

PRODUCT DESCRIPTION

BASIC USE Calcium Silicate Masonry Products used in full-bed masonry veneer construction. For interior and exterior use in residential, commercial and institutional applications.

For thin-clad calcium silicate products, refer to refer to ARRISCRAFT•DATA 04 43 13.16 Thin-Clad Adhered Masonry Veneer Assembly—Thin-Clad Units.

COMPOSITION AND MATERIAL Calcium Silicate Masonry Products describes **Renaissance® Masonry Units, Evolution Masonry Units, Calcium Silicate Building Stone, and Calcium Silicate Brick**. Calcium Silicate Masonry Products are manufactured calcium silicate units containing no Portland cement. They are pressure-formed and autoclave cured, resulting in high-density, severe weathering modular units, with one or more finished faces. Refer to ARRISCRAFT•NOTE – Calcium Silicate Masonry Units for further information. The units may be site cut, trimmed and finished to custom lengths, shapes or sizes, as required on site.

SHAPES AND SIZES Cambridge produced **Renaissance® Masonry Units** are available in a variety of standard shapes and sizes:

Code	Height	Length	Bed
REN358	3-5/8"	23-5/8"	3-5/8"
REN758	7-5/8"	23-5/8"	3-5/8"
REN1158	11-5/8"	23-5/8"	3-5/8"

Renaissance® Masonry Units are also available in custom shapes and sizes, up to a maximum length of 23-5/8" and face rise of 11-5/8". Bed depths are limited to a maximum of 3-5/8" with rocked faced finishes and 4-5/8" with smooth faced finishes. Profiles such as margins, chamfers, notches and bullnoses are available at a premium price. Refer to the Renaissance® Custom Profile Guide for further information or contact your local Arriscraft representative or dealer.

A factory applied coating may be present on the long mortar beds of the units. Consider the need to order finished beds for application where they may be exposed.

Evolution Masonry Units are available in a variety of standard sizes:

Code	Height	Length	Bed
ELN35	3-5/8"	31-5/8"	3-5/8"
ELN75	7-5/8"	31-5/8"	3-5/8"

Evolution Masonry Units are also available in custom shapes and sizes, up to a maximum length of 31-5/8" and face rise of 7-5/8". Bed depths are limited to a maximum of 3-5/8" with smooth faced finishes. Profiles such as margins, chamfers, notches and bullnoses are available at a premium price. Contact your local Arriscraft representative or dealer for further information.

Calcium Silicate Building Stone (Cambridge, Ontario) is available in a variety of standard sizes:

Code	Height	Length	Bed
Citadel® Building Stone		Texture: Tumbled finish	
CIT/FRE23	2-3/8"	Various lengths up to 23-5/8"	3-5/8"
CIT36	3-13/16"	Various lengths up to 23-5/8"	3-5/8"
CIT52	5-1/4"	Various lengths up to 23-5/8"	3-1/2"
CIT81	8-1/8"	Various lengths up to 23-5/8"	3-1/2"
Edge Rock Building Stone		Texture: Split-faced finish	
SHA/UL50	4-15/16"	Various lengths up to 31-5/8"	3-1/4" ± 1/4"
EDG102	10-1/4"	Various lengths up to 23-5/8"	3-1/2" ± 1/2"
Fresco Building Stone		Texture: Split-faced and Tumbled finish	
CIT/FRE23	2-3/8"	Various lengths up to 23-5/8"	3-5/8"
FRE52	5-1/4"	Various lengths up to 23-5/8"	3-1/2"
FRE81	8-1/8"	Various lengths up to 23-5/8"	3-1/2"
Laurier Building Stone		Texture: Rocked finish	
LAU23	2-3/8"	Various lengths up to 23-5/8"	3-3/4"
LAU52	5-1/4"	Various lengths up to 23-5/8"	3-1/2"
LAU81	8-1/8"	Various lengths up to 23-5/8"	3-1/2"
LAU11	11"	Various lengths up to 23-5/8"	3-1/2"
Shadow Stone® Building Stone		Texture: Split-faced finish	
SHA/UL22	2-5/16"	Various lengths up to 23-5/8"	3-5/8" ± 1/4"
SHA/UL50	4-15/16"	Various lengths up to 31-5/8"	3-1/4" ± 1/4"
SHA75S	7-5/8"	Various lengths up to 23-5/8"	3-3/8" ± 1/4"
Urban Ledge Stone		Texture: Split-faced finish	
SHA/UL22	2-5/16"	Various lengths up to 23-5/8"	3-5/8" ± 1/4"
UL35	3-5/8"	Various lengths up to 31-5/8"	3-1/4" ± 1/4"
SHA/UL50	4-15/16"	Various lengths up to 31-5/8"	3-1/4" ± 1/4"

