

CanyonRock™

PREMIUM DECORATIVE STONE

What Tools & Equipment Do I Need To Install CanyonRock™ Premium Decorative Stone?

Before You Start...

- Read these **entire** instructions thoroughly... to ensure a problem-free installation.
- Use the **icons**... described below to help guide you through your installation.
- Review the **handy tables**... on the back cover of these instructions.

Compatibility & Limitations...

- CanyonRock™ Stone... is designed for use as a decorating system for interior and exterior walls (vertical or angled), including plywood, masonry and drywall.
- **DO NOT install on exterior horizontal surfaces**... such as driveways or walkways, which receive foot traffic. CanyonRock™ Stone is designed for vertical wall surfaces and non-traffic-bearing applications.
- **Surfaces MUST be clean prior to installation**... remove paints, coatings, sealers and oils from all masonry surfaces.

Application Temperature/Weather...

- **Only install in temperatures above 40°F (4°C)**... to assure sufficient set-up times and minimize the risk of mortar cracks.
- **When air temperatures exceed 90°F (32°C)**... make sure the mortar temperature does not exceed 120°F (49°C). After installing scratch coat or stone, mist the work area with clean water every 4 to 6 hours during daylight.
- **Exterior installations**... do not install during bad weather. If unexpected rain or snow occurs during or immediately after installation, protect installation area with tarps.

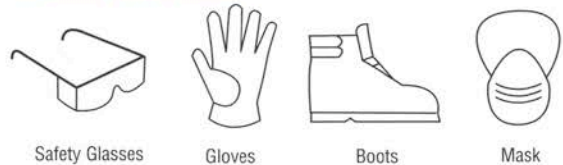
Start Every CanyonRock™ Project With Safety In Mind

Protect Yourself & Others...

- **ALWAYS**... wear appropriate clothing, footwear and gloves.
- **ALWAYS**... wear safety glasses.
- **ALWAYS**... wear dust masks when handling dry mortar mixes or cutting stones.
- **ALWAYS**... be aware of your surroundings. Watch for power lines when working on or around ladders and scaffolding.
- **ALWAYS**... follow OSHA guidelines and use common sense on your jobsite.
- **ALWAYS**... bend at the knees. Never lift with your back.

How Do I Prepare For A CanyonRock™ Premium Decorative Stone Project?

