

TRACC

Moderne Slate Installation Guide



1. INTRODUCTION

The primary purposes of this Installation Guide are to provide a summary of good roofing practices to the roofing contractor and, or, installer as well as providing a practical "How To" guide for TRACC *Moderne Slate* shingles. The recommendations detailed are intended to promote high standards of workmanship to ensure a long lasting and weather tight roof in accordance with the engineered design and performance criteria defined for *Moderne Slate* shingles.

Installation guidelines contained herein are neither warranties, or necessarily representative of all conditions by which *Moderne Slate* shingles and accessories can be installed. All materials used in the installation should be code compliant (in accordance with national, regional, and local regulations) compatible with each other, and the material(s) they are to be attached to.

Note #1 Particular factors and variables such as local building codes, weather and environmental conditions, building design, exposure and the introduction of other new construction materials, as well as the relative experience of the installer, may result in, or require some variation of the installation method(s) described herein.

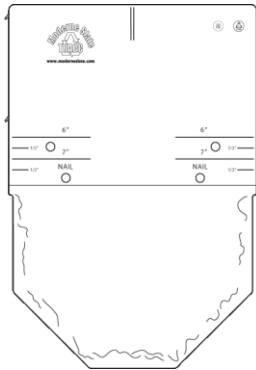
2. PRIMARY INFORMATION

2.1 PRODUCT IDENTIFICATION

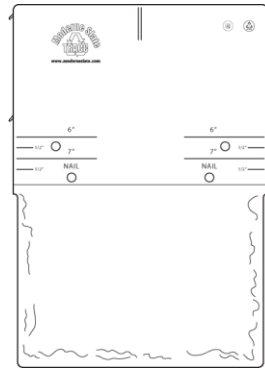
Bulk shipments of *Moderne Slate* shingles can be identified in terms of STYLE, COLOR and QUANTITY. For combined shipments of one or more COLORS or STYLES packed on a single pallet, the outer pallet cover should contain 2 or more identification labels. Please check carefully prior to unpacking.

Moderne Slate shingles are available in three distinct styles, FAN GATE, FULL SQUARE and SCALLOP ROUND, as illustrated below. In addition preformed, living hinge CROWN RIDGE shingles are available for variable pitch applications for both the crown apex and hip sections of roofs.

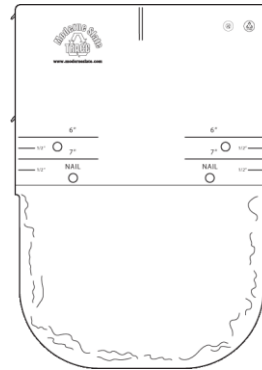
The shingles come with molded identification marks allowing for simple positioning placement and installation for textured exposures ranging from 6" to a maximum of 7 1/2". Exposure positioning will depend on roof pitch and local climatic conditions, as well as the roof owner's personal preferences, (see Fig. 1, Fig. 2, Fig. 3 and Fig.4)



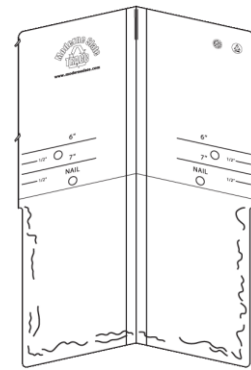
**FAN GATE
FIGURE 1.**



**FULL SQUARE
FIGURE 2.**



**SCALLOP ROUND
FIGURE 3.**



**CROWN RIDGE
FIGURE 4.**

2.2 PACKAGING

To reduce environmental impact *Moderne Slate* has reduced packaging to a minimum by bundling shingle tiles by using recyclable polypropylene straps and keeping the average weight per bundle on average at 31lbs.

2.3 STORAGE

Moderne Slate roofing shingles are manufactured from engineered reinforced plastic-elastomer compounds capable of withstanding temperature extremes for both very hot and very cold climatic conditions. However, it is recommended that for long term storage, shingles be maintained and stored at temperatures above 32 degrees F (0 degrees C). Although low temperatures will not affect the slate shingles, installation is made easier if the shingles are returned to temperatures greater than 32 degrees F prior to use.

