



1. Product Name

Boulder Creek® Stone, Thin Brick, and Accessories

2. Manufacturer

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Western Ledge Stak - Mustang

3. Product Description

BASIC USE

Stone

Boulder Creek® Stone offers a full line of cost-effective manufactured stone in a variety of designs, textures and colors. Crafted of all natural materials to replicate the appearance and feel of natural stone, this manufactured stone is lightweight, yet durable to withstand harsh weather conditions. It can be installed onto interior and exterior wall surfaces without requiring extra foundational support and is ideal for wall systems, fireplaces, entries, retaining walls and other applications where natural stone may be too heavy or costly.

Thin Brick

Boulder Creek Stone manufactures maintenance-free thin brick to complement both exterior and interior applications. They range from 1/2" (12.7 mm) to 1" (25.4 mm) and mirror the classic look and feel of traditional full-size bricks. Thin brick is lightweight and requires no special brick ledges or ties for installation. They are cost-effective and can be used where full brick cannot be installed.

COMPOSITION & MATERIALS

Boulder Creek Stone products are manufactured simulated stone and brick products, engineered using all natural materials to achieve the strength, texture and weather resistant characteristics of natural stone and full-size bricks.

SIZES

Sizes, shapes and textures vary according to pattern selection. Manufactured stone products have random, varying sizes, shapes and textures with the appearance of natural stone.

TYPES, COLORS

Stone

Boulder Creek stone products are produced in flat (field) pieces and 90 degree outside corner pieces.

- Bavarian Castle®
 Antique Buff, Liverpool, Norwich, Tudor, Westwood, York Gray
- Bluff Stone
 Cinnamon, Easton, Harrison, Outback, Seneca, Sunset
- Cliffstone
 Apache, Bradford, Durango, Foxboro, Montour
- Country Ledge
 Brown, Fossil Beige, Glacier Buff, Jackson, Teton, Vancouver, West Chester
- Eastern Fieldstone
 Englewood, Hampton, Hanover, Stonehill, Tishbury, Walden
- Fast Stak®
 Ancona, Cashmere, Cheyenne Ridge, Gunflint Gray, Mirage Gray, Jaffa Beige, Nema, Russet Brown, Sable, Velarde
- Italian Fieldstone
 Amaretto, Bergamo, Merzell, Tivoli, Toscana, Venice
- Montana Ledge

Cactus Ridge, Cameron, Chesapeake, Leather Brown, Rocky Mountain, Ronan, Suede Gray

- Mountain Blend
 Athena, Barton, Comforts of Home, Kenwood, Medena
- Nuggets - Superior
- Ohio Rubble
 Hudson Bay, Monroe, Oklahoma Creme, Olin Valley, Prairie Mountain, Smokey Hollow, St. Charles, St. Claire, Stonehenge
- Pebble Stone - River Bed
- Prairie Bluff
 Camino, Laner, Mojave, Navajo, Newbury, Oakwood, Ottawa, Red Mountain, Varena, Yuma
- River Rock
 Comfort Blend, Casitas Blend, Copper Mountain, Desert Rust, Manistee, Mineral Gray, Minnesota Blend, Natures Blend, Northern Blend, Wilderness
- Sangria
 Auburn, Castano, Morada, Pueblo, Spanish Wheat, Tolono
- Southeastern Ledgestones
 Allegheny, Barrington, Bitternut, Cajun, Crimson Mountain, Hamilton, Mohawk, Quincy, Saratoga, Savannah, Sierra Madre, Tupelo, Westport, Wilmington
- Splitface
 Buckeye Blend, Granite, Great Lakes, Mansfield, Michigan, Painted Desert, Sagebrush, Sheffield, Willows



- Venetian Cobble
Biella, Florence, Genoa, Lamson, Milan, Molise, Naples, Napoli, Salerno
- Washed River Rock
Barren, Erie, Escanaba, Potomac, Yakima
- Weathered Edge
Bristol, Fon-Du-Lac, Kenosha, Kodiak, Pepin, Sun Prairie, Trenton
- Western Ledge Stak®
Appaloosa, Belgian, Lasino, Morgan, Moroccan, Mustang

Thin Brick

Thin Brick products are produced in flat (field) pieces and 90 degree outside corner pieces.

