



MANUFACTURER'S INSTALLATION INSTRUCTIONS

Cultured Brick® and Cultured Stone® Product Installation Instructions are available separately from your Dealer and can also be found at www.culturedstone.com

Building code requirements vary from area to area. Check with local authorities for building code requirements in your area. Carefully read all Installation Instructions before proceeding with your Cultured Brick® products application. Observe safety precautions. Cultured Brick® products are covered by a 50-Year Limited Warranty when installed in accordance with the manufacturer's Installation Instructions. See warranty on page 6.

ESTIMATING THE BRICK REQUIRED

Determine the amount of Cultured Brick® products needed by measuring the area to be covered. Measure the length times the height to arrive at the gross square footage of flat area needed. Subtract square footage for window, door and other openings. Measure the linear feet of outside corners to determine the amount of corner pieces needed. One linear foot of corner pieces covers approximately 0.80 square feet of flat area. Subtract the flat area covered by the linear feet of corner pieces from the square footage of flat area required. You may wish to obtain some extra brick to allow for cutting and trimming.

Formula:

Length x Height = Wall Area

Window Width x Window Height = Window Area

Lineal Feet of Corners Required x 0.80 = Wall Area

Covered by Corners

Wall Area – Window Area – Wall Area Covered by Corners =
Square Ft. Flats Required

TOOLS REQUIRED

Choose the tools required for your installation—see page 7 for illustrations and appropriate use.

- Safety Glasses and other personal protective equipment
- Staple Gun or Hammer • Wheelbarrow and Hoe • Hock and Trowel • Mason's Trowel • Margin Trowel • Masonry, Circular, Table, Wet Saw or Grinder with Carborundum or Diamond Blade
- Wide-Mouth Nippers or Hatchet • Dust Mask⁽¹⁾ • Level
- Metal Jointing Tool or Wood Stick • Grout Bag • Whisk Broom
- Hacksaw

SUNDRY MATERIAL REQUIREMENTS**A. Mortar Components**

1. Premixed: Type N mortar.
2. Mortar mixed as per Table #2 on page 3.
3. Mortar color: Iron oxide color (if desired).
4. Water: Potable water

NOTE: Additives should not be used unless approved by building official. Additives should meet the requirements of ASTM C 270 or CSA A179.

B. Weather-Resistant Barrier

Depending on local building code requirements, barrier shall meet the requirements of ICC Acceptance Criteria 38 "Acceptance Criteria for Water Resistive Barriers."

NOTE: Weather-resistant barrier must be used on all exterior and interior mortar applications except for those over masonry or concrete.

C. Flashing

1. To maintain the weather resistance of the exterior wall on which brick products are installed, rigid, corrosion-resistant flashing, weep screed and a means of drainage shall be installed at all penetrations and terminations of the brick cladding. Flashing type and locations shall be in accordance with the requirements of the applicable building code.
2. For additional recommendations regarding flashing, refer to the following trade associations, standards, organizations and resources:
 - a. ASTM E 2112
 - b. Asphalt Roofing Manufacturers Association (ARMA)
 - c. Brick Institute of America (BIA)
 - d. The American Plywood Association (APA)
 - e. Local building department
 - f. Architect or engineer
 - g. Cultured Stone® Flashing and Best Practices brochure, or visit www.culturedstone.com for a downloadable PDF

D. Metal Lath

1. Minimum 2.5-lb. galvanized expanded metal lath (diamond mesh) meeting the requirements of ASTM C 847, or minimum 18-gauge galvanized self-furring woven wire mesh meeting the requirements of ASTM C 1032.
2. For metal buildings and open stud construction—minimum 3.4-lb. 3/8" rib paper-backed galvanized metal lath.
3. Or other code-accepted mesh or lath.

E. Fasteners

1. Galvanized nails, staples, concrete nails.
2. Corrosion-resistant, self-drilling, self-tapping pancake-head screw with 7/16" head, of 1 1/4" length or suitable to obtain 3/8" penetration beyond inside surface of metal. (Used for installing to metal surfaces or metal framing.)

F. Masonry Sealer

1. Silane-based, breather-type sealer (if required). See "Sealers" in General Information section (page 5).

SURFACE PREPARATION FOR MORTAR INSTALLATIONS

Using Table I, determine the correct surface preparation for your installation.