NOTE #2 Other than for repair and, or, replacement, it is strongly recommended that roof installations be undertaken in above freezing temperatures.

3.INSTALLATION

| <i>MODERNE SLATE QUANTITY'S AND WEIGHTS</i> | | |
|--|-----------------------------------|--|
| <i>MODERNE SLATE SHINGLE STYLE</i> | <i>SHINGLES PER BUNDLE</i> | <i>AVERAGE WEIGHT (lbs/kgs)</i> |
| FULL SQUARE | 25 | 31.25 lb (14.17 kg) |
| FAN GATE | 25 | 29.83 lb (13.53 kg) |
| SCALLOP ROUND | 25 | 30.16 lb (13.68 kg) |
| CROWN RIDGE | 25 | 24.53 lb (11.12 kg) |

3.1 FASTENERS

Moderne Slate shingles can be installed using either a hammer with recommended roofing nails, or by pneumatic air nail gun. When using the latter, please ensure that regulated pressure is regularly checked to prevent excess penetration.

Moderne Slate shingles are extremely durable, long lasting, and come with a 50 year transferable limited warranty. It is important that the material compositions of the nail fasteners are as durable. We recommend use of the following,

NOTE #3 Please use Hot dipped galvanized spiral roofing nails, or copper nails, or stainless steel nails. The minimum shank length should not be less than 1 1/2" (38 mm).

3.2 CUTTING

Moderne Slate shingles can be cut with the simple use of a utility knife. Deep score the textured side of the slate shingle along the desired angle or location of cut, and then snap the tile backwards and forwards in the opposite direction until the shingle snaps. Slate shingles may also be cut using a circular, jig or miter saw.

Please be sure to take proper safety precautions when using any cutting tools.

3.3 SOLID DECKING

Moderne Slate shingles should be installed on a sloped roof structure no less than 4/12 (33.3%). For slopes less than 4/12 please consult info@visionmoderneslate.com

It is recommended that the roof sheaving be covered entirely by a "peel and stick" moisture resistant adhesive (e.g. Ice and Watershield) underlay. Always install the underlay horizontally, starting at the bottom of the roof line (eaves) working your way to the top of the roof structure, ensuring that each layer is overlapped 6" (15 cm) downward to shed any water down the roof.

Shingles should NEVER be installed over an existing roof covering of existing shingles or the like, or on uneven roof decking. For *Moderne Slate* we recommend the use of a minimum of 1/2" (13 mm) plywood.

3.4 DRIP EDGE & FLASHINGS

A metal drip edge should be installed on the bottom edge of the roof (eaves) and on the open gable ends to deflect and prevent any wind driven rain from penetrating under the slate shingles. Similarly, the installation of flashing is required in valleys, along side walls of dormers, around chimneys and pipes, and around any other protruding structure that may hold ice and snow, or could allow water to penetrate. Metal flashings should be a minimum of 26 gauge (.55 mm) painted galvanized, or if preferred, copper. The use of W-flashings in valleys is recommended.

(Important Reminder: Do not mix copper flashings with aluminum eaves trough because sulfites created by the copper can corrode the aluminum.)

3.5 STARTER COURSE

The top 6" (15 cm) of the non-textured shingle may be cut to create the starter course. (Pre-cut starter shingles in the required color are also available). When installing the Starter Course with the recommended nail fastenings through the hole locations provided, allow a 1" (2.5 cm) overhang from the drip edge. Align the slate shingle with a 3/16" (4.75 mm) spacing between each shingle using the engineered tabs on the sides of each shingle. (See Fig.5)

IMPORTANT REMINDER: Don't forget that the first row of exposed slate shingles is positioned directly on top of the starter strip. When installing the first row, the slate shingle should be positioned approximately 6" (15 cm) in from the end to prevent the direct alignment of one slate shingle directly above the other.

