3.2.9 FBC-B Section 1404.2 replaces IBC Section 1403.2.
 - 3.2.10 FBC-B Section 1405.10.1.2.1 replaces IBC Section 1404.11.1.2.1.
 - 3.2.11 FBC-B Section 1405.10.3 replaces IBC Section 1404.11.3.



- 3.2.12 FBC-B Section 1707.1 replaces IBC Section 1707.1.
- 3.2.13 FBC-B Section 2306.1 replaces IBC Section 2306.1.
- 3.2.14 FBC-B Section 2306.3 replaces IBC Section 2306.3.
- 3.2.15 FBC-B Section 2510.6 replaces IBC Section 2510.6.
- 3.2.16 FBC-B Section 2512.1.2 replaces IBC Section 2512.1.2.
- 3.2.17 FBC-R Section R104 and Section R109 are reserved.
- 3.2.18 FBC-R Section R301.1.3 replaces IRC Section R301.1.3.
- 3.2.19 FBC-R Section R301.2.1 replaces IRC Section R301.2.1.
- 3.2.20 FBC-R Section R301.2.2 is reserved and replaces IRC Section R301.2.2.
- 3.2.21 FBC-R Section R301.2.2.2.1 is reserved and replaces IRC Section R301.2.2.2.
- 3.2.22 FBC-R Section R703 replaces IRC Section R703.
- 3.2.23 FBC-R Section R703.2 replaces IRC Section R703.2.
- 3.2.24 FBC-R Section R703.7.3 replaces IRC Section R703.7.3.

4 Conditions of Use

- 4.1 Westlake Royal Stone Products, described in Report Number 1312-01, must comply with all of the following conditions:
 - 4.1.1 All applicable sections in Report Number 1312-01.
 - 4.1.2 The design, installation, and inspections are in accordance with additional requirements of FBC-B Chapter 16 and Chapter 17, as applicable.



Notes

- 1 For more information, visit drjcertification.org or call us at 608-310-6748.
- 2 Capitalized terms and responsibilities are defined pursuant to the applicable building code, applicable reference standards, the latest edition of TPI 1, the NDS, AISI S202, US professional engineering law, Canadian building code, Canada professional engineering law, Qualtim External Appendix A: Definitions/Commentary, Qualtim External Appendix B: Project/Deliverables, Qualtim External Appendix C: Intellectual Property and Trade Secrets, definitions created within Design Drawings and/or definitions within Reference Sheets. Beyond this, terms not defined shall have ordinarily accepted meanings as the context implies. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.
- 3 <https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1702>
- 4 Alternative Materials, Design and Methods of Construction and Equipment: The provisions of any regulation code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by a regulation. Please review <https://www.justice.gov/atr/mission> and <https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3>
- 5 <https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.2>~:~text=the%20design%20strengths%20and%20permissible%20stresses%20shall%20be%20established%20by%20tests
- 6 The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design of accepted engineering practice. <https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.1>~:~text=Conformance%20to%20Standards-.The%20design%20strengths%20and%20permissible%20stresses,-of%20any%20structural
- 7 <https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1>~:~text=the%20building%20official%20shall%20make%20a%20cause%20to%20be%20made%20the%20necessary%20tests%20and%20investigations%20B%20or%20the%20building%20official%20shall%20accept%20duly%20authenticated%20reports%20from%20approved%20agencies%20in%20respect%20to%20the%20quality%20and%20manner%20of%20use%20of%20new%20materials%20or%20assemblies%20as%20provided%20for%20in%20Section%20104.2.3.
- 8 <https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4.2>
- 9 https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved_agency
- 10 https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved_source
- 11 <https://www.law.cornell.edu/uscode/text/18/1832> (b) Any organization that commits any offense described in subsection (a) shall be fined not more than the greater of \$5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided. The federal government and each state have a public records act. To follow DTSA and comply state public records and trade secret legislation requires approval through ANAB ISO/IEC 17065 accredited certification bodies or approved sources. For more information, please review this website: Intellectual Property and Trade Secrets.
- 12 <https://www.nspe.org/resources/issues-and-advocacy/professional-policies-and-position-statements/regulation-professional> AND <https://apassociation.org/list-of-engineering-boards-in-each-state-archive/>
- 13 <https://www.cbiteest.com/accreditation/>
- 14 <https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.1>~:~text=directed%20to%20enforce%20the%20provisions%20of%20this%20code
- 15 <https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3> AND <https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#105.3.1>
- 16 <https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1>
- 17 <https://iaf.nu/en/about-iaf-mla/#>~:~text=Once%20an%20accreditation%20body%20is%20a%20signatory%20of%20the%20IAF%20MLA%20it%20is%20required%20to%20recognise%20certificates%20and%20validation%20and%20verification%20statements%20issued%20by%20conformity%20assessment%20bodies%20accredited%20by%20all%20other%20signatories%20of%20the%20IAF%20MLA%20with%20the%20appropriate%20scope
- 18 True for all ANAB accredited product evaluation agencies and all International Trade Agreements.
- 19 <https://www.justice.gov/crt/deprivation-rights-under-color-law> AND <https://www.justice.gov/atr/mission>
- 20 Unless otherwise noted, the links referenced herein use un-amended versions of the 2024 International Code Council (ICC) 2024 International Code Council (ICC) model codes as foundation references. Mississippi versions of the IBC 2024 and the IRC 2024 are un-amended. This material, product, design, service and/or method of construction also complies with the 2000-2012 versions of the referenced codes and the standards referenced therein. As pertinent to this technical and code compliance evaluation, CBI and/or DrJ staff have reviewed any state or local regulatory amendments to assure this report is in compliance.
- 21 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by the local jurisdiction. <https://up.codes/codes/general>
- 22 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by state. <https://up.codes/codes/general>
- 23 <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14>
- 24 <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280>
- 25 All references to the FBC-B and FBC-R are the same as the 2024 IBC and 2024 IRC unless otherwise noted in the Florida Supplement at the end of this report.
- 26 <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#p-3280.2>(Listed%20or%20certified); <https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#listed> AND <https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#labeled>
- 27 <https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4>
- 28 <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#>~:~text=All%20construction%20methods%20shall%20be%20in%20conformance%20with%20accepted%20engineering%20practices%20to%20insure%20durable%20livable%20and%20safe%20housing%20and%20shall%20demonstrate%20acceptable%20workmanship%20reflecting%20journeyman%20quality%20of%20work%20of%20the%20various%20trades
- 29 <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#>~:~text=The%20strength%20and%20rigidity%20of%20the%20component%20parts%20and/or%20the%20integrated%20structure%20shall%20be%20determined%20by%20engineering%20analysis%20or%20by%20suitable%20load%20tests%20to%20simulate%20the%20actual%20loads%20and%20conditions%20of%20application%20that%20occur



