

Muskoka Granite & Stone Company Limited

Installation Guide

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As building code requirements may vary from area to area, you should always check with your local authorities for the requirements in your area. Please read carefully all installation instructions before proceeding with your Granite Veneer product. Always observe the necessary safety precautions.

Calculating the Amount of Stone Required

To determine the amount of stone required, start by measuring the length times the height to calculate the square footage. Subtract any square footage for any window and door openings. To calculate the number of corners, measure the linear feet of any outside corners. One linear foot will cover about one square foot of the flat area. Subtract this square footage of corners from the flat area measured. When ordering square pattern or ashlar add 10% to all measurements for wastage; 15 % for 5 Point, and up to 30% if it is a dry-stack product.

See figure # 1

Should you wish any assistance with your measurements, please speak with one of our knowledgeable representatives, who will be happy to assist you. We can even work with your set of plans, giving you the quantity you need of the product you choose for your application. Feel free to call our head office at any time.

Tools Required

2 ½ lb. club hammer, 1" chisel {carbide or cold steel}, brick hammer, carpenter's hammer or staple gun, wheelbarrow and hoe, parging trowel and hock, mason's trowel, margin trowel, grinder or cut-off saw with diamond blade specific to granite, safety glasses & dust mask, level, jointing slicker, grout bag and whisk broom.

Sundry Materials

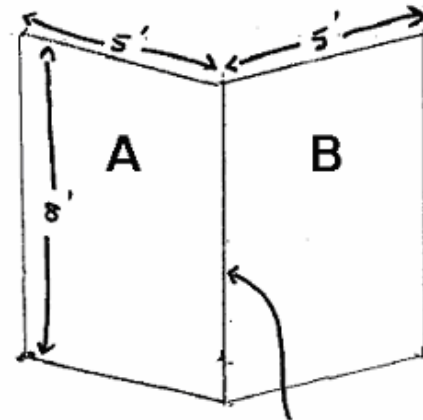
Mortar: We prefer using exterior grade thin set, however Type S masonry cement with an acrylic bonding agent does meet minimum requirements.

Mortar Colour: Pigments available from your local dealer.

Weather Resistant Barrier: A barrier such as "Tyvec", "Tyvar", or the equivalent {depending on local building codes}, must be used on all exterior applications except over clean masonry ready surfaces.

Metal Lath: Expanded metal lath {diamond mesh} galvanized, or other code accepted mesh or lath. ensure the lath is installed with the proper angle of the mesh pointing in the direction that will retain the mortar. **There is only one correct way to install it.**

Figure # 1



outside corners = 8 lin. ft.

Side A = 40 sq. ft. + Side B = 40 sq. ft. = Sub Total	80 sq. ft.
Subtract Corners	-8 sq. ft.
Sub Total	72 sq. ft.
Wastage 72 x 15% =	11 sq. ft.
TOTAL	83 sq. ft.

Corners 8 lineal feet plus 15% = 9 lineal feet

Fasteners

Galvanized nails, staples, screws.

Sealer:

It is recommended that sealer be used on chimneys and stone caps. For installation of flooring, sealer may be used for colour enhancing and future ease of cleaning.

Installation of Sills

Production line sills, with a 3" bed can be adhered to the same surface as the veneer. One way to make it easier and faster is to chalk a line where the top of the sill will end. Nail a straight edge {2 X 4 finished} immediately above the chalk line. Screw nail a 1" piece of strapping into the mortar joints, with the top edge even with the top of the veneer. Apply thinset to the back of the sill and press firmly into place, with the top of the sill butting to the bottom of the straight edge. Insert tapered wedge from 1/4" to 1" between the bottom of the sill and the strapping. Carefully tilt the front edge of the sill forward {to a maximum of 1/4"}, so that the top back edge of the sill is pressing against the straight edge and held firmly in place by the wedge. See figure 2. Remind the contractor to apply the appropriate flashing or caulking between the sill and the siding.

Ground level installation

Most granite veneer products meet the building code requirements of 15 lb. per sq. ft., and can be installed directly on the wall, starting 6" above grade. Some of the products do exceed 15 lb. per ft. and will require a 1 1/2" to 2" brick ledge. See figure 3.

Climate Conditions

If the weather is hot or dry during installation each piece of stone should be moistened on the back. This reduces absorption of moisture from the mortar.

Over concrete, masonry or scratch coat substrates the surface area should be dampened prior to mortar application.

Ensure that the surface area is not below freezing point. Mortar will not set up under these conditions.

Do not use antifreeze compounds to lower the freezing point of mortar.

Mixing Mortar

Mix the mortar so that it will spread evenly. It should not be dry enough to crumble nor should it be too wet. To enhance the appearance, add about 12 oz. {large coffee cup} of black dye to a full batch in order to achieve the proper shade of grey.

Parging

When installing over metal lath, use a parging trowel and apply mortar approximately 1/2" thick. Allow 48 hours to cure.