A. Safety Equipment



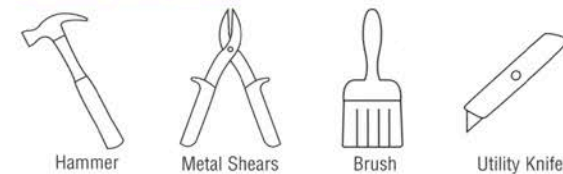
Safety Glasses

Gloves

Boots

Mask

B. Basic Hand Tools



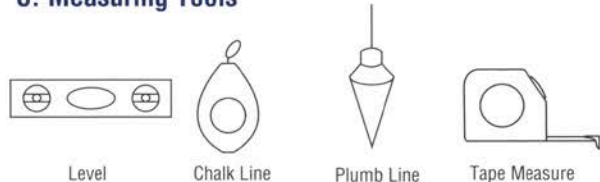
Hammer

Metal Shears

Brush

Utility Knife

C. Measuring Tools



Level

Chalk Line

Plumb Line

Tape Measure

D. Cutting & Shaping Tools



Masonry Hammer

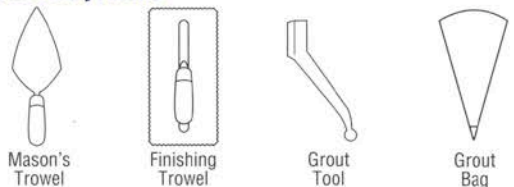
Wide Mouth Nippers

Circular Saw with Masonry Blade

Wet Saw with Masonry Blade

Angle Grinder

E. Masonry Tools



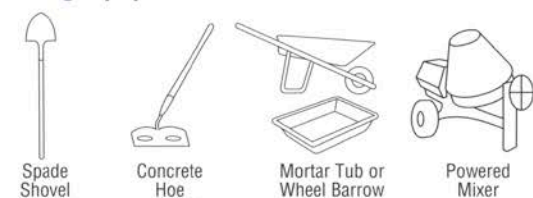
Mason's Trowel

Finishing Trowel

Grout Tool

Grout Bag

F. Mixing Equipment



Spade Shovel

Concrete Hoe

Mortar Tub or Wheel Barrow

Powered Mixer



Wear Gloves



Wear Safety Glasses



Wear Dust Mask



Lift With Your Knees



Common Mistakes To Avoid



Follow OSHA Guidelines

Step 1 Estimating Materials... What Do I Need To Install CanyonRock™ Stone?

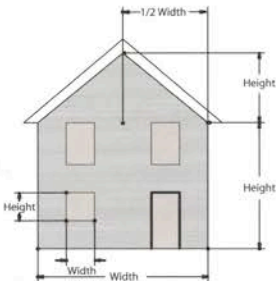
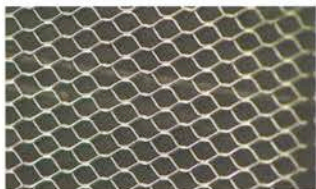


Figure 1-1



Mortar



Metal Lath



Weather Resistant Barrier

Material Descriptions...

- **FLATS...** these are the primary stones installed throughout the wall.
- **CORNERS...** specially designed stones installed on outside corners.
- **MORTAR...** is used to prepare the surface with a base coat (also known as a "scratch coat"); to install CanyonRock™ Stone; and to grout the joints between stones. See table 1 on back cover for application information. Look for packages labeled ASTM C270 Type N or S. (Many professionals prefer to mix their own mortar, which is also acceptable.)
- **WEATHER RESISTANT BARRIER...** is required over non-masonry wall surfaces to protect them from moisture while the mortar cures and to provide a means for water vapor to escape.
- **METAL LATH...** is used over deteriorated masonry and non-masonry walls to improve their strength. (Ask for expanded, diamond cut, galvanized metal lath.)
- **SPECIALTY INSTALLATIONS...** may require accessories. Measure accordingly for sills/watertables, quoins, keystone, trim stones, lintels and hearthstones.

Basic Estimating... to determine approximate product needs (Figure 1-1). Tips for more accurate material calculating may be found at www.gaf.com. **IMPORTANT NOTE:** the measurements below do NOT include an allowance for waste. **YOU SHOULD ADD 10% TO YOUR CALCULATIONS TO INSURE THAT YOU HAVE ENOUGH OF EACH MATERIAL TO FINISH THE JOB.**

Step 1 Measure the Area of Each Wall... and add them together to determine total area. This is a good starting point to determine how much material is needed.

Step 2 Measure the Outside Corner Height(s)... and add them together to determine lineal footage of corners required.

Step 3 Purchase CanyonRock™ Stone...

- **FLATS...** = **TOTAL AREA – WINDOWS & DOORS – CORNER AREA**
 - Subtract window and door areas from the total wall area.
 - Multiply the corner height by .75 and subtract it from the total area.
- **SCRATCH COAT (WHEN REQUIRED)...** approx 25 lbs./10 sq. ft. of stoned area.
- **CORNERS...** are purchased in lineal feet.
- **ACCESSORIES...** if desired are available to accent any style of home.

Step 4 Purchase Additional Material...

- **MORTAR...** is measured in dry weight. Determine amounts used for:
 - **To install stones...** approx 25 lbs./10 sq. ft. of work area.
 - **To use as grout, when required (see back cover)...** approx 12-15 lbs./10 sq. ft. of work area. NOTE: Amounts shown above are based on dry weight before adding water.
- **METAL LATH, when required (see back cover)...** is sold by the 16 sq. ft. sheet.
- **WEATHER RESISTANT BARRIER, when required (see back cover)...** ASTM D-226 Type I (#15 or #30) paper, sold in rolls typically covering 400 sq. ft.
- **DON'T FORGET...** any fasteners or lumber that may be required on your specific project.