Calcium Silicate Building Stone (Fort Valley, Georgia) is available in a variety of standard sizes:

Code	Height	Length	Bed
Georgia Citadel® Building Stone		Texture: Tumbled finish	
GC22	2-1/4"	Various lengths up to 23-5/8"	3-7/8"
GC35	3-5/8"	Various lengths up to 23-5/8"	3-5/8"
GC47	4-7/8"	Various lengths up to 23-5/8"	3-1/2"
GC75	7-5/8"	Various lengths up to 23-5/8"	3-3/4"
Coastal Building Stone		Texture: Split or Sawn Finish	
COA21	2-1/8"	Fragmented lengths up to 23-5/8"	2-7/8" ± 1/8"
COA35	3-5/8"	Fragmented lengths up to 23-5/8"	2-7/8" ± 1/8"
COA62	6-1/8"	Fragmented lengths up to 23-5/8"	2-7/8" ± 1/8"
Highfalls LedgeStone		Texture: Split-faced Finish	
HFL22	2-1/4"	Various lengths up to 23-5/8"	3-13/16"
HFL47	4-7/8"	Various lengths up to 23-5/8"	3-13/16"
HFL75	7-5/8"	Various lengths up to 23-5/8"	3-13/16"
Matterhorn Building Stone		Texture: Split-faced Finish	
MAT50	4-15/16"	Various lengths up to 23-5/8"	3-7/16" ± 1/2"
MAT102	10-1/4"	Various lengths up to 23-5/8"	3-1/2" ± 1/2"
Midtown Building Stone		Texture: Split or Sawn Finish	
MID21	2-1/8"	Fragmented lengths up to 23-5/8"	2-7/8" ± 1/8"
MID35	3-5/8"	Fragmented lengths up to 23-5/8"	2-7/8" ± 1/8"
MID57	5-7/8"	Fragmented lengths up to 23-5/8"	2-7/8" ± 1/8"
Old Country Building Stone		Texture: Split-faced finish	
OC22	2-1/4"	Various lengths up to 23-5/8"	3-13/16"
OC35	3-5/8"	Various lengths up to 23-5/8"	3-13/16"
OC47	4-7/8"	Various lengths up to 23-5/8"	3-13/16"

Shipped material also includes a percentage of shorter random length units which can be used by the installer in creating the ashlar bond patterns and around openings and at internal corners. Contact your local Arriscraft representative or dealer for additional information.

Calcium Silicate Brick is available in a variety of standard sizes:

Cambridge, Ontario produced Brick

Code	Height	Length	Bed
Contemporary Brick		Texture: Split-faced finish	
CON31	3-1/8"	Various lengths up to 30-3/8"	3-1/2"
Tumbled Vintage Brick		Texture: Tumbled finish	
TVB31	3-1/8"	10-1/8"	3-1/2"
Architectural Linear Series Brick		Texture: Weathered finish	
LS22	2-1/4"	Various lengths up to 23-5/8"	3-3/4"