Qualification is performed by a legislatively defined Accreditation Body. ANSI National Accreditation Board (ANAB) is the largest independent accreditation body in North America and provides services in more than 75 countries. DrJ is an ANAB accredited product certification body.

<https://anabpd.ansi.org/Accreditation/product-certification/AllDirectoryDetails?prgID=1&orgID=2125&statusID=4#:~:text=Bill%20Payment%20Date-,Accredited%20Scopes,-13%20ENVIRONMENT.%20HEALTH>

2021 IBC Section 1404.10.1.2.1

See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition: <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280>

2021 IBC Section 104.11

2021 IRC Section R104.11

2018: <https://up.codes/viewer/wyoming/ifc-2018/chapter/1/scope-and-administration#104.9> AND 2021: <https://up.codes/viewer/wyoming/ibc-2021/chapter/1/scope-and-administration#104.11>

Approved is an adjective that modifies the noun after it. For example, Approved Agency means that the Agency is accepted officially as being suitable in a particular situation. This example conforms to IBC/IRC/IFC Section 201.4 (<https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#201.4>) where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.

<https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1>

Multilateral approval is true for all ANAB accredited product evaluation agencies and all International Trade Agreements.

2021 IBC Section 1404.10.3

Safety Data Sheet (SDS)

Product: Adhered Masonry Stone Veneer (AMSV)
SDS No: 010 Preparation Date: 05/31/2015
Version No.: 1.0 Revision Date: 12/07/2015

SECTION 1. IDENTIFICATION OF THE MIXTURE AND SUPPLIER

1.1 Product Identifier:

Product name: Adhered Masonry Stone Veneer
Product code: Various
Formula: Mixture

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses: Interior or Exterior Wall or Surface Covering
Uses advised against: Any use other than those recommended

1.3 Details of the supplier of the safety data sheet:

Manufacturer/Supplier: Dutch QualityStone
Street Address: 1370 Grand Avenue, San Marcos, CA
Country ID/Postcode: USA/92078
Customer service telephone: 760-736-3232/ 800-925-1491

1.4 Emergency telephone number:

Emergency telephone number: 877-347-8096
Hours available: 24 hours a day / 7 days a week

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture:

Adhered Masonry Stone Veneer (AMSV) are defined by OSHA as an article (under normal conditions, no more than minute or trace amounts of a hazardous chemicals are released and the article does not pose a physical hazard or health risk to employees).

An SDS not is required for articles; however, this SDS is provided to communicate hazards associated where activities related to the Adhered Masonry Stone Veneer (cutting, grinding, crushing, drilling or breaking) may result in the release of a hazardous substance in DUST.