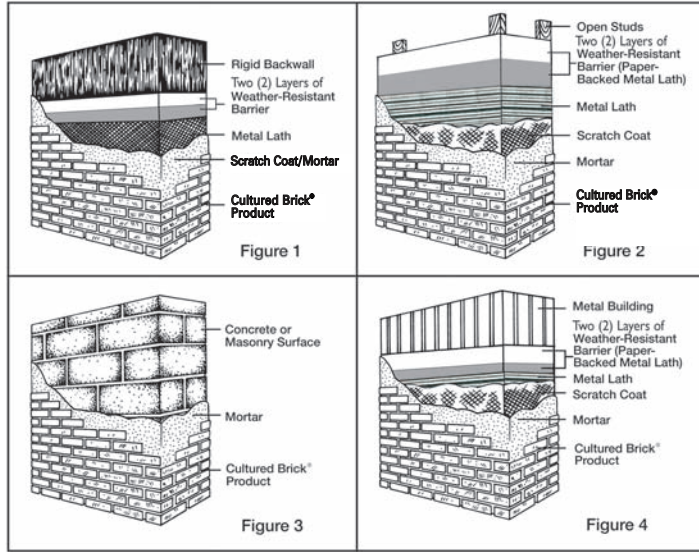


Table I

WALL SURFACE	INTERIOR & EXTERIOR PREPARATION REQUIRED
Rigid Backwall Wallboard Plywood Paneling OSB Concrete Board Polystyrene Insulation Board installed over a Rigid Backwall	Cover sheathing with a minimum of one (1) layer of breather-type weather-resistant barrier; lap joints minimum 6" at vertical joints and minimum 2" at horizontal joints in shingle fashion. Then, in accordance with local building code, lap and install lath or mesh using galvanized nails or staples 6" on center vertically, penetrating studs a minimum of 1½". Continuously wrap weather-resistant barrier and metal lath a minimum of 16" to next framing member around all outside and inside corners (Fig. 1).
Clean & Untreated Concrete Masonry Stucco	Examine newly poured concrete closely to ensure that its finished surface contains no release agents (form oil). If it does contain form oil, etch surface with muriatic acid, rinse thoroughly and/or score with a wire brush (Fig. 3). No further preparation needed.
Dirty, Painted or Sealed Concrete, Masonry or Stucco	Sandblast or waterblast to original surface (remove sandblasting dust by washing) or securely attach lath.
Metal Buildings	Install primary weather-resistant barrier. Lap and install 3.4-lb. ⅜" rib, paper-backed, expanded metal lath to metal cladding supports of 20 ga. using corrosion-resistant, self-drilling, self-tapping pancake-head screw with ⅞" head, of 1½" length or suitable to obtain ⅜" penetration beyond inside surface metal. Screws are to be installed on center equal to 1 screw/sq. ft. and shall not exceed 6" on center in one direction. Apply ½" to ¾" scratch coat and allow to dry 48 hours (Fig. 4).
Insulation Board or Open Studs Polystyrene Foam Board Please see Installation Over Thick Foam note page 5	Install primary weather-resistant barrier. Lap and install 3.4-lb. ⅜" rib, paper-backed, expanded metal lath to studs using nails which penetrate a minimum of 1" at 4" on center. Apply ½" to ¾" scratch coat and allow to dry 48 hours (Fig. 2).

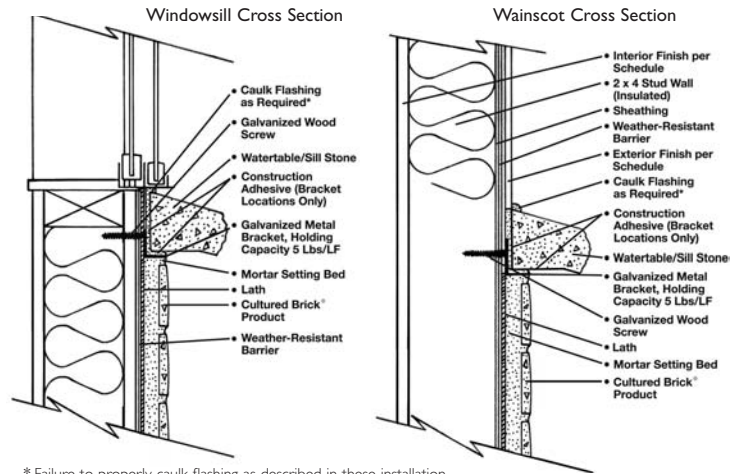
WEATHER RESISTANT BARRIER/WATER RESISTIVE BARRIER (WRB)