Step 2 Inspect The Walls

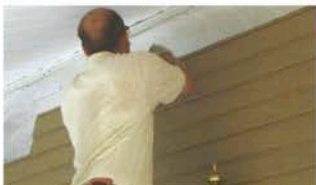
CanyonRock™ Premium Decorative Stone... is only as strong as what it is installed over.

- **REMOVE EXISTING WALL COVERINGS...** such as siding, wallpaper, or other non-structural finishes. (Consult your local Building Official for requirements when installing over existing brick face or stucco.)
- **DETERMINE THE TYPE OF SURFACE...** that you will be installing CanyonRock™ Stone over. Each surface has a different preparation procedure, ranging from simply cleaning the surface to removal of non-structural coverings (see Table 1 on back cover).
- **FOR EXTERIOR APPLICATIONS, INSPECT ALL FLASHINGS...** and install where missing or required by local building code. (Flashings are pieces of fabricated metal that are used to prevent leaks around doors or windows.)

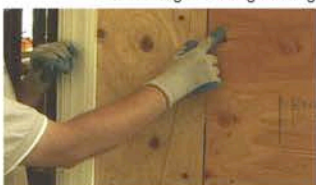


Common Mistake (and how to avoid it)...

NOT REMOVING EXISTING SIDING... can cause the mortar to crack and the stones to loosen (and possibly fall out). ALWAYS take the time to remove the existing siding!



Removing Existing Siding



Inspecting the Surface

Step 3 Prepare The Surface... Do I Need A Weather Resistant Barrier?



Figure 3-1



Figure 3-2



Figure 3-3



Non-Masonry Surfaces... such as wood or drywall, require a weather resistant barrier to protect the installation surface from moisture while mortar dries and to shield against water penetration.

- **BEGIN AT THE BOTTOM OF YOUR WORK AREA...** and install the weather resistant barrier horizontally (Figure 3-1) using enough nails or staples to keep it secure until the lath is installed.
- **OVERLAP EACH COURSE...** at least 2" over the previous course so that the laps will shed water (Figure 3-2). Overlap 6" on all vertical joints (Figure 3-3).

Masonry Surfaces... such as brick, concrete block or poured concrete must be structurally sound and free of any dirt, debris, paints, coatings or oils.

- **SANDBLAST OR PRESSURE-WASH...** any coatings or paints from masonry surfaces, and allow the wall to dry.
- **REPAIR...** all deteriorated masonry prior to installation of CanyonRock™ Stone.
- **OPTIONAL APPLICATION...** apply expanded, diamond cut, galvanized metal lath and a scratch coat of mortar if coatings or paints cannot be removed or if the surface is unsuitable for direct application (refer to Steps 4-6). NOTE: While not required, a coat of bonding agent (available from your masonry supplier) is strongly recommended over masonry surfaces.



Common Mistake (and how to avoid it)...

NEGLECTING TO INSTALL A WEATHER RESISTANT BARRIER OVER NON-MASONRY SURFACES... leaves the walls exposed to moisture. As mortar dries, it gives off moisture that can become trapped within the wood or drywall, leading to rot and mold problems. A weather resistant barrier is necessary to provide a moisture barrier to protect the wall.

Step 4 Install Metal Lath If Required (See Table 1 on back cover)



Figure 4-1

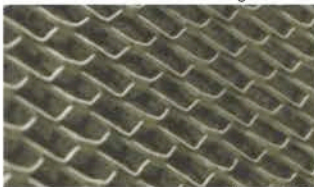


Figure 4-2



Figure 4-3



Figure 4-4



Clean and sound masonry already has a strong surface that mortar can bond to, and does not require metal lath. All other surfaces require lath to allow proper bonding of the mortar.