GHS Classification(s) for Adhered Masonry Stone Veneer according to OSHA Hazard Communication Standard (29 CFR 1910.1200) under normal handling conditions:

None

GHS Classification(s) for dust generated from cutting, grinding, crushing, drilling or breaking of Adhered Masonry Stone Veneer according to OSHA Hazard Communication Standard (29 CFR 1910.1200) under use conditions that may result in the release of hazardous substances:

Skin Corrosion/Irritation, Category 2 (H315)

Eye Damage/Irritation, Category 2 (H319)

Specific Target Organ Toxicity-Repeated Exposure (STOT-RE), Category 1 (H372)

Note: The AMSV dust classifications are based on (1) individual ingredient classifications (i.e., Silica Sand [SiO₂], pumice, expanded shale, expanded clay or expanded slate, Portland Cement, Fly Ash, etc.), (2) the final chemical composition of the AMSV (based on cement chemistry) and (3) the form of the material (dust). Further, the Specific Target Organ Toxicity-Repeated Exposure is a conservative classification based on the potential presence of respirable crystalline silica. Dutch Quality Stone has not performed analysis for the presence of respirable crystalline silica under these handling conditions.

Additional information:

For full text of GHS Hazard statements (H-statements) and associated Precautionary statements (P-statements), see below.

2.2 Label elements

The Hazard Pictograms, Signal Word and Precautionary Statements only apply to activities that may release hazardous substances from the AMSV (i.e., cutting / grinding / crushing / drilling / breaking).

No Hazard Pictograms, Signal Word or Precautionary Statements are applicable to the Adhered Masonry Stone Veneer.

Hazard Pictograms that apply to the dust generated from cutting, grinding, crushing, drilling or breaking of the Adhered Masonry Stone Veneer:



Signal Word:

Danger

Hazard Statements:

**(For AMSV Dust
Generated from
Cutting, Grinding,
Crushing, Drilling or
Breaking)**

H315: Causes skin irritation.

H319: Causes eye irritation.

H372: Causes damage to lungs through prolonged or repeated inhalation exposure.

Precautionary Statements:

**(For AMSV Dust
Generated from
Cutting, Grinding,
Crushing, Drilling or
Breaking)**

P260: Do not breathe dust.

P270: Do not eat, drink or smoke while using this product.

P271: Use only outdoors or in a well-ventilated area.

P264: Wash thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352: IF ON SKIN: Wash with plenty of water.

P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P314: Get medical advice/attention if you feel unwell.

P321: See the SDS for specific treatment.

P332 + P313: If skin irritation occurs, get medical advice/attention.

P337 + P313: If eye irritation persists, get medical attention.

P362 + P364: Take off contaminated clothing and wash before reuse.

P501: Dispose of generated dust in accordance with local / regional / national / international regulations.

2.3 Other hazards related to AMSV dust generated from cutting, grinding, crushing, drilling or breaking of adhered masonry stone veneer.

Listed Carcinogens: Silica dust (respirable, crystalline fraction) in the form of quartz.

IARC: Yes **NTP:** Yes **OSHA:** No **Other:** No (European Union)

Hazardous Properties: Dust generated from cutting, grinding, crushing, drilling or breaking may cause eye damage and skin irritation. May be irritating to respiratory tract. Respirable crystalline silica may cause damage to lungs upon repeated inhalation exposures.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Description of the mixture:

The product is a solid concrete block that, when subjected to cutting, grinding, crushing, drilling or breaking, may form hazardous dusts.

3.2 Hazardous Ingredients:

Name	CAS No.	Weight %	GHS Classification per OSHA Hazard Communication (29 CFR 1900.1200)
Silica dioxide (quartz)	14808-60-7	0-90%	STOT-RE, Category 1 (H372)*
Portland Cement	65597-15-1	8-15%	Skin Corrosion/Irritation, Category 2 (H315) Eye Damage/Irritation, Category 1 (H318) STOT-Single Exposure, Category 3 (H335)
Fly Ash	68131-74-8	0-4%	STOT-RE, Category 1 (H372*)
Iron Oxide Pigments	001309-37-1	0-1%	Not considered a hazardous ingredient.

* The Specific Target Organ Toxicity-Repeat Exposure (STOT-RE) is a conservative classification based on the presence/potential presence of respirable crystalline silica.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures:

- Inhalation:** If dust generated from cutting, grinding, crushing, drilling or breaking is inhaled, remove person to fresh air and keep comfortable for breathing. Get medical attention if respiratory symptoms persist.
- Skin contact:** If dust generated from cutting, grinding, crushing, drilling or breaking is on skin, wash with soap and water. Get medical advice/attention if irritation occurs/persists.
- Eye contact:** If dust generated from cutting, grinding, crushing, drilling or breaking is in eyes, rinse cautiously with water for several minutes. Get medical advice/attention if irritation occurs/persists.
- Ingestion:** No specific first aid measures are required.