When installing manufactured brick veneer, in an exterior application requiring a WRB, it is recommended that two separate layers of WRB be used. Each layer of WRB should meet the requirements for Water Resistive Barrier (Grade D) as defined by ICC Acceptance Criteria AC-38. Installation of the WRB should follow instructions provided by specific manufacturer.

WATERTABLE/SILL INSTALLATIONS

Watertables/Sills provide a transition piece between a stone wainscot and other exterior finishes and for water runoff. They can also be used as a windowsill. Install using galvanized metal support brackets (Simpson Strong Tie A-21 or other galvanized right-angle bracket with holding capacity minimum 5 lbs./LF) fastened with

galvanized nails or screws penetrating studs 1" at a minimum of 16" on center. Two brackets per sill is preferred if blocking is present. Use construction adhesive to bond brick at bracket locations. Caulk and flash as required (see section C. Flashing, 2g. on page 1 for more information) at Watertable/Sill locations using an approved corrosion-resistive flashing that extends to the surface of exterior wall finish and is installed to prevent water from re-entering the exterior wall envelope.



* Failure to properly caulk flashing as described in these installation directions may result in water damage to the structure.

INSTALLING CULTURED BRICK® AT GROUND LEVEL

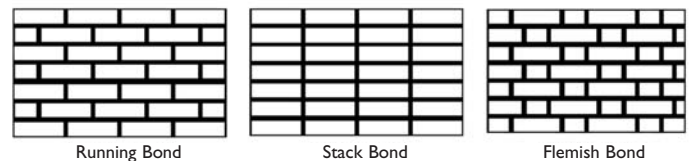
Keep the finished edge of the Cultured Brick® product a minimum of 4" above grade if earth or 2" above pavement. Use a 2" x 4" leveling strip (straightedge) or weep screed/ flashing. This will:

- Provide drainage as required by applicable building code
- Avoid possible staining of the brick by soils containing alkali or other minerals

Lay Out Wall Area

Choose the type of wall pattern desired. Allowing for a mortar joint of approximately ½", calculate and mark off the number of courses required. Adjust joint size to minimize horizontal cutting. Run level guide lines to ensure proper placement of bricks.

Mix brick from several boxes at a time to achieve a pleasing blend of color and texture.

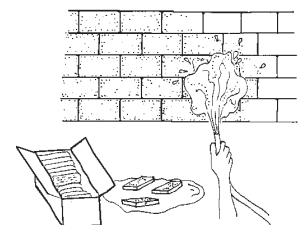


Wetting Exterior Walls

Dampen concrete, masonry or stucco wall surfaces with water prior to the application of the brick.

Wetting the Brick

The back of the brick should be completely damp, but free from surface water at the time of application.



MORTAR

NOTE: Weather Conditions

Applications should be protected from temperatures below 40°F as mortar will not cure properly under such conditions. Do not use antifreeze compounds to lower the freezing point of mortar. See International Building Code 2104.3 for cold weather construction requirements.

A. Mixing Mortar/Grout

Using Premixed Type N mortar or components from Table 2, mix to a firm, moist consistency. Mortar that is too dry and crumbly will not provide proper bond. Mortar that is too wet will be weak and messy.

Table 2 – Proportions for Mortar				
Parts By Volume				
Mortar Type	Portland Cement or Blended Cement	Masonry Cement Type N	Hydrated Lime or Lime Putty	Aggregate
N	1	–	1	4½ to 6 2¼ to 3

B. Mortar Color

Tinting mortar complements the color of the brick being installed. Example: Use tan mortar with earth-tone bricks. This will greatly enhance the appearance of the finished installation. Regular mortars can be tinted to complement your Cultured Brick® product using iron oxide pigments available from your dealer.