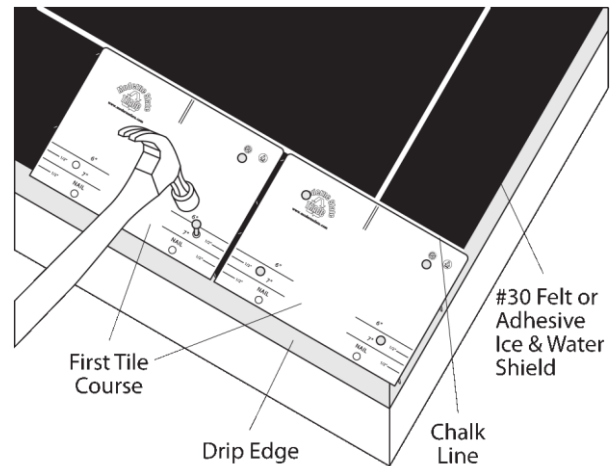


FIGURE 5.

3.6 INSTALLATION OF SHINGLES

Moderne Slate shingles are designed and intended to be installed one piece at a time. Once the Starter Course has been nailed, start the first course at the bottom of the roof, and then work your way up the roof, one course at a time.

IMPORTANT NOTE: Due to the possibility of slight variation in the shading of different shingle lots, it is recommended that the contractor take bundles from different pallets and combine them on the ground in job lot quantities to ensure random shading on the roof surface. Secondly, *Moderne Slate* shingles come in numerous exposed slate texture patterns (check the number/# at the top of the slate) and there should be no continuous repeat of the same pattern.

As with the Starter Course, all *Moderne Slate* shingles come with spacer tabs to ensure proper alignment.

Chalk lines can be snapped on the underlayment to ensure a straight line of installation course by course.

WARNING: Do not snap the chalk line directly on top of the textured side of the shingle as it may prove difficult to clean. Use of RED chalk is NOT recommended.

Continue installing the slate shingles at either the recommended or preferred exposure position. A general rule of thumb that can be applied is that the steeper the pitch permits a higher level of exposure, depending upon local climatic and wind conditions. Recommended exposures are 6" and 6 W and 7", (155 cm, 16.5 cm and 18 cm). For example, on exposures such as Mansard roof structures, exposure can be set at 7" (18 cm). (See Fig. 6)

When approaching pipes, chimneys, or other protrusions where the slate shingles require cutting, simply mark the desired shape where the shingle needs to be cut, and use a utility knife, circular or jig saw to cut it out.

IMPORTANT REMINDER: It is recommended that you stop occasionally and view the installation from the ground level to ensure that the desired aesthetic and visual effect is being achieved. (See Fig. 7)

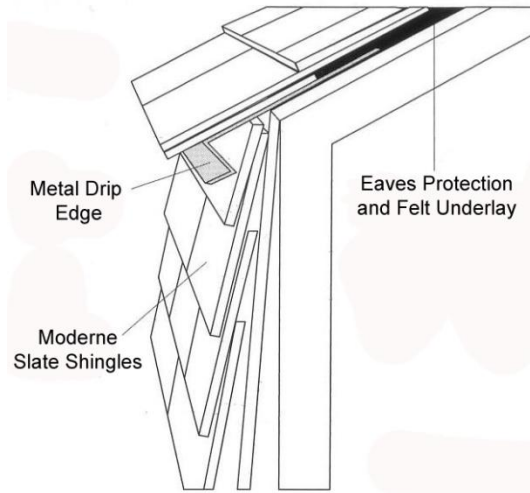


FIGURE 6.