Fort Valley, Georgia produced Brick

Code	Height	Length	Bed
Tumbled Georgia Brick		Texture: Tumbled finish	
TVB31	2-3/4"	7-5/8"	2-5/8"
Architectural Linear Series Brick		Texture: Weathered finish	
LS22	2-1/4"	Various lengths up to 23-5/8"	3-3/4"

TOLERANCES Calcium Silicate Masonry Products are fabricated to the following tolerances:

Renaissance® Masonry Units and Evolution Masonry Units:

- Unit Height and Length: +/- 1/16".
- Deviation from square, with the measurement taken using the longest edge as the base: +/- 1/16".
- Unit Bed: +/- 1/8".
- Custom Unit Dimensions: 1/8".

Finished unit heads can be custom ordered or finished on site by the contractor. With Sandblasted finish, about 15% of units randomly placed on skids come with one acceptable head. Units ordered with finished heads will deviate from the standard dimension. Expected deviations when ordering finished heads are as follows:

Finished Heads		
Finish	Number of Finished Heads	Reduction in Unit Length
Sandblasted*	1-2	3/8"—3/4"
Rocked	1-2	3/4"—1-1/2"

*Evolution Masonry Units supplied in Sandblasted finish only.

Due to the nature of these finishing operations, the custom dimensions tolerance of +/- 1/8" will apply.

Calcium Silicate Building Stone and Calcium Silicate Brick:

- Unit Height: +/- 1/16".
- Unit Bed: +/- 1/8".

Split, rocked, or tumbled units, by the nature of their random finish, may have dimensional variations exceeding these values.

Units shall exhibit a texture approximately equal to the approved sample when viewed under diffused daylight illumination at a 20 foot distance. Minor chipping resulting from shipment and delivery shall not be grounds for rejection. Minor chips shall not be obvious under diffused daylight illumination from a 20 foot distance.

Chips found on *unfinished* faces are not grounds for rejection.

Split and rocked faces are inspected for cracks and blemishes only, as chippage considerations do not apply when the desired surface texture and unit shape are intended to be uneven.

LIMITATIONS Manufactured masonry products are generally intended for above grade installations. Manufactured masonry veneer units, regardless of their composition, are inherently absorptive, and as such, are not intended for use below grade. Manufactured units installed below grade will wick moisture from the soil that is in contact with the masonry units and create a condition known as "rising damp" in the masonry veneer.

In colder climates, masonry walls at grade may become exposed to de-icing compounds. As with other types of manufactured masonry units, calcium silicate masonry units should not be installed where they will be directly exposed to de-icing compounds used to melt snow and ice from pavements.

The function of caps and copings is to prevent moisture from entering the building envelope through the top of the wall. As most manufactured masonry units are produced in relatively short lengths, if they are used as a cap or coping material the more mortar joints are required between the individual



units. These mortar joints are the most likely entry point for moisture to infiltrate the building envelope. As such, it is generally recommended within the industry that longer components, such as quarried stone, cast stone, or metal parapet cap flashing be used to reduce the number of joints thereby limiting the areas that may allow moisture infiltration of the building envelope.

COLORS AND PATTERNS Renaissance® Masonry Units are available in the following standard colors:

Cambridge, Ontario standard colors and finishes

Color		Finish	
		Sandblasted	Rocked
Monochromatic Range	Blacksmith	•	•
	Carbon	•	•
	Wheat	•	•
	White	•	•
Striated	Nutmeg	•	•
	Olive	•	•
Range	Barnboard	•	•
	Birchbark	•	•
	Driftwood	•	•
	Ironstone	•	•
	Sandrift	•	•

Fort Valley, Georgia standard colors and finishes

Color		Finish		
		Smooth	Rocked	Satin
Monochromatic	Champagne	•	•	•
	Limestone	•	•	•
	Tan	•	•	•
Monochromatic Range	Café	•	•	•
Striated	Basalt	•	•	•
	Ginger	•	•	•
	Oak Ridge	•	•	•
Striated Range	Magnolia	•	•	•
	Montecito	•	•	•
	Mountain Ridge	•	•	•
	Redrock	•	•	•
	Sunset	•	•	•