4.2 Most important health effects related to AMSV dust generated from cutting, grinding, crushing, drilling or breaking, both acute and delayed:

- Acute effects:** Direct exposure to dust generated from cutting, grinding, crushing, drilling or breaking may cause eye damage/irritation, skin irritation and respiratory irritation. Dust can dry and irritate the skin and cause dermatitis. Can irritate eyes and skin through mechanical abrasion.
- Delayed effects:** Chronic exposure to inhaled dust generated from cutting, grinding, crushing, drilling or breaking may cause lung damage from repeated exposure. Chronic inhalation of dusts containing free crystalline silica may result in silicosis.

4.3 Indication of any immediate medical attention and special treatment needed:

Seek first aid or call a doctor if contact with dust generated from cutting, grinding, crushing, drilling or breaking with eyes occurs and irritation remains after rinsing.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing Media:

- Suitable extinguishing media:** Product is not flammable. Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media:** Not applicable; the product is not flammable.

5.2 Special hazards arising from the substance or mixture:

- Hazardous combustion products:** None known.

5.3 Advice for firefighters:

- Special protective equipment and precautions for firefighters:** As with any fire, wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures associated with AMSV dust generated from cutting, grinding, crushing, drilling or breaking:

For Non-Emergency Personnel:

Protective equipment: In case of exposure to dust generated from cutting, grinding, crushing, drilling or breaking, wear specified protective equipment. (See Section 8).

Emergency procedures: Avoid the creation of dust generated from cutting, grinding, crushing, drilling or breaking. Use scooping, water/flushing/misting or vacuum cleaning systems. Wet methods of cutting, grinding, crushing, drilling or breaking are the preferred method of controlling dust.

For Emergency Responders:

Protective equipment: In case of exposure to dust generated from cutting, grinding, crushing, drilling or breaking, wear specified protective equipment. In case of fire, use self-contained breathing apparatus with full face mask.

6.2 Environmental Precautions

Discard any product or dust residue in compliance with local regulations.

6.3 Methods and material for containment and cleaning up:

For containment and cleaning up: After cutting, grinding, crushing, drilling or breaking activities, use scooping, water spraying/flushing/misting or ventilated vacuum cleaning system to clean up dust generated from cutting, grinding, crushing, drilling or breaking. Use closed containers. Do not use pressurized air to clean dust.

Other information: Take measures to avoid dust formation during cutting, grinding, crushing, drilling or breaking activities.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Protective measures: Avoid contact with dust generated from cutting, grinding, crushing, drilling or breaking with skin, eyes, and clothing. Avoid breathing dust. Wash thoroughly after handling. Wet methods of cutting, grinding, crushing, drilling or breaking are the preferred method of controlling dust.

Measures to prevent fires: Not applicable; material is non-flammable.

Measures to prevent dust generation: Vacuum, scoop, or use water mist/spray/flush to remove generated dust during cutting, grinding, crushing, drilling or breaking activities. Do not use pressurized air. Wet methods of cutting, grinding, crushing, drilling or breaking are the preferred method of controlling dust.

Measures to protect the environment: Not applicable; material is not an environmental hazard.

Advice on general occupational hygiene:

Practice good housekeeping. Avoid formation of dust generated from cutting, grinding, crushing, drilling or breaking. Do not breathe dust. Use adequate exhaust ventilation, dust collection and/or water mist to maintain airborne dust concentrations below permissible exposure limits. Respirable crystalline silica dust may be in the air without a visible dust cloud. In case of insufficient ventilation, wear a NIOSH approved respirator for silica dust when using, handling, storing or disposing dust from this product. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing that has become dusty. Avoid eating, smoking, or drinking while handling the material.

7.2 Conditions for safe storage, including any incompatibilities:

Storage conditions: Minimize dust produced during loading and unloading.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters applicable to AMSV dust generated from cutting, grinding, crushing, drilling or breaking:

United States

OCCUPATIONAL EXPOSURE LIMITS FOR HAZARDOUS SUBSTANCES IN THE WORKPLACE					
SUBSTANCE		OSHA PEL TWA / STEL (mg/m ³)	NIOSH REL TWA / STEL (mg/m ³)	ACGIH TLV TWA / STEL (mg/m ³)	CAL - OSHA PEL (mg/m ³)
Calcium Oxide		5	2	2	-
Crystalline Silica	Total Quartz	$30 \div (\%SiO_2 + 2)$ (Total Quartz)	-	-	0.3
	Respirable Crystalline Silica	$10 \div (\%SiO_2 + 2)$	0.05	0.025 (α -quartz & cristobalite)	0.1
	Cristobalite	-	0.05	0.025 (α -quartz & cristobalite)	0.05 (respirable)
Particulates Not Otherwise Regulated	Total	15	15	-	10
	Respirable	5	5	-	5

