



cerastone
stone and brick veneers

Application Procedures

Cerastone Canada Ltd.

www.cerastone.ca

Application Procedures

Use: Cerastone is for interior or exterior use.

Product Description

Cerastone stone is a manufactured, pre-cast, artificial lightweight stone product that is similar in color and texture to natural stone. The products are produced from a lightweight concrete mix consisting of Portland cement (ASTM C150, Type I or III), lightweight aggregates (ASTM C330 or ASTM C332), sand (ASTM C144), air entrainment and mineral oxide colors (ASTM C979). The stones are pre-cast in various sizes, shapes and surface textures. The stones vary in size from 9 to 396 in² (0.006 to 0.255m²), with no side exceeding 36 in. (914mm) in length. The stones have an average thickness of 1 ½" to 1 ¾ in. (44 mm) and a nominal oven dry weight of 75 lb/ft³ (1203 kg/m³).

Requirements

1. The composition of Cerastone stone shall be as follows:

Portland Cement	27 percent
Lightweight aggregates	70 percent
Air Entrainment	.01 percent
Water Reducer (SPC)	.1 percent
Calcium Chloride (BCN)	.9 percent
Mineral Oxide Colors	2 percent

2. The Cerastone stone shall have a minimum compressive strength of 1800 psi when tested in accordance with ASTM C513, and pass the freeze-thaw test described in ASTM C666.



Installation

Installation of Cerastone stone shall be in strict accordance with the Manufacturer's instructions and specifications shown in the "*Cerastone Installation Procedures*".

1. Application to Sheathed Wood Frame Construction:

Weather Barrier

Exterior wall surfaces shall be covered with a minimum of one layer of a water resistive barrier complying with the requirements of the applicable code.

Fiberlath 500

Fiberlath 500 is a self-furring fibreglass reinforcement system designed specifically for the heavy-duty support required by veneer stone installations. Fiberlath 500 comes on an easy to handle 48"x75" roll and fastens in a similar method as metal lath.

Once fastened, the fiberlath is filled with a base coat of polymerized base coat. This base coat should be installed approximately 3/16" of an inch thick. If installed properly the fibreglass strands should be visible beneath the mortar.

Once the base coat is installed the Cerastone brick or stone can be installed immediately. The stone or brick is applied by applying polymer mortar to the back-side of the stone. This is done in a ribbon and dab method, or by applying mortar using ½ x ¼ notch trowel. With the notch trowel application method the entire back-side of the stone should be covered.

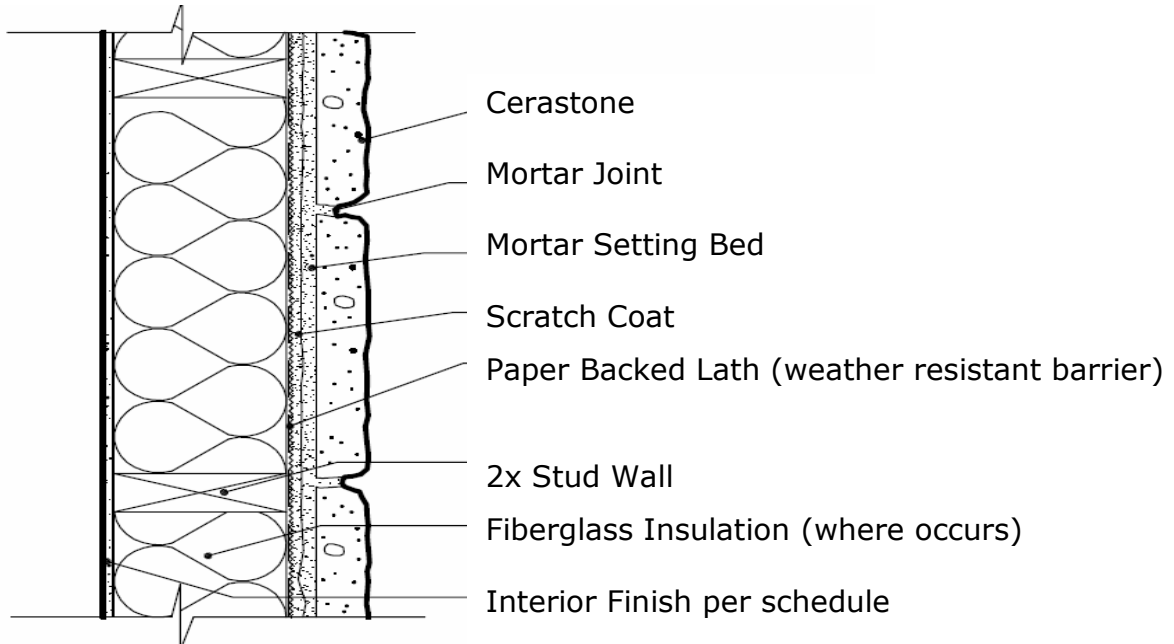
Metal Lath (Mechanical Attachment)