- **USE CAUTION...** when handling metal lath. ALWAYS WEAR PROTECTIVE GLOVES, AS LATH IS EXTREMELY SHARP.
- **CUT LATH...** carefully using metal shears to fit the desired area (Figure 4-1).
- **USE THE RIGHT FASTENER...** fasteners must be corrosion resistant, have a min. 3/8" head and be long enough to penetrate through the wall covering and at least 1" into the stud. Typically, roofing nails or large head screws are used to install lath. Do NOT staple lath.
- **INSTALL THE LATH...** making sure that the diamond pattern is facing UP (Figure 4-2). This will allow the mortar to attach itself to the lath properly and assure a strong bond.
- **BEGIN AT THE CORNERS...** and make sure lath covers at least 16" of both sides of the corner before joining.
- **OVERLAP THE ENDS...** at least 1" to ensure complete wall coverage (figure 4-3).
- **FASTEN PROPERLY...** with appropriate fasteners every 6" (Figure 4-4) into every 16" on center wall stud.



Common Mistake (and how to avoid it)...

USING THE WRONG TYPE OF LATH... be sure to ask for expanded, diamond cut, galvanized metal lath.

INSTALLING THE LATH IN THE WRONG DIRECTION... lath has a directional pattern which locks the mortar into place as it is applied. Improperly positioning the lath can eliminate this lock, and creates a weak bond between the scratch coat and the wall. Make sure to install the lath facing up.

NOT WRAPPING LATH AROUND THE CORNERS... can cause the mortar and stones to crack during building movement or settling. Always extend lath at least 16" on both sides of a corner.

Step 5 Handling & Mixing Mortar... How Do I Know When It's Just Right?



Figure 5-1



Figure 5-2



Figure 5-3



Handle mortar carefully... and always wear dust masks, gloves and safety glasses when handling dry mixes.

- **THOROUGHLY MIX COMPONENTS...** before adding water to ensure an even blend.
- **ADD WATER...** to the dry mixture in a mixing tub or mechanical mixer. Begin with 1 gallon of water per bag of pre-mixed mortar and add additional water until the desired consistency is reached (Figure 5-1).
- **CHECK THE MORTAR CONSISTENCY...** the mortar for the scratch coat or for applying stones should be slightly stiff, but still remain workable (Figure 5-2). Mortar for grout should have a slightly thinner consistency so it can flow easily between the joints (Figure 5-3). Table 2 on back cover will help you to determine the correct mortar consistency.
- **HARDENING TIMES...** vary based on outside air conditions. Mix only as much mortar as you will use in approximately 30 minutes.
- **COLORING THE MORTAR...** may be performed by adding masonry colorants to the mortar while mixing. Follow colorant manufacturer's mixing recommendations.



Common Mistakes (and how to avoid them)...

ADDING CHEMICALS DESIGNED TO SPEED HARDENING TIMES... can cause cracking at the joints and weaken the bond between the mortar and the stone.

ADDING WATER TO "LOOSEN UP" HARDENED MORTAR... can lead to poor stone bonding, loose stones and cracking joints. Don't do it! Only mix enough mortar to last about 30 minutes.

Step 6 Applying The Scratch Coat (Base Layer Of Mortar)...



Figure 6-1



Figure 6-2



Non-masonry and deteriorated masonry walls require a scratch coat... to provide a strong bonding surface for the stone. When applied over metal lath or clean masonry surfaces, its irregular, rough texture provides a superior surface onto which CanyonRock™ Stone can be attached.

- **APPLY MORTAR...** in a nominal 1/2" coat over the entire surface using the flat edge of a finish trowel (Figure 6-1).
- **TEXTURE THE SURFACE...** using a notched trowel. This will greatly improve the bond between the scratch coat and the stone (Figure 6-2).
- **LET IT SET FOR 24 HOURS...** prior to applying stone, to allow enough time for the surface to harden.



Common Mistakes (and how to avoid them)...

NEGLECTING TO TEXTURE THE SURFACE... always make sure the scratch coat has a rough surface so the stone-setting mortar will have a jagged surface to lock into.

INSTALLING OVER A WET SCRATCH COAT... applying CanyonRock™ Stone before the scratch coat has hardened to the lath can cause the stone and scratch coat to become detached from the lath.

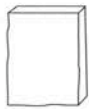
Step 7 Installing CanyonRock™ Accessories... Where Do I Use Them?