8.2 Exposure controls:

8.2.1. Exposure Controls

Engineering controls:

Ventilation should be adequate to maintain the ambient workplace atmosphere below the exposure limit(s). Use general and local exhaust ventilation and dust collection systems as necessary to minimize exposure to dust generated from cutting, grinding, crushing, drilling or breaking. Wet methods of cutting, grinding, crushing, drilling or breaking are the preferred method of controlling dust.

8.2.2. Personal Protective Equipment

Respiratory protection:	Wear a NIOSH/MSHA approved particulate respirator if exposure to dust generated from cutting, grinding, crushing, drilling or breaking is unavoidable and where occupational exposure limits may be exceeded. If airborne dust exposures exceed the PEL or TLV, a self-contained breathing apparatus or airline respirator is recommended.
Eye and face protection:	If eye contact with dust generated from cutting, grinding, crushing, drilling or breaking is anticipated, wear protective glasses with side shields. Avoid contact lenses.
Hand and skin protection:	Wear gloves and protective clothing to minimize skin contact with dust generated from cutting, grinding, crushing, drilling or breaking. Wash hands with soap and water after contact with material.
Foot protection:	Wear American National Standards Institute (ANSI) approved hard-toed safety shoes when handling AMSV.

8.2.3. Environmental Exposure Controls

Instructions to prevent exposure:	No special requirements. Discard any product or dust residue in compliance with local regulations. Wet methods of cutting, grinding, crushing, drilling or breaking are the preferred method of controlling dust.
--	---

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Property	Value	Property	Value
Appearance:	Simulated Stone	Lower Explosive Limit (LEL):	Not applicable
Odor	Odorless	Vapor Pressure (Pa):	Not applicable
Odor threshold	Not applicable	Vapor Density:	Not applicable
pH (25°C):	Not available	Relative Density/Specific Gravity:	1.4 – 1.6
Melting/Freezing Point (°C):	Not applicable	Water Solubility:	Negligible
Initial Boiling Point (°C):	Not applicable	Partition Coefficient: <i>n</i>-octanol/water:	Not applicable
Boiling Range (°C):	Not applicable	Auto-ignition Temperature (°C):	Not applicable
Flash Point(°C):	Not applicable	Decomposition Temperature (°C):	Not available
Evaporation Rate:	Not applicable	Viscosity:	Not applicable
Flammability (solid, gas):	Not combustible	Explosive Properties:	Not applicable

Property	Value	Property	Value
Upper Explosive Limit (UEL):	Not applicable	Oxidizing Properties:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

10.1	Reactivity	Stable inert material
10.2	Chemical stability	Stable inert material
10.3	Possibility of hazardous reactions	None known.
10.4	Conditions to avoid	None known
10.5	Incompatible materials	None known
10.6	Hazardous decomposition products	None known

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Acute toxicity:	No data is available on the AMSV dust generated from cutting, grinding, crushing, drilling or breaking. No ingredients within the mixture exhibit acute toxicity.
Skin corrosion/irritation:	Contact with dust may cause skin irritation.
Serious eye damage / irritation:	Eye Irritant. Eye contact with dust generated from cutting, grinding, crushing, drilling or breaking may cause eye irritation.
Respiratory or skin sensitization:	No data is available on the AMSV dust generated from cutting, grinding, crushing, drilling or breaking. No ingredients exhibit sensitization effects.
Germ cell mutagenicity:	No data is available on the AMSV dust generated from cutting, grinding, crushing, drilling or breaking. No ingredients exhibit mutagenic effects.
Carcinogenicity:	No data is available on the AMSV dust generated from cutting, grinding, crushing, drilling or breaking. Crystalline silica (respirable) has been identified as a carcinogen by IARC and NTP.
Reproductive toxicity:	No data is available on the AMSV dust generated from cutting, grinding, crushing, drilling or breaking. No ingredients exhibit reproductive toxicity.
STOT single exposure:	No data is available on the AMSV dust generated from cutting, grinding, crushing or drilling.

Product: Adhered Masonry Stone Veneer (AMSV)

SDS No: 001

Version No.: 1.0

Preparation Date: 05/31/2015

Revision Date: 12/07/2015

STOT repeated exposure: No data is available on the repeated inhalation of AMSV dust generated from cutting, grinding, crushing, drilling or breaking. Repeated inhalation of AMSV dust generated from cutting grinding, crushing or breaking may cause lung damage if respirable crystalline silica is present. Crystalline silica (respirable) has been shown to cause silicosis after repeated exposure.