- Clinker - Red Clinker
- Estate
Caldwell, Clinton, Kershaw, Navarro, Richton, Shelby, Sumter
- New Pattern
Carbon Buff, Chicago Blend, Dover, Red Colonial, Sienna Blend
- Stonebrick
Alexander, Beringer, Columbia, Ferrara, Kendall, Kirkland, Linden, Tinley
- Travertine
Crane, Duval, Elmwood, Luna, Mesa, Otero, Pima, Quay
- Tumbled
Burke, Franklin, Harwood, Kenyon, Lincoln, Maverick, Richmond, Tipton
- Used Pattern
Ash, Buff, Chicago Used, Cortland, Essex, Lexington, Old World, Talbot

ACCESSORIES

Boulder Creek Stone has a full line of acces-

sories to add architectural detail and accents to manufactured stone and thin brick projects.

- Hearthstones - Standard and large
- Chisel faced sills
- Heavy-duty flat sill
- Large flat sill
- Outlet trim
- Light trim rectangle
- Light trim octagon
- Keystone chisel face - Small and large
- Keystone sand finish - Small and large
- Castle accents
- Rubble keystone
- Rubble accents
- Quoin 90 degrees
- Wall cap flat - Small and large
- Bullnose cap - Straight and endpiece
- Wall cap peaked - Small and large
- Post cap flat - Small and large
- Post cap peaked - Small and large
- Outlet trim
- Rollock

BENEFITS

- Manufactured stone and thin brick are durable, lightweight and attractive alternatives to natural stone and full-size brick
- Products mirror the look and feel of natural stone and brick without the inherent cost
- Consistent sizes and edges simplify installation
- Can be installed on interior or exterior walls without the need for extra foundational or structural support
- Large selection of styles, colors and accessories make it easy to create or match a particular design or ambience

LIMITATIONS

Boulder Creek Stone products should be installed at least 4" (101 mm) above grade or 2" (50 mm) above a hard surface.

It is important to follow all manufacturer installation instructions and local codes to ensure and maintain proper weather resistance and durability.

Installations where salt and/or chemical contact may occur could lead to the need for a sealer or other protection. Acid must not be used on Boulder Creek products in any circumstance.

4. Technical Data

APPLICABLE STANDARDS

American Concrete Institute (ACI) - ACI 530/530.1-02/530R/530.1R-02 Building Code Requirements for Masonry Structures and Specifications for Masonry Structures

ASTM International

- ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- ASTM C33 Standard Specification for Concrete Aggregates
- ASTM C67 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile
- ASTM C140 Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
- ASTM C144 Standard Specification for Aggregate for Masonry Mortar

TABLE 1 PHYSICAL AND TECHNICAL PROPERTIES

Test	Brick Veneer	Stone Veneer	AC51 Requirements
Density, pcf	90.04	90.04	N/A
Freeze/thaw, (loss) %	0.9	0.9	3 max.
Compressive strength, psi	5500	5500	1800
Flexural strength, psi	660	660	N/A
Tensile strength, psi	319.9	319.9	N/A
Shear bond with scratch coat, psi	55.3	55.3	50
Conductivity, Btu x in/(h x ft ² x °F)	1.987	1.987	N/A
Conductance, Btu/(h x ft ² x °F)	1.159	1.159	N/A
Resistivity, °F x ft ² x h/Btu/in	0.505	0.505	N/A
Resistance, °F x ft ² x h/Btu	0.865	0.865	N/A
Flamespread Index	0	0	N/A
Absorption	7.3%	12.2%	N/A



- ASTM C150 Standard Specification for Portland Cement
- ASTM C207 Standard Specification for Hydrated Lime for Masonry Purposes
- ASTM C270 Standard Specification for Mortar for Unit Masonry
- ASTM C778 Standard Specification for Standard Sand
- ASTM C847 Standard Specification for Metal Lath
- ASTM C979 Standard Specification for Pigments for Integrally Colored Concrete

ICC Evaluation Services, Inc. (ICC-ES) - AC51 Acceptance Criteria for Precast Stone Veneer

International Masonry Industry All-Weather Council (IMIAC) - IMIAC Recommended Practices and Guide Specification for Hot and Cold Weather Masonry Construction

Uniform Building Code (UBC) for Precast Stone Veneer (ICBO; AC51)

APPROVALS

Tested and listed by both Underwriters Laboratories, Inc. (UL) and Underwriters' Laboratories of Canada (ULC). Boulder Creek Stone products showed zero flamespread and zero smoke development.