APPLYING CULTURED BRICK® PRODUCTS

A. Starting Point

Apply mortar and brick working from the bottom up, or from the top down. Working from the top down may help avoid splashing previously applied brick with dripping mortar.

B. Applying Mortar to Prepared Surface Area

Using a plasterer's or mason's trowel (Fig. 5 and 6), apply mortar ½" to ¾" thick to prepared surface area. Do not spread more than a workable area (5 to 10 sq. ft.) so that mortar will not "set up" before brick is applied.

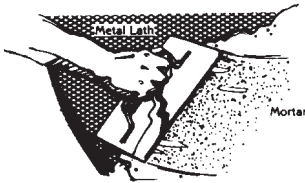


Figure 5 Apply mortar using a plasterer's trowel.

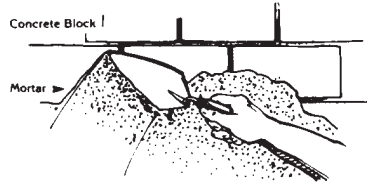


Figure 6 Apply mortar using a mason's trowel.

C. Setting the Bricks

Press each brick into the mortar setting bed firmly enough to squeeze some mortar out around the brick's edges. Apply pressure to the brick to ensure a good bond. **Ensure complete coverage between the mortar bed and back surface of the brick.** Mortar may also be applied to the entire back of the brick (Fig. 7). When brick is installed correctly, lath will not be visible.

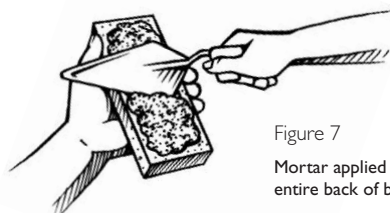


Figure 7
Mortar applied to entire back of brick.

Care must be taken to avoid smearing mortar on surface of brick. Accidental smears or mortar droppings should be removed using a whisk broom only after mortar has become crumbly.

D. Install Corner Pieces First

If your application requires corner pieces, apply these first. Notice that the corner pieces have a long and a short leg. Alternate these in opposite directions (Fig. 8).

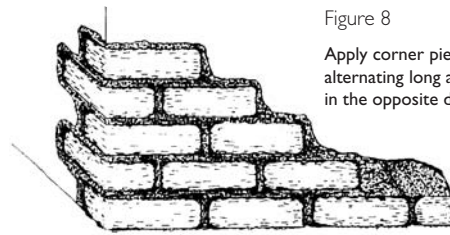


Figure 8

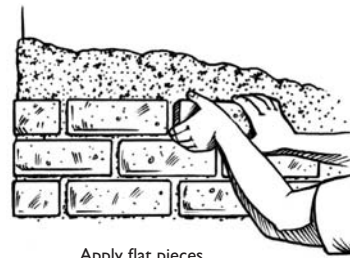
Apply corner pieces first – alternating long and short legs in the opposite directions.

E. Inside Corners

When using a running bond, set full bricks to half bricks at inside corners, alternating lengths in each course.

F. Install Flat Brick

Start at the end of the wall to complete one horizontal course of brick. Work across the surface area one course at a time. Keep courses level and plumb by using a carpenter's level to check each course as it is laid.



Apply flat pieces.

G. Keep Your Mortar Joints Consistent

Place the individual bricks close together, creating ½" uniform joints between them. Cut trim as required to achieve consistent width in the mortar joints.

WORKING WITH MASONRY ADHESIVE (INTERIOR ONLY)

On some interior projects, the use of masonry adhesive offers a fast and easy alternative to mortar. **NOTE: Do not wet brick when installing with adhesive. Do not install weather-resistant barrier. Recommended adhesives include: Loctite® PowerGrab, Liquid Nails® Marble and Granite.**

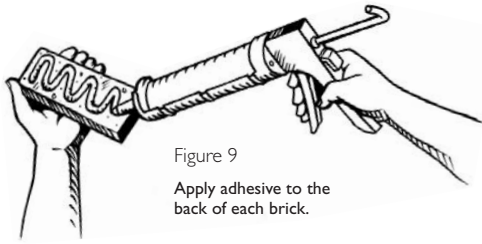
Table 3 – Interior Surfaces
Preparation Required When Using Masonry Adhesive