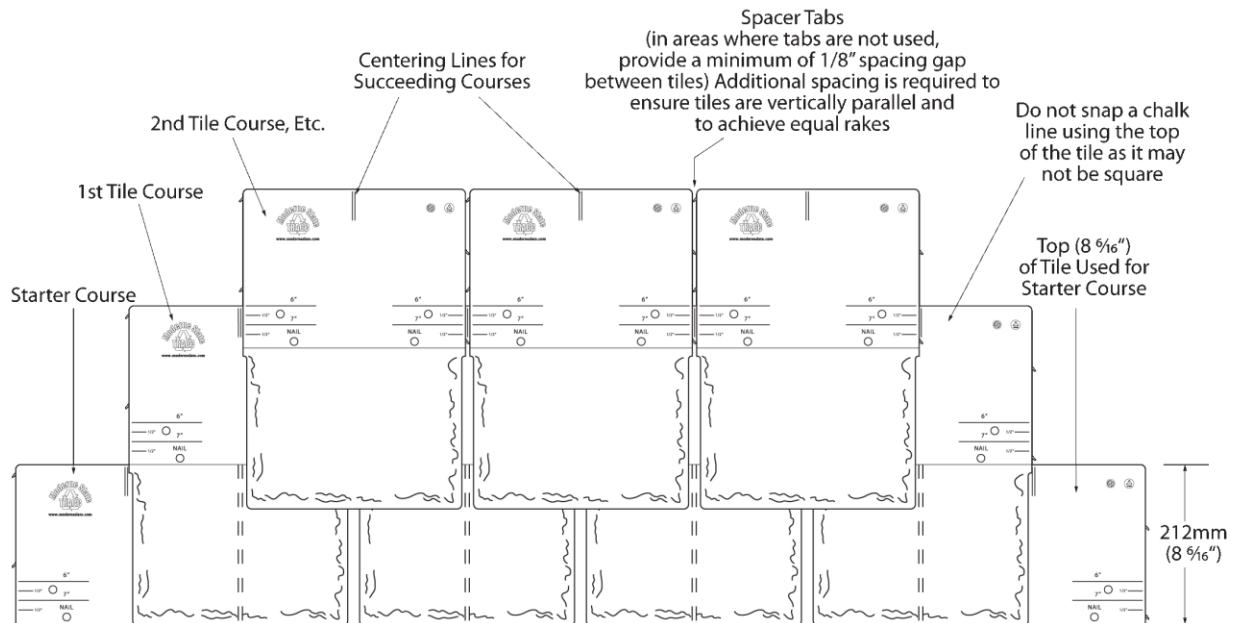


FIGURE 7.

1.7 INSTALLATION OF VALLEYS

Valley flashing should be 30" (762 mm) minimum width, or as prescribed by Local Building Code (LBC), and of material composition and gauge commensurate with the extended ultra high life span expected for *Moderne Slate* shingles.

Valleys can be of both the closed and open type. Installation and type of flashing may vary in accordance with LBC and it is recommended that your local or regional representative be contacted to ensure that only the correct materials are used. (See Fig. 8)

All valleys are installed over the underlay and secured using only recommended fasteners. Correct construction of roof transitions is essential to ensure weather tightness. As well as 26 gauge galvanized steel (that should be coated or painted both sides), .8 mm aluminum and 16 oz. copper can also be used. Metal flashing should also be re-painted after bending and forming to maintain the uniform integrity of the paint or coating. Different flashing metals are available according to geographic location and climatic variations. Good practice recommendations are to use only those flashing materials that have proven their reliability over time under the specific set of conditions likely to be encountered. To restate, it is important that the chosen flashing material have the same longevity and expected life span as *Moderne Slate* shingles.

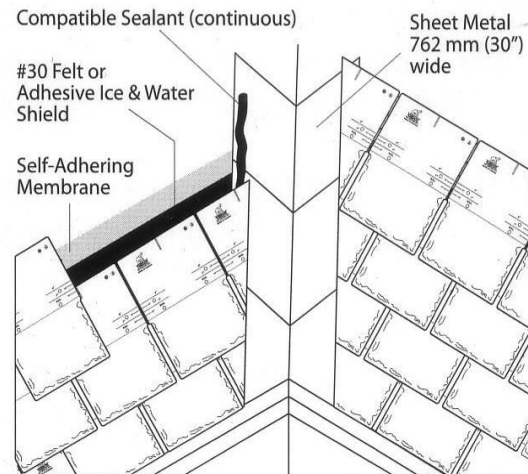


FIGURE 8.

Most roof leaks occur where water is channeled off the roof or where the roof abuts a vertical wall, chimney or other protrusion. At these points, metal valleys, saddles, and flashings are used in conjunction with *Moderne Slate* to keep the roof structure dry.