Figure 2-a

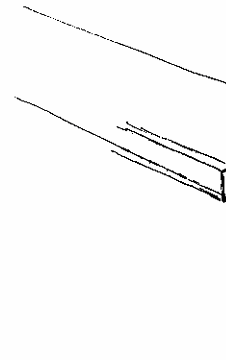


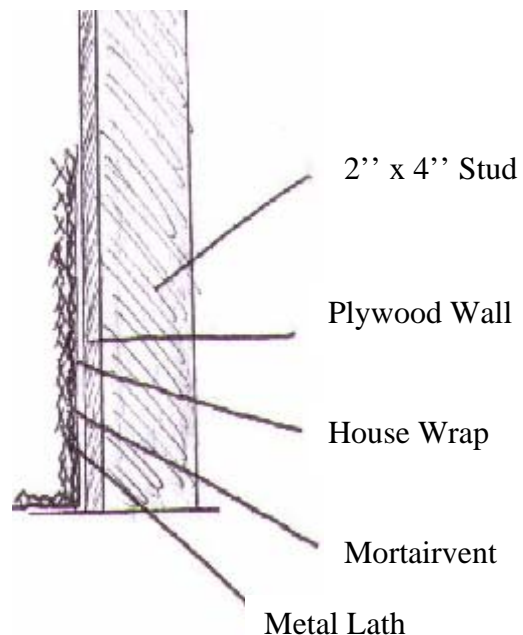
Figure 2-b



Figure 2-c



Figure # 3



Application of Granite Veneer Products

Install stone from the bottom up. Using chalk or a pencil you can mark out the area you wish to apply the veneer to. For **square pattern** use a chalk line and mark the lines at 12" intervals. Measure 5 ½" or 6 ½" off each 12" line to include the mortar joints.

See figure 4.

The top edge of the veneer is installed immediately below the lines. For 5 point, it is better to draw the look you wish to achieve.

Cardboard templates can be used for ease of installation.

See figure 5.

This reduces waste and allows the labourer more involvement in the installation. Joints should be an average of ½" thick, except for dry-stack. Set the stone by applying mortar to the entire back. Press each piece firmly enough to squeeze mortar out around the stone's edge. Apply pressure to ensure a good bond. Insert ½" spacers between the stones to create mortar joints.

Trimming

Use a grinder or cut-off saw with diamond blade to cut the pre-determined length and width of the stone. Use a brick hammer or 1" chisel and 2 ½ lb. club hammer to face the edges.

Corners

If your installation requires corners, apply these first, keeping a couple ahead of the center. Alternate the direction of the faced edge to create artistic balance. It is advisable to use screws to hold the corners in place until they set.

See figure 6.

Preparation

When installing over other than concrete substrates we recommend house wrap first, followed by "Mortairvent" and metal lath. **See figure 3**

When installing over existing brick, ensure that it is stable and sound. If the brick is painted then use a combination of screws with washers and ram set "tap-cons" with washers to fasten metal lath.

Mortar joints

Use grout bag to fill the mortar joints. Material smeared on stone, can be removed after mortar has dried using a bristle brush or wire brush. When the mortar joints have become firm, they should be pointed with a jointing slicker. **Very important;** There should be no holes or spaces in mortar joints.

Figure # 4

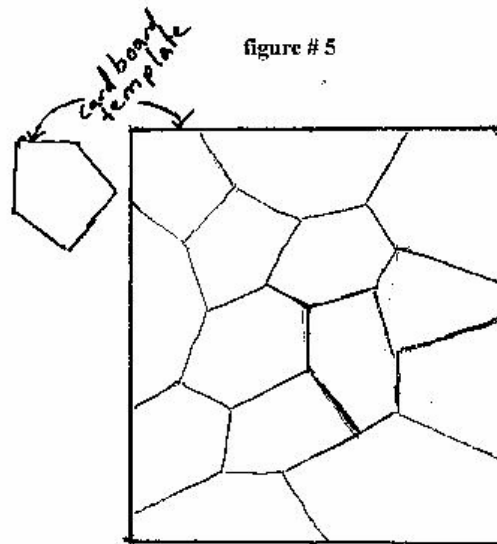
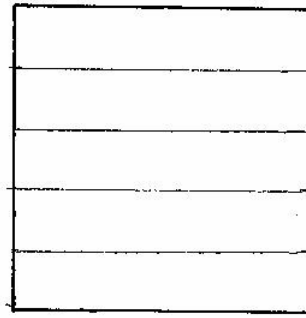
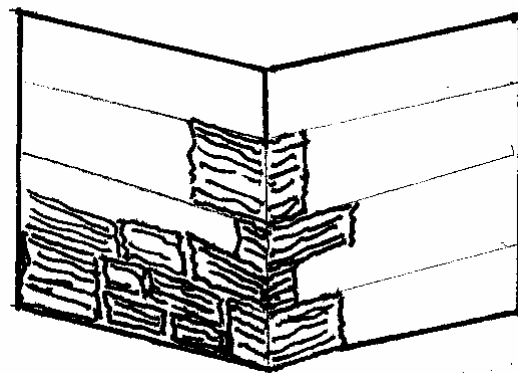


Figure # 6



Cleaning

At the end of the work day, the area should be brushed to remove loose mortar and to clean the face of stone. After the joints have cured for at least 7 days, dirt etc. may be removed using a strong solution of detergent and water with a bristle brush or wire brush.

Rinse with fresh water. For serious cleaning problems muriatic acid can be used however, care must be given to the strength of the solution. Follow the directions on the container.

Masonry Code Requirements

1. Granite veneer stone, under gravity should not put the mortar adhesive under tension.
2. Use of Granite veneer adhered on exterior soffits is not recommended.
3. Granite veneer to be supported by backing consisting of masonry, concrete, or cement plaster on metal lath.
4. Granite veneer shall have all joints grouted and pointed with a waterproof cement compound and be secured to the backing by:
 - a) metal lath with corrosion protection(galvanized), secured by a minimum of 60 mm galvanized nails with a spacing of no more than vertically 200 mm on centre and horizontally 400 mm on centre
 - b) a 6 mm scratch coat of Type M or S cement plaster over metal lath
 - c) a 20 mm mortar bed of Type M or S cement plaster applied over the cured scratch coat
 - d) a bond coat of Type M or S cement plaster applied to the back of the granite veneer and set into the mortar bed
 - e) be flashed at the top to prevent penetration of moisture.