Aspiration hazard: Not applicable, the material is a not a liquid.

SECTION 12. ECOLOGICAL INFORMATION

No data available on the AMSV dust generated from cutting, grinding, crushing, drilling or breaking.

SECTION 13. DISPOSAL CONSIDERATIONS

Considered a non-hazardous waste. Follow applicable federal, state and local regulations.

SECTION 14. TRANSPORT INFORMATION

Regulatory Entity

US DOT	Shipping Name	Not regulated
	Hazard Class	Not regulated
	ID Number	Not regulated
	Packing Group	Not regulated

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations / legislation specific to the mixture:

United States Regulations

Toxic Substances Control Act (TSCA) Inventory Status	All components of this product are listed on the TSCA Inventory or are exempt from listing.	
SARA (Section 311/312)	Reactive Hazard	No
	Pressure Hazard	No
	Fire Hazard	No
	Immediate/Acute Toxicity	No
	Delayed/Chronic Toxicity	Yes – respirable crystalline silica
SARA Section 313 Information:	This product does not contain any toxic chemicals listed under 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA).	
Clean Air Act (CAA)	This product does not contain any toxic chemicals listed under the CAA at concentrations greater than 0.1%.	
	VOC Content (weight %).	0 wt. %

Product: Adhered Masonry Stone Veneer (AMSV)

SDS No: 001

Version No.: 1.0

Preparation Date: 05/31/2015

Revision Date: 12/07/2015

United States Regulations

Volatile Organic Compounds (VOCs)

Remarks:

Estimated

State Right-to-Know Status

California Prop. 65:

Crystalline Silica.

Massachusetts:

Silica, Crystalline-Quartz;
Calcium oxide; Calcium carbonate (Limestone); Portland cement; Iron oxide dust.

New Jersey

Silica, Crystalline-Quartz;
Calcium oxide; Calcium carbonate (Limestone); Cement, Portland, Chemicals; Iron oxide.

Pennsylvania:

Quartz (silica dioxide); Calcium oxide; Calcium carbonate (Limestone); Cement, Portland, Chemicals; Iron oxide.

Dispose of all waste product and containers in accordance with federal, state and local regulations.

SECTION 16. OTHER INFORMATION

16.1 Indication of changes:

Initial SDS prepared on 04-07-2015; Revised 12/07/2015

16.2 Abbreviations and acronyms:

AMSV	Adhered Masonry Stone Veneer
ANSI:	American National Standards Institute
CAA:	Clean Air Act
Cal/OSHA:	California Department of Industrial Relations - Division of Occupational Safety and Health
CAS:	Chemical Abstract Service Registry Number
CFR:	Code of Federal Regulations
CWA:	Clean Water Act
GHS:	Globally Harmonized System of Classification and Labeling
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
LEL:	Lower explosive limit
MSHA:	Mine Safety and Health Administration
NA:	Not Applicable
NIOSH:	National Institute of Occupational Safety and Health
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
Pa:	Pascal
PEL:	Permissible exposure limit
SARA:	Superfund Amendments and Reauthorization Act
SDS:	Safety data sheet
STEL:	Short-term exposure limit
STOT-RE:	Specific target organ toxicity-repeated exposure

Product: Adhered Masonry Stone Veneer (AMSV)

SDS No: 001

Version No.: 1.0

Preparation Date: 05/31/2015

Revision Date: 12/07/2015

STOT-SE: Specific target organ toxicity-single exposure
TLV: Threshold limit value
TSCA: Toxic Substances Control Act
TWA: Time-weighted average
UEL: Upper explosive limit
USA: United States of America
US DOT: United States of Department of Transportation
VOC: Volatile organic compound

16.3 Other hazards:

Hazardous Materials Identification System (HMIS)

Degree of hazard: 0 = low, 4 = extreme

Health: 1*

Flammability: 0

Reactivity: 0

** Dust generated from cutting, grinding, crushing, drilling or breaking activities may result in a chronic health hazard (Category 3 Health Hazard)*

Personal Protection: B

Disclaimer:

This SDS has been prepared in accordance with the Hazard Communication Rule 29 CFR 1910.1200. Information herein is based on data considered to be accurate as of date prepared. No warranty or representation, express or implied, is made as to the accuracy or completeness of this data and safety information. No responsibility can be assumed for any damage or injury resulting from abnormal use, failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