Sill/Watertable



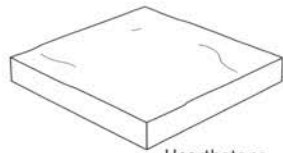
Lintel



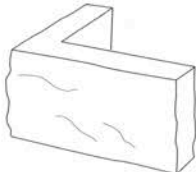
Trim Stone



Keystone



Hearthstone



Quoin



WINDOW SILLS & WATERTABLES... may be applied beneath windows or above CanyonRock™ Stone where it meets other wall coverings.

LINTELS... are installed above windows and doors to provide a more rustic appearance.

TRIM STONES AND KEYSTONES... are typically installed around windows and doors to provide a unique accent.

QUOINS... are installed in lieu of corner stones for a more majestic appearance.

HEARTHSTONES... are installed in front of fireplaces to provide a durable surface with a natural feel.

Installing Accessory Stones...

1. **CHOOSE THE DESIRED LOOK...** by combining accessories with CanyonRock™ Stone around windows, doors and other noticeable areas. Accessory pattern ideas are available at www.gaf.com.
2. **MEASURE AND CUT THE STONES...** with a masonry bladed circular saw to fit in the desired areas.
3. **INSTALL ACCESSORIES WITH MORTAR...** in the desired locations. Join stones tight or with even grout joints to give a neat appearance.
4. **APPLY MORTAR BETWEEN THE STONES...** to seal all joints from moisture. Alternately, a masonry based caulk may be used for tighter joints.
5. **INSTALL CANYONROCK™ STONE...** around the accessories to complete the look that you want.



Common Mistake (and how to avoid it)...

INSTALLING ACCESSORIES AFTER THE FLAT STONES ARE INSTALLED... can cause unsightly joints and lead to a poor looking installation. For best results, always install flat stones around the accessories.

Step 8 Choosing A Starting Point For Applying Stones...



Figure 8-1



Figure 8-2



Figure 8-3



Figure 8-4



Corners work best... because they serve as guidelines to keep the courses of stone straight. Where no corners are present, you can begin installation on either the left or right side of the wall.

- **INSTALL OUTSIDE CORNER STONES...** starting from the lowest point, alternating the long side of the stone from one wall to the other (Figure 8-1).
- **INSTALL INSIDE CORNERS...** starting from the lowest point of the walls, staggering flat stones from one wall to the other. This weaves the walls together and creates a more natural appearance (Figure 8-2).
- **LEVEL BOTH SIDES OF EACH CORNER COURSE...** to eliminate slanted stones and oversized joints (Figure 8-3).
- **CHECK THE CORNERS PERIODICALLY...** using a plumb line. Adjust the corner stones as necessary to maintain a vertical edge.

After your corners are done... begin installing your first wall course. Starting the first wall course at the bottom is **REQUIRED** with dry-stacked stones (i.e., stones that do not require grout between the joints). This keeps the stone courses level and minimizes the possibility of shifting or sagging. For grout-jointed stones (i.e., stones that have grout between the joints), like Premium Classic Fieldstone, you may start from any location on the wall.

- **MAKE A LEVEL STARTING LINE...** when installing along an uneven slope such as a foundation. Use a level and a chalk line to mark your starting point. On longer spans, it may be necessary to step the height up or down.
- **ON WALLS WITH NO LEVEL BASE...** attach a 2"x4" "ledger" at the lowest starting point on the wall to act as a temporary ledge that the first course can rest on until it sets up (Figure 8-4).



Common Mistakes (and how to avoid them)...

NOT STARTING AT CORNERS... can lead to unnecessary cutting and a slanted appearance.

NOT STARTING AT THE BOTTOM... can cause the stones to shift when applying dry-stacked stones.

INSTALLING INSIDE CORNER WALLS ONE SIDE AT A TIME... leaves an unnatural appearance. Always weave the stones from one wall to the other to provide a more natural appearance.