Recommended Surfaces	Masonry adhesive may be applied over most clean and structurally sound interior surfaces such as plywood, concrete block and concrete.
Preparation	Loose surface materials should be removed. Sanding may be required on very smooth surfaces to achieve a good bonding surface.
Alternatives	As an alternative, plywood sheathing fastened to the wall studs over existing or removed surface materials will provide an inexpensive and effective application substrate.
Non-recommended Surfaces	Masonry adhesive is NOT RECOMMENDED for application over smooth textured tile, metal, wallpaper, drywall, some types of paint or surfaces that are continually damp.

MASONRY ADHESIVE WITH GROUTED JOINT

Setting Brick With Masonry Adhesive

Place adhesive as per adhesive manufacturer's instructions on the back of each brick in $\frac{1}{4}$ " bead, perpendicular to grooves on brick (Fig. 9). Press and wiggle bricks into place on wall surface until they bottom out. Set bricks level and plumb, completing one row at a time. Apply grout between bricks using a mortar bag.



A. Cutting and Trimming

Make half bricks by scoring the back side with a hacksaw and snapping the brick in half. **SAFETY GLASSES AND A DUST MASK⁽¹⁾ SHOULD ALWAYS BE WORN WHEN CUTTING ANY CULTURED BRICK® PRODUCTS.**

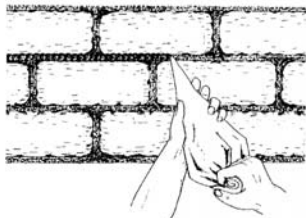
Vertical or horizontal cuts can be made using a table saw, circular saw or small grinder equipped with diamond or carborundum blade. **SAFETY GLASSES AND A DUST MASK SHOULD ALWAYS BE WORN WHEN CUTTING ANY CULTURED BRICK® PRODUCTS.**

GROUTING AND FINISHING JOINTS

A. Grouting Joints

Use a grout bag to fill in joints. Care must be taken to avoid smearing mortar on surface of brick. Accidental smears or mortar droppings should be removed only after mortar has become crumbly. Use a whisk broom or dry bristle brush. Never use a wet brush or wire brush.

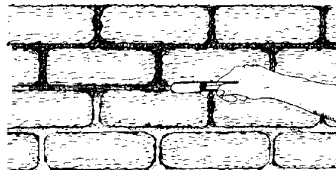
Use a grout bag to fill any unmortared spaces between bricks.



B. Finishing Joints

When the mortar joints have become firm ("thumb print" dry), they should be pointed up with a metal jointing tool. Rake out excess mortar; compact and seal edges around bricks. (Setting time will vary depending on wall surface and climatic conditions.)

Finish mortar joints with a jointing tool.



CORRECT



Mortar joints are uniform.

Jointing is concave.

INCORRECT

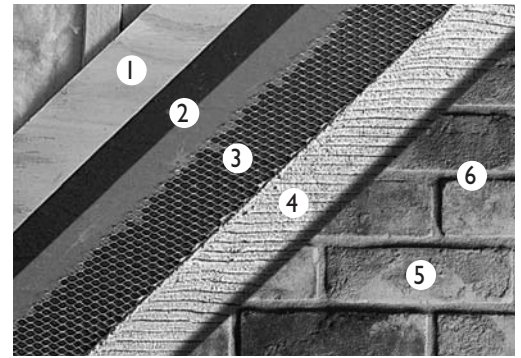


Mortar joints are not uniform.

Incorrect tooling of joints—joints raked too deeply.