— End of Safety Data Sheet (SDS) —



DUTCH QUALITY STONE®
CRAFTSMANSHIP BORN OF TRADITION

WESTLAKE ROYAL STONE LLC • DUTCH QUALITY STONE® PRODUCTS
50-YEAR TRANSFERABLE EXPRESS LIMITED WARRANTY

1. Subject to the following terms, Westlake Royal Stone LLC (“WRS”) warrants under this express limited warranty (“Warranty”) to the original purchaser and subsequent owners of its Dutch Quality Stone® brand manufactured stone or brick veneer (collectively, the “Product” or the “Products”) that for fifty (50) years from the date of the sale of the Product, the Product will not blister, peel, flake, delaminate or crack excessively (each, a “Defect”) as a result of manufacturing defects when used on structures (each, a “Structure”) conforming to local building codes and installed in accordance with the *Concrete Masonry and Hardscapes Association’s* written instructions issued before and closest in time to original date of the installation of the Product in the Structure. The definition of “veneer” contained in the *International Building Code* is determinative for purposes of establishing what Products constitute WRS’s manufactured stone or brick veneer and are covered by this Warranty.
2. In the event of a Defect, WRS will, at its option, either: (1) pay the reasonable replacement cost of the defectively manufactured Product; (2) provide a replacement of the defective Product or a Product of a similar design; or (3) pay the reasonable cost for repair of the defective Product. This Warranty applies only to Products manufactured by WRS and does not apply to any other products or materials, including exterior walls, exterior wall envelopes, backing to which Products are secured, or water-resistive barriers.
3. This Warranty runs with the sale or transfer of the Structure into which the Products have been incorporated to subsequent owners of the Structure, but the warranty period as to such subsequent owners is limited to fifteen (15) years from the original date of sale of the Product.
4. No warranty whatsoever is made with respect to the manufacture or performance of materials or components of construction not sold or manufactured by WRS, including, but not limited to, mortar, lath, weather resistant barriers, doors, windows, sealants, flashings, roofing, copings, sheathing and framing. Further, WRS makes no warranties whatsoever with respect to aesthetics, design and engineering of the Structure into which Products are incorporated, or workmanship involved in the application of any Products warranted hereunder. The Product is not waterproof and should not be used on exterior or interior steps or risers. The Product must be incorporated into a wall assembly designed by a building professional that contains adequate mechanisms for water management. WRS has no responsibility for damage caused by moisture intrusion through the building envelope or around any of the building envelope components or by vapor transmission from the inside of the Structure to a moisture sensitive part of the wall assembly.

This Warranty is effective for sales after January 26, 2022 (“Effective Date”) and supersedes all previously published versions of this Warranty for Products sold on or after the Effective Date. **Last Modified: January 26, 2022**

WESTLAKE ROYAL STONE LLC • DUTCH QUALITY STONE® PRODUCTS
50-YEAR TRANSFERABLE EXPRESS LIMITED WARRANTY



5. This Warranty covers only manufacturing defects in the Products. WRS's manufacturing process has been designed to imitate the random beauty and nature of real stone. As such, stone surfaces on the Products may contain small air holes or surface anomalies. These differences add to the overall character of the Products and are not considered manufacturing defects. Changes in the appearance of Products caused by normal weathering or efflorescence, which is a natural phenomenon of all concrete products, are also not considered manufacturing defects. Normal weathering is defined as exposure to sunlight and extremes of weather and atmosphere, which will cause any colored surface to fade, chalk, or accumulate dirt or stains.
6. Without limiting anything else in this Warranty, WRS disclaims and assumes no liability for the following:
 - a. improper use, application or installation of Products;
 - b. use of Products as part of improperly designed or constructed assemblies or Structures or with defective adjacent materials or assemblies;
 - c. failure to follow applicable specifications, instructions and construction details;
 - d. use of any sealing or coating on the Product other than one that is silane or siloxane and based in strict compliance with sealant manufacturer's instructions;
 - e. other design or construction defects, deficiencies and failures on a Structure where Product is used;
 - f. undertaking on-site inspections or any on-site activities or making oral statements at the site;
 - g. any damage or injury whatsoever caused in whole or in part by acts of God, natural phenomenon or physical abuse, such as, but not limited to, falling objects, projectiles, fire, earthquake, floods, windstorm, hail, tornadoes, lightning, hurricanes, other abnormal weather conditions, pests, chemical fumes, foreign substances in the air, misuse, vandalism, civil disobedience, war, damage caused by remodeling or renovation;
 - h. damage resulting from moisture intrusion, mold, settlement of Structure or other Structure or wall movement;
 - i. discoloration or deterioration due to airborne contaminants, contact with any chemicals or paint, staining or oxidations;
 - j. any accumulation of water or moisture in wall assemblies;
 - k. negligence or accidents by any party or parties in maintaining the Products, including, but not limited to, use of a pressure washer or harsh or acid chemicals of any nature, including vinegar, to clean;
 - l. replacement of Product if Product is mixed with other chemicals or materials not approved by WSR in writing;
 - m. any cause beyond WSR's control; and
 - n. any workmanship, aesthetics or other damage or injury not solely and directly caused by a manufacturing defect in Products as covered under this Warranty.