Evolution Masonry Units are available from our Cambridge, Ontario manufacturing facility in the following standard colors:

Color		Finish
		Sandblasted
Monochromatic Range	Carbon	•
	Wheat	•
	White	•
Striated	Nutmeg	•

- Monochromatic colors consist of a single hue.
- Monochromatic range colors consist of a single hue with a subtle distribution of tones that vary from unit to unit.
- Striated colors are a multi-hued blend.
- Striated range colors are a multi-hued blend and will contain a distribution of colors or shades that vary from unit to unit.

Calcium Silicate Building Stone (Cambridge, Ontario) is available in the following standard colors:

Product	Colors
Citadel®	Cashmere, Charcoal, Driftwood, French Country, Infinity, Traditional Grey, Willow Breeze
Edge Rock	*Collingwood, Delta, Glacier, *Steel Grey
Fresco	Eclipse, Greige, Moonstone, Silverado, Traditional Grey, Twilight
Laurier	Charcoal, Ivory White, Mahogany, Midnight Grey, Opal, Walnut
Shadow Stone®	Avalanche, Collingwood, Driftwood, Steel Grey, Tacoma
Urban LedgeStone	Avalanche, Collingwood, Driftwood, Steel Grey, Tacoma

*Edge Rock in colors Collingwood and Steel Grey is offered in a SHA/UL50 and EDG102 combination.

Calcium Silicate Building Stone (Fort Valley, Georgia) is available in the following standard colors:

Product	Colors
Georgia Citadel®	Cobble Hill, Indiana Blend, Mocha, Rockport, Savannah, Silver Slate, Weatherwood
Coastal	Amalfi, Baja, Cape Cod, Dark Shore, Monterey, White Cliff
Highfalls LedgeStone	Beech Mountain, Blackrock, Cloudland
Matterhorn	Augusta, Barnwood, Blueridge, Chalet, Cotton Creek, Saddle
Midtown	Abbey Road, Biscayne, Lombard, Manhattan, Newbury, Peachtree
Old Country	Big Horn, Smoky Mountain

Calcium Silicate Brick (Cambridge, Ontario) is available in the following standard colors:

Product	Colors
Contemporary Brick	Blizzard, Ivory White, Mystic Grey, Phoenix, Tofino
Tumbled Vintage Brick	Alpine White, Mystic Grey, Platinum Grey, Silver Mist, Weathered Oak
Architectural Linear Series Brick	Charcoal, Midnight Grey, Obsidian, Opal

Calcium Silicate Brick (Fort Valley, Georgia) is available in the following standard colors:

Product	Colors
Tumbled Georgia Brick	Sandy Shore, Southern Dusk
Architectural Linear Series Brick	Burnt Umber, Cedar Woods, Chateau Brown, Evening Shade, Forged Steel, Harbor Grey, Red Sumac, White Pearl

Refer to actual color samples and panels for final color selection. Colors within each product group may be blended in a wall to achieve a more natural appearance. Information pertaining to common color blends for each product line is available upon request. Not all colors within a product group are available in all sizes. Contact Arriscraft for a detailed listing of colors and sizes available.

Custom colors are also available for all Calcium Silicate Masonry Products on a minimum order basis. Contact your local Arriscraft representative or dealer for additional information.



As a manufactured product, Calcium Silicate Masonry Products are monitored for color consistency. Slight variations between batches may occur, and it is recommended that the installer mix units from different skids during installation.