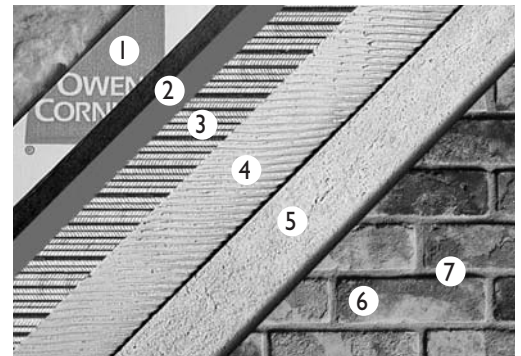
TYPICAL INSTALLATIONS

Wood Frame:



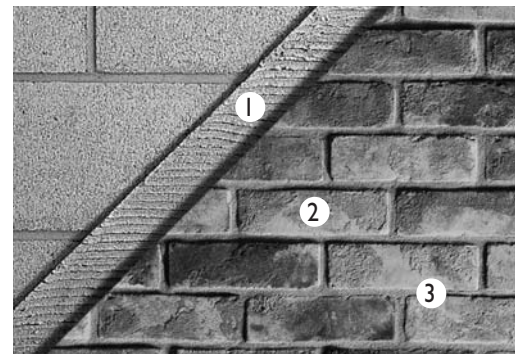
In sequence: (1) sheathing, (2) two layers of weather-resistant barrier, (3) galvanized metal lath, (4) mortar, (5) Cultured Brick® thin brick veneer, (6) mortar joint.

Rigid Foam Insulation:



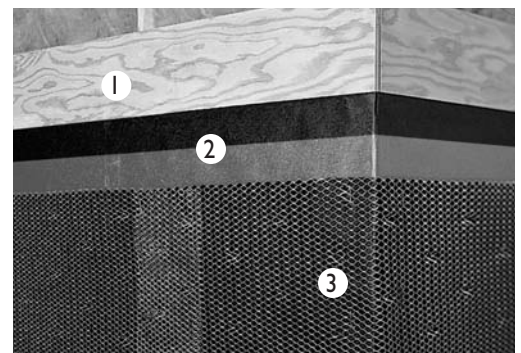
In sequence: (1) rigid foam insulation, (2) two layers of weather-resistant barrier, (3) metal lath, (4) scratch coat, (5) mortar setting bed, (6) Cultured Brick® thin brick veneer, (7) mortar joint.

Masonry or Concrete:



In sequence: (1) mortar applied directly to untreated, unpainted masonry, concrete or stucco, (2) Cultured Brick® thin brick veneer, (3) mortar joint.

Corner Preparation:



Weather-resistant barrier must overlap a minimum of 16" on vertical joints, at outside and inside corners. Lap materials 2" on horizontal joints. Galvanized metal lath must wrap around corner so that lap occurs at framing member; min. 16" beyond outside or inside corner: (1) wall substrate, (2) two layers of weather-resistant barrier, (3) metal lath.

GENERAL INFORMATION

Cleaning

Dirt, etc., may be removed by using a strong solution of granulated soap or detergent and water with a bristle brush.

Do not use a wire brush as it will cause damage to the surface. Rinse immediately with fresh water. For help with serious cleaning problems, contact your local dealer. **Do not attempt to clean using acid or acid-containing products, power-washing, sandblasting or wire-brush cleaning.**

Salt and De-Icing Chemicals

Because all concrete and masonry are vulnerable to damage by salt, Cultured Brick® products are not warranted against damage incurred from salt or other chemicals used to remove snow or ice. Do not use de-icing chemicals on areas immediately adjacent to a Cultured Brick® veneer application.

Scuffing

Scuffing occurs on all brick. Occasionally some scuffing will occur on the surface of Cultured Brick® products. This can enhance the appearance of your Cultured Brick® veneer installation. Some scuff marks can be removed by cleaning as described above.

Efflorescence

Efflorescence is a water-soluble salt that is deposited on the surface of stucco, concrete, brick and other masonry products by the evaporation of water from the wall. On rare occasions efflorescence will occur on Cultured Brick® products. To remove efflorescence, allow the brick to dry thoroughly, then scrub vigorously with a stiff bristle brush and clean water. Rinse thoroughly—do not use a wire brush. For more difficult efflorescence problems, scrub thoroughly with a solution of 1 part white household vinegar to 5 parts water. Rinse thoroughly. For unusually difficult cleaning problems, contact your local Cultured Brick® dealer.

Sealers

Sealers are not necessary on Cultured Brick® products. However, some customers use sealers to help prevent staining in applications prone to smoke, soot, dirt or water splashing. If you choose to use a sealer, make sure it is a silane-based, breathable sealer. Take note that sealers may darken the color of the brick. A sealer may also slow the natural movement of moisture out of the brick and increase the possibility of efflorescence and/or spalling. For information regarding actual performance or application of sealers, contact the manufacturer of the sealer directly.