WESTLAKE ROYAL STONE LLC • DUTCH QUALITY STONE® PRODUCTS
50-YEAR TRANSFERABLE EXPRESS LIMITED WARRANTY



7. This Warranty is exclusive, the only warranty made by WRS with respect to the Products, and is in lieu of all other warranties or remedies of any nature whatsoever to the original purchaser or subsequent owners under any theory of liability, whether in contract, tort, statutory law or otherwise, except for actual economic damages for personal physical bodily injury. All other warranties, representations or remedies with respect to the Products, whether oral, written, express or implied or imposed by law, are disclaimed by WRS and are waived by the original and subsequent purchasers, particularly the implied warranties of merchantability or fitness for a particular purpose or arising from a course of dealing, usage or trade practice, or any warranty against patent infringement or warranty for work performed in a workmanlike manner. WRS shall not be liable under any circumstances for any incidental, special, indirect or punitive damages to any party whatsoever, including but not limited to, loss of profits, damage to the Structure or its contents, and attorney's fees. This exclusion of damages includes, but is not limited to, payments of any nature made because of actual or potential liability to others, damages to any other part of the Structure to which the Products are incorporated or damage to any other property.
8. WRS shall have no further obligation or liability of any kind, other than as stated in this Warranty, and it is further agreed and understood that the price paid for Products is consideration for the limitation of WRS's liability hereunder.
9. Warranty coverage is limited as set forth herein and does not cover labor to remove or install Products and does not cover the cost of shipping replacement Product. The remedies contained herein shall be sole and exclusive.
10. WRS's obligations under this Warranty shall only begin if the original purchaser or subsequent owner notifies WRS, in writing, within sixty (60) days of actual or constructive notice of the alleged Defect. WRS shall be allowed a reasonable period of time and authorization to remove samples of the Product, so as to perform any testing WRS deems necessary to investigate and determine the cause of the alleged Defect. The original purchaser or subsequent owner shall make temporary repairs in a timely manner to prevent further damage to the Structure, contents of the Structure, and the Products until the cause of the alleged Defect is determined and permanent repair recommendations may be made, as applicable.
11. WRS's obligation to supply replacement Product pursuant to this Warranty shall become null and void if, in the sole judgment of WRS, any of the following events shall occur: (i) if after installation of the Products there are any alterations or repairs made to the Structure that affect any component of the wall assembly of which Products are a part in any way; (ii) if the original purchaser or subsequent owner or any of their respective tenants fail to use reasonable care in maintaining the Products before and after installation; (iii) if the Products are installed in a manner that causes them to be repeatedly or continuously wet, such as if installed in the direct path of a water sprinkler, pool, jacuzzi, or similar water device; or (iv) if the Products are installed in an area that exposes them to de-icing salts or other harsh chemicals.
12. Applicability of the *Magnusson-Moss Act* is hereby disclaimed.
13. Any provision of this Warranty that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof or affecting the validity of enforceability of such provision in any other jurisdiction.

WESTLAKE ROYAL STONE LLC • DUTCH QUALITY STONE® PRODUCTS
50-YEAR TRANSFERABLE EXPRESS LIMITED WARRANTY



14. WRS's failure at any time to enforce any of the terms or conditions stated herein shall not be construed to be a waiver of such provisions.
15. This Warranty shall be interpreted under the laws of the *State of New York*.
16. Neither the sales personnel nor other agents of WRS are authorized to make warranties about the Products. Oral statements by WRS employees or agents do not constitute warranties, shall not be relied upon by the original purchaser or subsequent owner or any third party, and are not part of the contract for sale or warranty as stated herein. No distributor, dealer or representative of WRS has the authority to change or modify this Warranty either orally or in writing in any respect. The entire and final contract is embodied in this Warranty and no other warranties are given beyond those set forth in this Warranty.

17. Warranty Registration

Scan the QR code or visit the link below to easily register your Westlake Royal Stone LLC warranty. You will receive an email confirmation once you have submitted the form. If you have questions about a warranty that has already been registered, please email us at stoneclaims@westlake.com.



Link: [Register your Warranty](#)

Dutch Quality Stone®
18012 Dover Rd., Mt. Eaton, Ohio 44659 • 1-877-359-7866

Westlake
Royal Building Products™
STONE SOLUTIONS

©2025 Westlake Royal Stone LLC.
Dutch Quality Stone® is a trademark of Westlake Royal Stone LLC.
031925