FINISHES Standard surface finishes for Calcium Silicate Masonry Products include:

- Sandblasted finish: a matte textured, relatively fine-grained uniform smooth surface.
- Rocked finish: a surface finish resulting from mechanical splitting and hand-chiseling of the masonry unit to a set depth to achieve a bold rustic appearance.
- Satin finish: a uniform fine-grained finish similar to Sandblasted.
- Smooth finish: a finish achieved by lightly honing the surface with a mechanical, fine abrasive head in a wide, circular motion.
- Split-faced finish: a surface finish resulting from mechanically splitting a manufactured masonry unit to achieve a rough, stone-like texture. Some split-faced units may have split fronts and backs.
- Tumbled finish: a finish resulting from splitting, and either tumbling or mechanically aging the pieces to create the rusticated look.
- Weathered finish: a rusticated and bruised finish.

Consultants should review samples prior to selecting a particular color and finish.

TECHNICAL DATA

APPLICABLE STANDARDS Required properties for Calcium Silicate Masonry Products are described in ASTM C73, Standard Specification for Calcium Silicate Face Brick (Sand-Lime Brick). This standard classifies calcium silicate products as either moderate-weathering or severe-weathering depending on the material's tested physical properties of compressive strength and 24-hour absorption. Calcium Silicate Masonry Products meet and exceed the requirements necessary to comply with the severe-weathering classification.

INSTALLATION

DELIVERY Calcium Silicate Masonry Products are delivered to the site in protective packaging.

HANDLING Lift skids with proper and sufficiently long slings or forks with protection to prevent damage to units. Protect edges and corners. Depending on weather conditions (lots of rain, humid weather), we suggest removing the plastic stretch wrap from the skids to allow air to flow around the product. If this is done, the unwrapped skid will be less stable and subsequent handling of the skid of units must be done with great care.

STORAGE Upon delivery, isolate masonry units from contact with the ground, vegetation and other material to prevent staining. Stack the masonry units on timbers or platforms at least 3" above ground. Place polyethylene or other plastic film between wood and other finished surfaces of unpackaged units when stored for an extended period of time. Cover stored material with a tarp if it will be exposed to weather for an extended period of time.

Do not use salt to thaw ice formed on the surfaces of units.

PREPARATORY WORK It may be advantageous under hot, dry weather or windy conditions to pre-dampen the units prior to placement in the wall. Damp units should be surface dry at the time of placement.

When constructing masonry in hot or cold weather refer to the

ARRISCRAFT•TECH bulletins titled Hot Weather Masonry Construction and Cold Weather Masonry Construction.

INSTALLATION Calcium Silicate Masonry Products must be installed using approved materials and techniques for each specific installation. Refer to the ARRISCRAFT•CADD Library for applicable details.

Construct masonry veneer with an adequate number of elastic movement joints, properly located to accommodate differential movement. Refer to ARRISCRAFT•NOTE – Building Movement Joints for further information. Construct masonry veneer in accordance with TMS 402, Building Code Requirements for Masonry Structures, and any local requirements stipulated by the authorities having jurisdiction.

Mortar joints between units in any direction should be 3/8" thick, with the exception of Citadel® Building Stone, Fresco Building Stone, Laurier Building Stone, and Georgia Citadel® Building Stone which utilize a 1/2" thick mortar joint. Mortar for calcium silicate masonry units should be a Type N Portland cement-lime mix, proportioned to a 1:1:6 ratio. This ratio refers to:

- 1 part Portland cement (ASTM C150, Type I).
- 1 part hydrated lime (ASTM C207, Type S - Special).
- 6 parts masonry sand (ASTM C144).

When properly combined with the appropriate quantity of water, it will produce a general-purpose mortar, exhibiting good workability and board life in its plastic state, and good durability and flexibility in its hardened state; and conforming to ASTM C270, Standard Specification for Mortar for Unit Masonry. For further information, refer to ARRISCRAFT•NOTE – Mortar for Masonry Veneer.

Arriscraft recommends constructing masonry veneer with proper drainage mechanisms, including clear draining air spaces, through wall flashing membranes and weep hole vents. The air spaces must be at least 1" wide, and kept clear of debris, protrusions, mortar fins and droppings. Weep hole vents should be installed at the same level as through wall flashing membranes and spaced not more than 24" on center horizontally. Refer to ARRISCRAFT•NOTE – Moisture Management for further information.