ICC Evaluation Service, Inc. (ICC-ES) - AC51 Acceptance Criteria for Precast Stone Veneer

PHYSICAL/CHEMICAL PROPERTIES

See Table 1.

5. Installation

Boulder Creek stone may be applied over various substrates including wood framing, metal framing, open stud framing, concrete block, poured concrete and tilt-up wall panels. For complete procedures, consult www.boulder-creekstone.com or www.boulder-creekarchitect.com.

PREPARATORY WORK

Deliver and store the product protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer. Store the product off-ground on material that will not stain the brick or stone. If long-term storage is required, cover the product with polyethylene or another nonstaining waterproof material.

Installations in extreme weather conditions should reference ACI 530.1, Section 1.8 for materials and jobsite environmental conditions guidelines.

METHOD

Preparing the Surface

Apply a water resistive barrier to exterior surfaces from the bottom up and a metal lath to interior and exterior surfaces. Hang the lath horizontally. Overlap the lath 6" (152 mm) on vertical seams and 2" (51 mm) on horizontal seams. Wrap the lath around the corners.

Mixing the Cement

For the scratch coat, use 1 part Portland cement or Type S to 2.25 parts sand. For mortar, use 1 part Portland cement to 2.25 parts sand. For grout, use 1 part Type N cement to 2.25 parts sand. Dry mix the sand and cement in a wheelbarrow or mud box. Continue mixing and add water slowly until the mixture achieves an applesauce-like consistency.

Scratch Coat

Use a masonry trowel to spread an even layer of cement over and into the holes of the wire lath. Scrape off any excess and use a soft-bristled brush to lightly roughen the scratch coat. Drying time ranges from 2 - 24 hours.

Applying Stone

Install corners first, working from the top down or, if working with groutless patterns, work from the bottom up. Apply a 1/2" (12.7 mm) layer of mortar to the back of the stone. Lay it against the wall and work it gently into place. Cut the stone using a power saw with a masonry blade. Be sure to wear safety glasses and a dust mask.

Applying Brick

Course out the brick using a chalk line. Install every other row, and then fill the adjacent rows. Install corners first, working from the top down. Apply a 1/2" (12.7 mm) layer of mortar to the back of the brick; lay it against the wall and work it gently into place. Cut the brick using a power saw with a masonry blade. Be sure to wear safety glasses and a dust mask.

Applying Grout

The stone may be grouted on the same day that it is laid. If grouting is to be delayed to the following day, make sure that all joints are left clean of excess mortar and that the surface of the stone is free of any splashed mortar. Use a grout bag for grouting. When grout joints become firm, they should be raked to achieve the desired effect.

BUILDING CODES

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

6. Availability & Cost

AVAILABILITY

Boulder Creek Stone products are made in the USA and are available worldwide.

COST

Cost information may be obtained from the manufacturer or any reseller of Boulder Creek Stone products.

7. Warranty

Products manufactured and sold by Boulder Creek Stone are warranted against defects after completion and final acceptance of work for a period of 30 years. The manufacturer shall furnish, free of charge, new materials to replace materials determined to be defective. This material warranty does not include labor for installation. The warranty shall cover only manufacturing defects of the manufactured products and does not extend to or cover damage resulting from:

- Settlement of the building or other wall movement
- Contact with chemicals, paint or staining
- Discoloration from airborne contaminants, oxidation or fading associated with the normal aging process
- Faulty installation

8. Maintenance

When properly installed, Boulder Creek products are maintenance free. Should the need arise, it is important to not use acid or acid based products for cleaning. Installations where salt and/or chemical contact may occur could lead to the need for a sealer or other protection.

9. Technical Services

Detailed information, product literature, test results or questions about usage or installation is available through Boulder Creek Stone.

10. Filing Systems

- MANU-SPEC®
- Additional product information is available from the manufacturer upon request.



Western Ledge Stak®



Estate



River Rock



Weathered Edge



Fast Stak®



Bluff Stone



Split Face



Southeastern Ledgestone



Italian Fieldstone



Ohio Rubble



Prairie Bluff



Cliffstone



Montana Ledge



Washed River Rock



Country Ledge



Sangria



Bavarian Castle®



Venetian Cobble



Used Pattern



Mountain Blend