Use of Cultured Brick® Below Water Levels

Cultured Brick® veneer is a lightweight concrete material and will not deteriorate from exposure to fresh liquid water. The use of Cultured Brick® veneer below water level, in which the water is chlorinated, treated with chemicals or dirty will likely cause discoloration as it would on any concrete, natural stone or other materials. Cultured Brick® veneer concrete and many natural stone materials are subject to potential damage from adverse freeze thaw conditions. Water should be drained below susceptible materials prior to freezing temperatures. Pressure

and abrasion from constant fast flowing water may cause some surface deterioration as it would on other concrete materials. The surfaces of concrete and many other materials may be affected by exposure to extensive salt-water conditions. Cultured Brick® veneer should not be considered a waterproof material.

INCORPORATE GOOD BUILDING PRACTICES

Building Code Requirements

Building code requirements vary from area to area. Check with local authorities for building code requirements in your area. Carefully read all Installation Instructions before proceeding with your Cultured Brick® veneer application.

Exterior Applications

Make sure that the application of Cultured Brick® products and the structure they are being applied to, incorporate good building practices. Rigid, corrosion-resistant flashing shall be installed at all wall penetrations. Flashing type and locations shall be in accordance with the requirements of the applicable building code. 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 Cultured Brick® products under these conditions is not recommended.

Rainscreen Statement

Some building codes require a rainscreen behind cladding materials, including manufactured brick veneer. If you are installing manufactured brick veneer in one of these jurisdictions, or are concerned about extreme weather conditions, it is recommended that you choose a rainscreen system that can achieve the following:

- The system should create a space with a minimum depth of $\frac{3}{8}$ " (10mm) and maximum depth of $\frac{3}{4}$ " (19mm).
- The materials should be corrosion and rot resistant.
- Unless otherwise designed to manage moisture vapor, the system should be vapor open.
- If rainscreen space is created with a material other than solid strapping/ furring attached directly to framing, the following must be considered. Lath fasteners must be capable of supporting the weight of the finished wall cladding system considering the unsupported/cantilevered portion of fastener that is equal to the thickness of the rainscreen materials.

Overhead Application

Overhead, horizontal or sloped applications are not included in our building code evaluation reports or acceptances. These applications often require special approval/inspections by local building code inspectors. Contact your architect or engineer for assistance designing these installations.

Installation Over Thick Foam

Installation over foam board thicker than $\frac{1}{2}$ " may require special fasteners. Consult your architect or engineer for assistance designing a thick foam installation.

Capping Off the Exposed Top of Exterior Walls

To achieve a finished architectural look on horizontal or sloping top areas of exterior walls, piers, retaining walls or other surfaces, the use of Cultured Stone® Capstones or a poured-in-place concrete cap must be used to provide adequate run-off protection to the wall areas. Caps should extend approximately 1"–2" beyond the finished brick surface. **Cultured Brick® corner pieces, flat pieces, or hearthstones must not be used to cap walls.**

Retaining Walls

All retaining walls must be waterproofed at the fill side. Wall construction should incorporate proper use of granular backfill and provisions for good drainage. A continuous longitudinal drain along the back of the wall set in drain rock is recommended.

Chimney Cap

All chimney chases must be capped with a one-piece cap that extends 1"–2" beyond the finished brick surface to prevent water from entering the wall system. Chimney or chase construction should incorporate proper flashing.

⁽¹⁾ **CAUTION:** Contains Crystalline Silica. Dusts from cutting or sawing may create possible cancer hazard. Dusts of this product may cause irritation of the nose, throat and respiratory tract. Avoid prolonged or repeated inhalation of dusts from this product. A properly fitted NIOSH approved N-95 series disposable particulate filtering facepiece respirator (formerly referred to as "dust masks") should be used when mechanically altering this product (e.g., sawing, cutting, drilling or similar dust generating processes). Wear long-sleeved shirt, long pants, gloves and safety glasses with side shields when handling and installing material. Wash hands and face with soap and warm water immediately after handling this product.