It is important not to penetrate the flashing within 6" (152 mm) from the centre of the valley flashing. Cut and fit the tiles to provide for a slight taper in the exposure of the metal flashing towards the head of the valley.

For all types of valley installations, a compatible "bed" of structural grade adhesive should be used to prevent the ingress of foreign materials.

For recommended construction details for applying flashings around typical roof projections such as chimneys (See Fig. 9) and vent pipes (See Fig. 10) refer to the illustrations below.

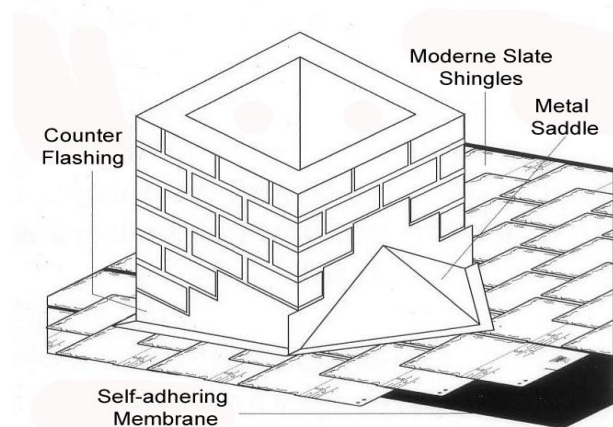


FIGURE 9.

Structural members that protrude through the roof should also be flashed at all intersecting angles to prevent leaks. Step flashing should extend under *Moderne Slate* shingles and up to the vertical surface, and should, in turn, be counter flashed by the application of a second layer of flashing.

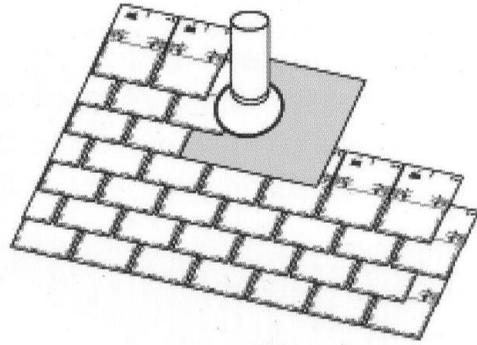


FIGURE 10.

3.8 ROOF VENTILATION

It is essential that your roof be appropriately vented. Without proper ventilation roofs are prone to condensation build up, the primary cause of mold and mildew accumulations as well as roof deck warpage and a deterioration of building materials generally.

All roof structures must be vented in order to allow heat and moisture to escape the otherwise sealed attic area. Vents can be placed proportionally at the eaves, i.e. soffits, (for cold air in) and at or near the ridge (for hot air out), as well as gable ends, (screened to prevent the ingress of insects and small animals).

Cross flow ventilation should be allowed for in valleys where stress skin roof panels or cathedral ceilings are in use. Metal, wood, or extruded polymer ridge vents can all be used for venting applications.

(See Fig. 11)

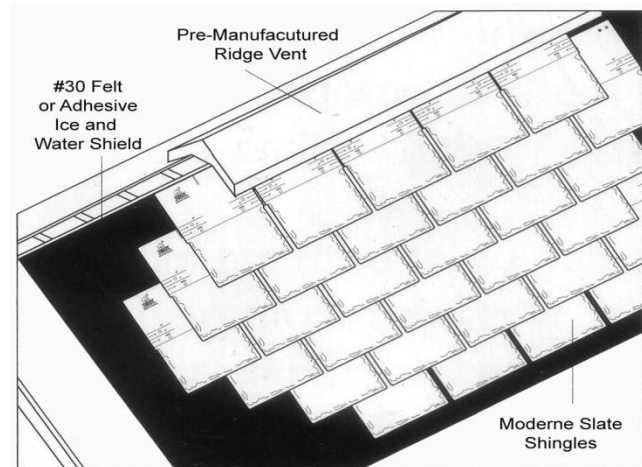


FIGURE 11.