Calcium Silicate Masonry Products must be connected to a structural substrate with an approved masonry connection system, designed by the consultant for each specific installation. Refer to ARRISCRAFT•NOTE – Connectors – Part I, Masonry Ties.



BOND PATTERNS Calcium Silicate Building Stone are each installed using different bonding patterns. These are typically described as a percentage ratio, from the smallest to the largest units, as follows:

Product	2-Unit	3-Unit	4-Unit
Citadel®		20:40:40	20:20:40:20
Citadel® (no CIT36)		25:50:25	
Edge Rock	75:25		
Fresco		25:50:25	
Laurier		20:50:30	10:40:30:20
Shadow Stone®	60:40	20:50:30	
Urban LedgeStone (Ashlar)		20:50:30	
Georgia Citadel®		25:50:25	20:20:40:20
Coastal		30:55:15	
Highfalls LedgeStone		25:50:25	
Matterhorn	75:25		
Old Country		40:40:20	

If Urban LedgeStone, or Midtown using all three sizes, are installed in a coursed bond pattern, the ratio is 22:33:45.

Refer to Arriscraft's Mason's Instructions sheets for illustrations of each recommended bond pattern.

Standard bond patterns may also be modified by changing the ratio of small to large units. Contact your local Arriscraft representative or dealer for specific information on custom bond patterns.

AVAILABILITY AND COST

AVAILABILITY Calcium Silicate Masonry Products are available worldwide. Delivery times for orders will vary based on the complexity of what is required. Arriscraft cannot be responsible for delays due to fire, acts of God, or any other cause beyond its control or which could not be reasonably foreseen. Contact Arriscraft for a list of dealers in your area.

COST Quoted on a project basis for job-specific manufacturing to project requirements.

WARRANTY

Arriscraft warrants its products against deterioration for the life of the building, provided the products have been erected and used according to accepted masonry standards, within the guidelines of local building codes and as recommended by the manufacturer.

Complete warranty information is outlined on the Arriscraft standard form of Product Warranty.

MAINTENANCE

Although masonry is largely considered to be maintenance-free relative to other building materials, proper post-construction maintenance and care is crucial for creating long lasting and aesthetically pleasing masonry buildings. Some of the more common maintenance items are addressed in the Arriscraft Care, Cleaning, and Maintenance document, such as cleaning, repointing mortar joints, replacing silicone joints, scuff or chippage repairs, wall protection, cutting material, water repellents, and sealers.

Clean Calcium Silicate Masonry Products in accordance with the cleaning guidelines in the Care, Cleaning, and Maintenance document. Various proprietary masonry cleaning detergents and acid-based cleaning systems

may alter the color of Calcium Silicate Masonry Products. Always pre-test cleaning agents and methods on the job-site mock-up panel or a small, inconspicuous area of the wall. The Consultant and/or Owner should approve the test area prior to the start of full-scale cleaning operations.

Arriscraft does not recommend the application of water repellent or graffiti-proofing sealers to Calcium Silicate Masonry Products in exterior applications; however, they may be used for interior applications. For more information refer to the Care, Cleaning, and Maintenance document.

TECHNICAL SERVICES

Arriscraft offers consultation services to assist with the preparation of details, specifications and with pricing. Enquiries are addressed promptly and without obligation.

Arriscraft distributes an integrated technical information system including:

- ARRISCRAFT•CADD: sample details which are available in .dwg, .dxf, and .pdf formats.
- ARRISCRAFT•DATA: product data sheets.
- ARRISCRAFT•NOTE: technical discussions with respect to building construction issues
- ARRISCRAFT•SPEC: master guide specification sections.

All of these technical resources are available to be downloaded from the Arriscraft web site at www.arriscraft.com.

Arriscraft also makes available samples for color and finish, coursing charts and copies of test reports upon request.