Installation Tips – Cutting and Shaping CanyonRock™ Stones

- **Cutting & Shaping Stones...** with a masonry hammer, angle grinder or circular saw with a masonry blade will provide varying appearances, depending on which tool is used. The proper tool is determined by the location and type of cut desired (consult Table 3 on back cover).
- **Placement Is Critical...** when installing cut stones. The most visible areas of the installation are typically near wall openings (i.e., windows, doors, etc.), so uncut stones are preferred in these areas.
- **Position Cut Edges...** away from the line of sight, with the cut edge facing up when installed above eye level and facing down when installed below eye level.
- **Leave 1/8" – 1/4" Space...** between the CanyonRock™ Stone and wall openings to allow for building movement. Fill gaps at openings with masonry caulk.
- **Wear Safety Equipment...** including gloves, glasses and a dust mask while cutting stones.

Common Mistakes (and how to avoid them)...

- **DO NOT USE A WOOD CUTTING BLADE TO CUT CANYONROCK™ STONES...** this is dangerous and can cause serious injury.
- **DO NOT FORCE STONES INTO PLACE...** if a stone does not fit, use an alternate stone or shape it accordingly.

Step 9 Installing CanyonRock™ Premium Decorative Stone... How Is It Held On?



Figure 9-1



Figure 9-2

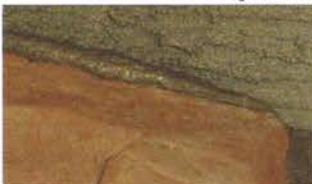


Figure 9-3



Figure 9-4



Basic techniques for all stone types...

- **MOISTEN WALL SURFACES...** during the installation process using a wet sponge or spray bottle. Due to CanyonRock's unique formulation, you do not need to moisten the stone prior to installation.
- **APPLY MORTAR...** in a 1/2" to 3/4" coat, to the back of each CanyonRock™ Stone with a trowel (Figure 9-1). You must apply mortar to the back of the stone, using the specially-designed grooves (Figure 9-2), which lock the mortar and the CanyonRock™ Stone together.
- **PRESS...** each stone onto the surface. Mortar should squeeze out from all sides of the stone equally (Figure 9-3). Tap gently with trowel handle.
- **REMOVE...** excess mortar from the face of the stone before it hardens to simplify clean-up (Figure 9-4).

Installing dry-stacked stones (e.g., Premium Natural LedgeStone, Premium Designer LedgeStone, etc.)...

- **POSITION STONES...** so that they are stacked on top of and next to each additional courses. Do not allow space between the stones to exceed 1/4". Stagger all vertical joints to allow for a more natural appearance.
- **REMOVE EXCESS MORTAR...** from around the stone prior to placing subsequent stones.

Installing grout-jointed stones (e.g., Premium Classic Fieldstone)...

- **POSITION STONES...** so they are stacked in a random fashion. Do not allow space between the stones to exceed 3/4".
- **APPLY GROUT...** as instructed in Step 10.



Common Mistakes (and how to avoid them)...

- **NOT MOISTENING THE WALL SURFACE...** prior to installing the stone. With a dry surface, the mortar can set up too quickly, resulting in loose stones or cracked joints.
- **NOT KEEPING JOINTS TIGHT...** oversized joints look unsightly and have a greater tendency to crack.

Step 10 Grouting The Joint... How Do I Make It Look Right?



Figure 10-1



Figure 10-2



Apply grout at the joints of the stones (where required)...

- **CHECK THE CONSISTENCY OF THE GROUT...** to insure that it is slightly *thinner* than that of the setting mortar. It should flow easily and cure more slowly. (See Table 2 on back cover for grout recommendations.)
- **MOISTEN THE SURFACES...** that will be grouted before proceeding.
- **APPLY GROUT...** to the joints using a grout bag or by hand. Apply enough grout to exceed the desired depth, since some will be removed later when you shape the joints (Figure 10-1).
- **REMOVE AND CLEAN STRAY GROUT...** that spills onto the face of the CanyonRock™ Stone (see Step 11).
- **STRIKE OR SHAPE GROUT...** to its finished depth and texture with a nylon bristled brush, grout rake, or other finishing tool after it has partially set up (Figure 10-2). Grout should be firm and capable of holding a finger impression prior to tooling or shaping.



Common Mistake (and how to avoid it)...