Crown Ridge *Moderne Slate* shingles are available and designed with a living hinge along the centre line allowing the shingle to be formed and positioned to the pitch of the roof; (no additional heat application is required). There are exposure markings on the Crown Ridge shingle as well, and for this application maximum exposure must not exceed 6" (15 cm). When calculating requirements, 2 x Crown Ridge shingles are required per linear foot of hip & ridge.

IMPORTANT: Depending upon the design and type of ridge vent applied, it may be necessary to use longer than the 1 ½" recommended nail fasteners in order to reach through to the roof deck.

3.9 HIP AND RIDGE DETAILS

Intersecting roof surfaces at hips and ridges must be securely capped to ensure a weather tight joint. The Crown Ridge caps described above can also be used for intersecting Hips and, here too, the maximum exposure should not exceed 6" (15 mm), and longer than the standard 1 ½" fasteners may have to be used. (See Fig. 12 and Fig. 13)

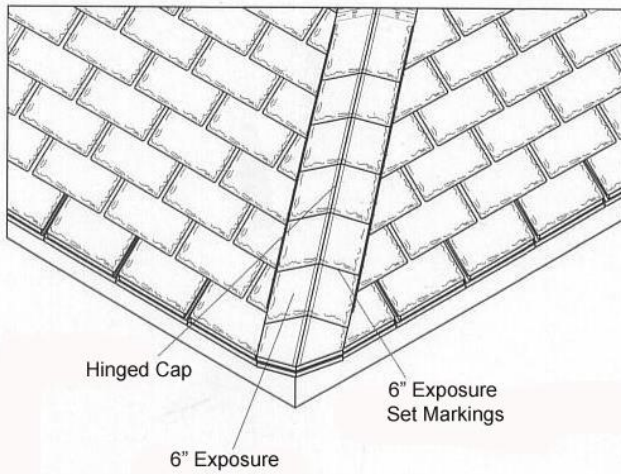


FIGURE 12.

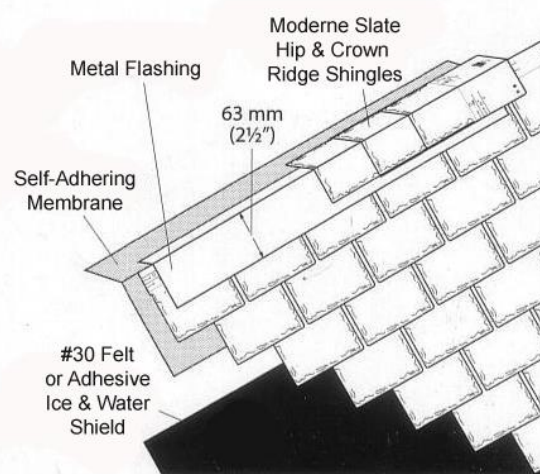


FIGURE 13.

Correct positioning of the Crown Ridge shingles on a Hip intersection can be achieved by marking two parallel chalk lines equidistant from the centre of the intersection and the exposed edges of the shingle should be aligned with these (non-RED) chalk lines.

3.10 REMOVAL & REPLACEMENT

Moderne Slate shingles are manufactured from high impact, long life polymer composites. Typically there should never be a need to replace shingles. However, should the need ever occur due to factors such as poor installation, damage to roof, or re-construction of roof due to house renovations, it is possible to easily remove and replace shingles. (See Fig. 14 and Fig. 15) simply lift up the shingle(s) on

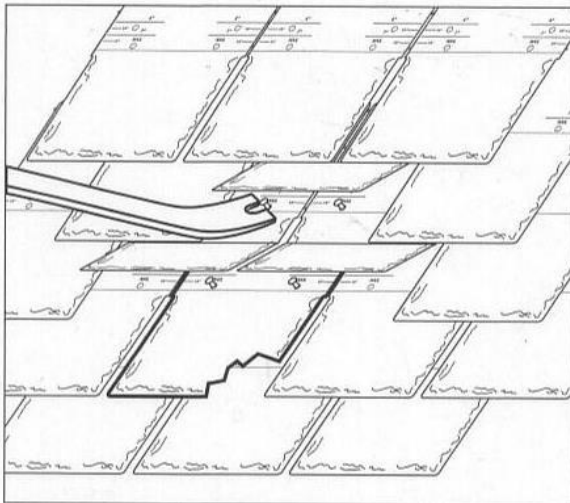


FIGURE 14.