CULTURED BRICK® 50-YEAR LIMITED WARRANTY

Cultured Brick® products are covered for a period of 50 years from the date of purchase when used on a structure which conforms to local building codes and when installed in accordance with the manufacturer's instructions. Cultured Stone® will repair or provide, free of charge, new materials to replace any determined to be defective. This warranty is limited to the original purchaser and may not be transferred to any subsequent owner.

This warranty does not cover damage resulting from:

- Settlement of the building or other wall movement
- Contact with chemicals or paint
- Discoloration due to airborne contaminants
- Staining or oxidation

This warranty covers only manufacturing defects in Cultured Brick® products. Cultured Stone® is not responsible for labor costs incurred in removal and replacement of defective products. Hearthstones are not warranted for use on the ground or as a surface area subject to foot traffic.

ACCEPTANCE REPORTS AND LISTINGS

Tested or listed by Underwriters Laboratories, Inc.,
City of Los Angeles RR23744,
HUD Materials Release No. MR 1316,
Texas Dept. of Insurance Product Evaluation EC-21,
and Ontario BMEC Authorization #01-04-256.

Tools Required



Staple Gun/Hammer

(Applying weather-resistant barrier and/or metal lath)



Metal Jointing Tool/Wood Stick

(Finishing joints)



Mason's Trowel

(Applying mortar)

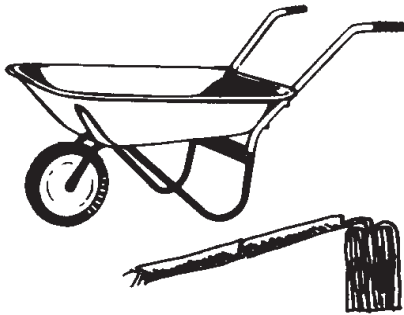


Margin Trowel

(Applying masonry adhesive)

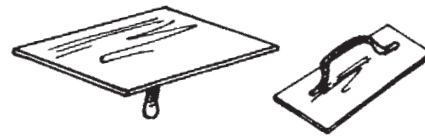


Grout Bag



Wheelbarrow and Hoe

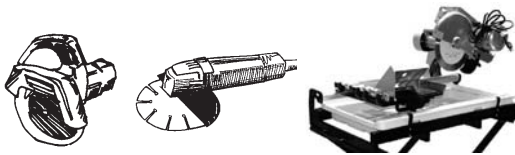
(Mixing mortar)



Hock and Trowel



Level



**Masonry, Circular, Table,
Wet Cut Saw or Grinder with
Carborundum or Diamond Blade**



Hacksaw



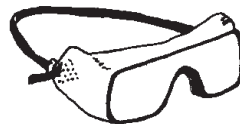
Whisk Broom

(Cleaning finished work)

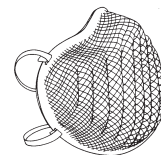


Wide-Mouth Nippers/Hatchet

(Trimming brick)

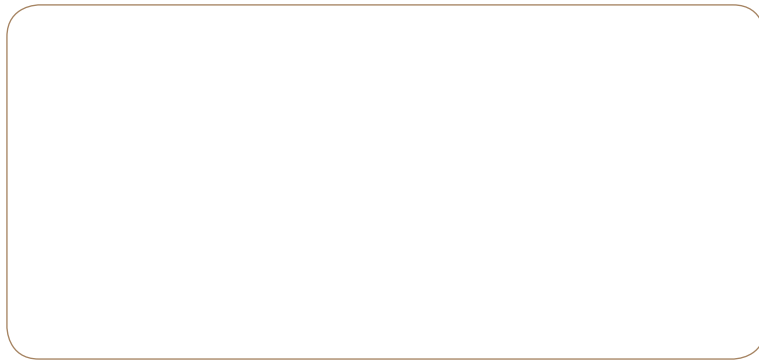


Safety Glasses⁽¹⁾



Dust Mask⁽¹⁾

AUTHORIZED DEALER



For additional information on
Owens Corning Cultured Stone® products
visit www.culturedstone.com

or call

1-800-255-1727



CULTURED STONE®

The Preferred Name In Stone™

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Pub. No. 61205-C. Printed in U.S.A. June 2007.
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