SHAPING THE GROUT JOINTS TOO SOON OR TOO LONG AFTER APPLICATION... can cause problems with the joints: shaping too soon pulls the grout from the joint (causing grout to spill onto the face of the stone); waiting too long will allow the grout to become too hard to shape. Set-up times will vary based on field conditions.

Step 11 Cleaning Up... How Do I Clean Mortar Off?

Removing excess mortar is simple... due to CanyonRock's proprietary surface coating which allows for easy clean-up.

Removing Dried Mortar... from the stones can be performed using a nylon bristled brush or plastic scuff pad and a mild detergent. Rinse thoroughly with water. Repeat as required to remove all excess mortar.

Proper Disposal Of Materials... should always comply with federal, state and local regulations. Always follow OSHA guidelines when handling, installing or disposing of CanyonRock™ Premium Decorative Stone and related products.



Common Mistakes (and how to avoid them)...

USING METAL-BRISTLED BRUSHES OR MURIATIC ACID TO CLEAN THE STONES... these may damage the stone face.

ALLOWING MORTAR TO REMAIN ON ADJACENT SURFACES... mortar should be removed immediately from adjacent surfaces, such as siding, windows or doors, to avoid damage.

Step 12 Maintenance... How Do I Care For My CanyonRock™ Stone?

- **Sealing...** is not required; if used, wait at least 30 days for the mortar to cure before installing any silane-based sealants. Follow the sealant manufacturer's guidelines for application.
- **Clean annually...** with a garden hose or clean sponge to wash off any dirt or dust that may accumulate. This will keep the CanyonRock™ finish looking beautiful for years to come.
- **Protect...** CanyonRock™ Stone from ice-melting salts, such as calcium chloride, and from prolonged exposure to sprinklers. Chemicals and hard water can discolor the finish over time.
- **Repair...** any damage by removing individual stones and replacing with undamaged material. Contact GAF's Contractor Services Department at 1-800-766-3411 for more information on repair of CanyonRock™ Stones.



Common Mistakes (and how to avoid them)...

THROWING AWAY LEFTOVER STONES... always keep extra stones for repair purposes.

PRESSURE WASHING THE STONES... NEVER acid etch or pressure wash the stones. High pressure washing can damage the grout joints.

TABLE 1 – Surface Preparation

I Am Installing CanyonRock™ Stone Over...	What I Need To Do First...	Weather Resistant Barrier Needed?	Lath Needed?	Scratch Coat Needed?
Clean masonry or stucco	Pressure wash	NO	NO	NO
Coated or painted masonry or stucco	Sandblast, pressure wash or wire brush	NO	NO*	NO*
Deteriorated masonry/stucco	Repair loose masonry	NO	YES	YES
Poured concrete	Repair as needed	NO	YES	YES
Wood plank, plywood, OSB	Replace rotted areas	YES	YES	YES
Drywall	Remove wallpaper, replace wet areas	YES	YES	YES
Rigid insulation	Inspect wall attachment	YES	YES	YES
Existing Siding	Remove	See applicable wall type above		

**If paints, coatings or oils cannot be removed, metal lath and a scratch coat may be applied.*

TABLE 2 – Mortar Consistency

I Am Mixing Mortar For...	The Mortar Should Feel...	The Mortar Should Look Like...	When Formed Into A Ball, The Mortar Should
Scratch coat	Firm	Mashed potatoes	Hold its shape
Setting stones	Firm	Oatmeal	Slump slowly
Grout	Thin but not watery	Pancake batter	Slump out of shape

TABLE 3 – Stone Cutting And Shaping

The Cut Stone Is Typically Placed...	The Cut Edges Are...	Cut And Shape The Stone With...
Under windows/ceilings/terminations	Smooth & straight	Circular saw (with masonry blade) or wet saw
Sides of windows/doors/penetrations	Jagged & irregular	Nippers/hatchet/angle grinder/wet saw
Around special penetrations	Smooth & irregular	Angle grinder or wet saw

CanyonRock™

PREMIUM DECORATIVE STONE

“Your Best And Safest Choice”
Quality You Can Trust Since 1886