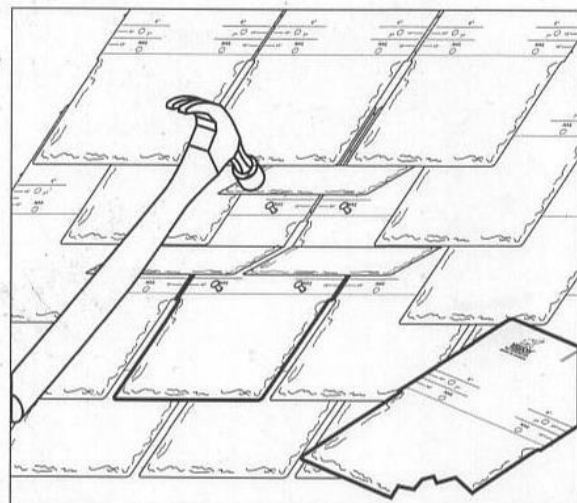


FIGURE 15.

The course above the shingle(s) to be replaced and remove the nail fasteners by means of a crow bar. Keeping the shingle(s) lifted, the replacement shingle can be easily fastened in the same position.

(Consult local representative for further details)

3.11 COLD WEATHER AND SNOW GUARD APPLICATION

Moderne Slate shingles' reinforced high impact polymer composition makes them an excellent roofing material choice in cold weather areas and geographic locations that experience heavy snowfall and severe temperature extremes. As with natural quarried slate, the surface texture of *Moderne Slate* will lead to the discharge and shedding of snow eliminating problems associated with accumulated snow and ice buildup over extended winter month periods, and that can apply extreme weight loads to your roof.

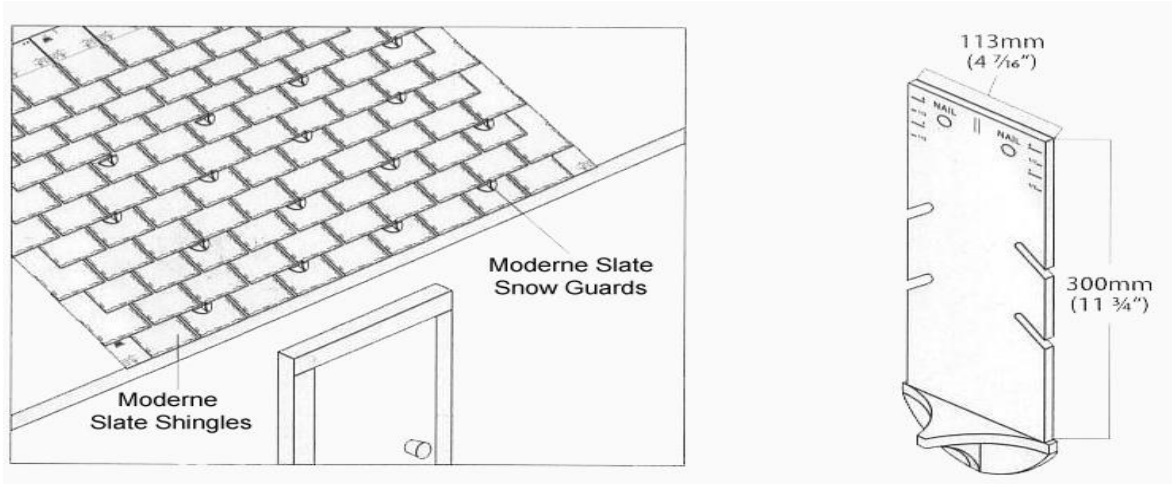


FIGURE 16.