Galvanized expanded diamond mesh metal lath complying with ASTM C847, with a minimum weight of 2.5 lb/yd² (1.4 kg/m²), shall be attached to the studs spaced 16" (406mm) on center with galvanized roofing nails. The nails shall be spaced 6" (152mm) on center vertically and shall have sufficient length to penetrate into the studs a minimum of 1" (25mm). A nominal ½" (12.7mm) thick scratch coat of Type S or Type N Portland cement mortar complying with ASTM C270 shall be applied to the metal lath and shall cure for a minimum of 48 hours. The stones shall be adhered to the cured scratch coat with a nominal ½" (12.7mm) thick bed of Type S or Type N mortar. Joints between the stone shall be grouted.

2. Application to Open Wood Frame Construction:

Open stud framing shall be spaced a maximum of 16" (406mm) on center. The stud shall be covered with a minimum of one layer of a water-resistant barrier complying with the requirements of the applicable code. Galvanized expanded 3/8" (9.5mm) rib metal lath

complying with ASTM C847, with a minimum weight of 3.4 lb/yd² (1.8 kg/mm²), shall be attached to studs spaced 16" (406mm) on center with galvanized roofing nails. The nails shall be spaced 6" (152mm) on center vertically and shall have sufficient length to penetrate into the studs a minimum of 1" (25mm). A nominal ½" (12.7mm) thick scratch coat of Type S or Type N Portland cement mortar complying with ASTM C270 shall be applied to the metal lath and shall cure for a minimum of 48 hours. The stone shall be adhered to the cured scratch coat with a nominal ½" (12.7mm) thick bed of Type S or Type N mortar. Joints between the stone shall be grouted.



Cerastone
Over Open Stud Framing

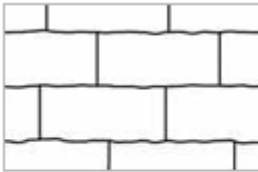
3. Application to Concrete and Masonry Construction:

The stones are permitted to be adhered directly to the clean unpainted concrete or masonry substrates with a nominal ½" to ¾" (12.7mm to 19.1mm) thick bed of Type S or Type N mortar. Joints between stones shall be grouted.

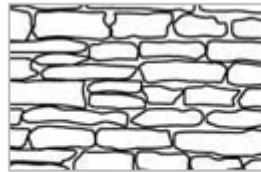
4. Application of Metal Building Panels:

Installation shall be described in "Number 1" of this installation section, with the exception that the lath shall be attached with corrosion-resistant self-drilling, self-tapping screws having a minimum 1/2" (12.7mm) length with a 3/8" (9.5mm) diameter head. The scratch coat thickness shall be a minimum of 1/2" (12.7mm). The metal panels shall be a minimum of No. 18 gauge galvanized steel with a minimum base metal thickness of 0.0478" (1.21mm).

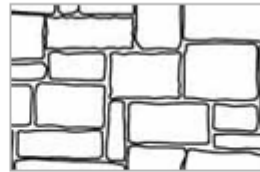
Product Patterns



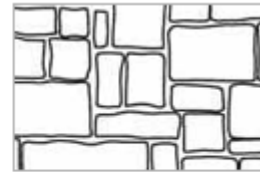
PLS (PROFILE LEDGE)



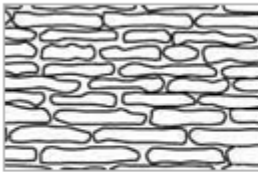
ES (EDGE STONE)



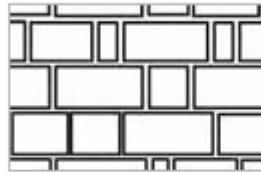
CF (COBBLE FEELING)



GR (GRANITE CASTLE ROCK)



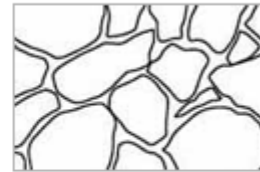
LS (LEDGE STONE)



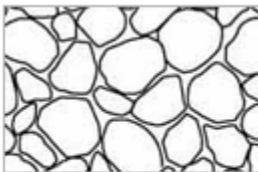
PGR (PROFILE GRANITE
CATLE ROCK)



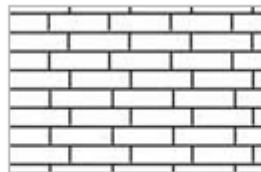
MS (MOUNTAIN STONE)



DS (DRIFT STONE)



RR (RIVER ROCK)



CB (CERA BRICK)



Cerastone Installation Procedures

Preparation Work

Handle and store product according to Cerastone's recommendations. Lay the Cerastone manufactured stone product out around the site in which it is going to be installed. This will give you a good visual on the variety of shapes, sizes and coloration of the rock. Plan for some variety and contrast in the overall design. Use small stones next to large ones, and heavy textured pieces next to smooth ones, etc. Mixing Cerastone brand products from different boxes during application will allow a desirable balance of individual stones on the finished project. Tinting mortar complements the color of the stone being installed. For example use a "tan" coloured mortar with earth tone stones. This will enhance the appearance of the finished installation. Regular mortars can be tinted to complement Cerastone brand products using iron oxide pigments.

For Exterior Applications

If the stone is being applied in hot or dry weather, the back of each piece should be moistened with a fine spray of water or a wet brush to adequately prevent excessive absorption of moisture from the mortar. In extreme conditions, the entire stone may be dipped into a bucket of water. If the stone is being applied over concrete, masonry or scratch coat substrate, the substrate surface should also be moistened before applying mortar. Applications should be protected from freezing as mortar will not set up properly under such conditions. Do not use any antifreeze products to lower the freezing point of the mortar.

Make sure that the application of Cerastone brand products and the structure to which they are being applied -- incorporate good building practices. On exterior applications, the incorrect installation or absence of flashing, cant strips, gutters and downspouts may result in diversion of water runoff onto finished surface areas. Masonry and other building products subjected to these conditions may develop staining and when combined with severe freeze/thaw conditions, may eventually cause surface damage. The application of Cerastone brand products under these conditions is not recommended.

Determine the amount of Cerastone product needed by measuring the area to be covered. Measure the length times the height to arrive at the square footage of flat stone needed. Subtract square footage for window and door openings. Measure the linear feet of the outside corners to determine the amount of corner pieces required. One linear foot equals one foot. One linear foot of corner pieces covers approximately $\frac{3}{4}$ of a square foot of flat area. Subtract the flat area covered by the linear feet of corner pieces from the square footage of flat stone required. Obtain some extra stone to allow for cutting and trimming.



Apply mortar to a prepared the surface area (substrate) using a trowel. Apply a thin ‘scratch coat’ of about ¼” - ½” (6.4 mm - 12.7mm) thick of mortar to the surface. Apply to area of about 5 – 10 ft². Scratch coat mortar may be wet or dry when applying stone. Using a smaller trowel, apply 1” – 3” of mortar to the back surface of the Cerastone product. Starting at the bottom of your surface apply the stone. While gently applying pressure, move the stone in small circular motions. This ensures a good bond. Mortar should ooze out from around the stone. Use your trowel to scrap off excess mortar. Repeat the process, moving across the bottom of your surface and working your way up. Make sure to check that you remain ‘level’ across your rows. Stones may require some slight wedging adjustments to keep your lines straight.

In order to obtain the most natural look possible, grout lines (or joints) should be as narrow as possible. Average grout lines should not exceed ½” – ¾” in width. You can use spacers (as you would with floor tiles) to achieve a consistent look. In many cases, rock or stones may be stacked on top of other without using a grout line.

Cleaning and Maintenance

All Cerastone products should be cleaned by the end of the day of installation. Any mortar splashes or drips on the stone should be gently scrapped off, as should any excess mortar that shows between the stones (when a grout line is not intended). Then take clean water and a bristle brush (not wire), and rinse the surface. Never use cleaning agents, or acid based products, or a pressure washer on manufactured stone.

Scuffing may occur on some stone, as it does on all natural stone. Some marks may be removed using the same cleaning technique as indicated above.

Sealers are not necessary on Cerastone products, however, some may use sealers to help prevent staining in applications that may be prone to smoke, soot, dirt, grease or water splashing. When choosing a sealer, make sure it is saline based – breathable sealer. Please note that sealer may also darken the color of the stone. Try it on a test piece to ensure the look you are trying to achieve is not jeopardized.