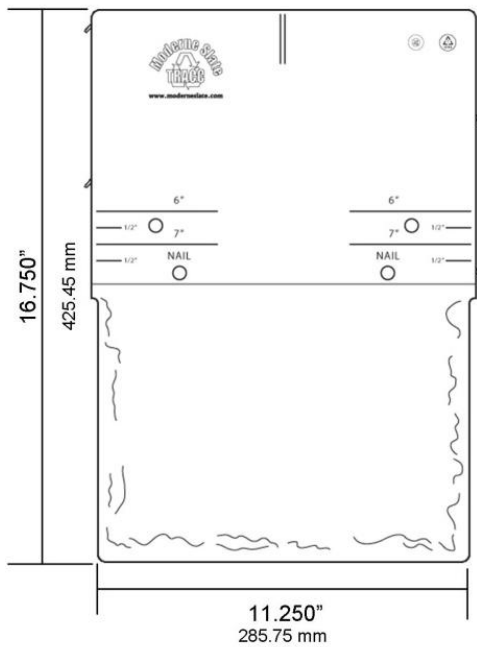
**MODERNE SLATE
SNOW GUARD**

Snow Guards are necessary accessories for roofs in such geographic locations. *Moderne Slate* roofing systems provide a range of color compatible snow guards manufactured from high impact and creep resistant \ engineered polymers. Snow Guards should be placed over door and window openings preventing a discharge of snow over said openings. There is no hard and fast rule for the quantity of Snow Guards required, and their placement.

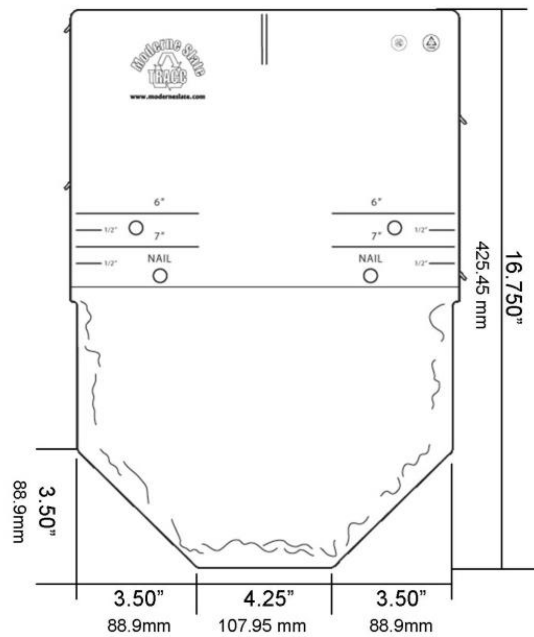
However, as the illustration below demonstrates, a staggered placement across and up (for example, 4 courses) from the exposed opening is recommended. (See Fig. 16)

Snow Guards are easily installed during original roof installation by nailing through the marked holes on top of the slate shingle. For a retrofit installation, slightly lift up one shingle from the course above where the Snow Guard is to be placed and slide it up until one of the angled side slots engages on a nail fastener.

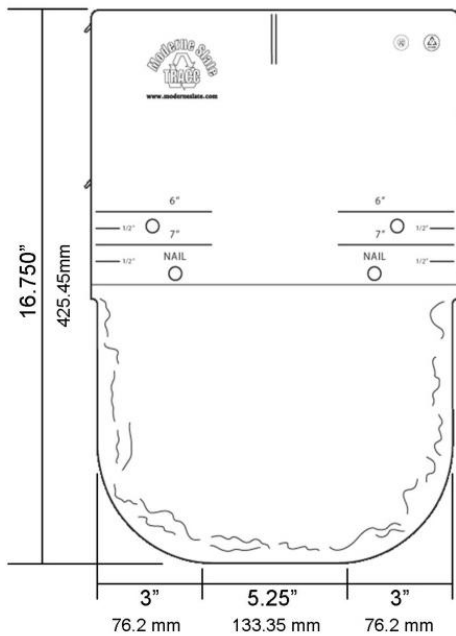
4.0 MODERNE SLATE SHINGLE DIMENSIONS



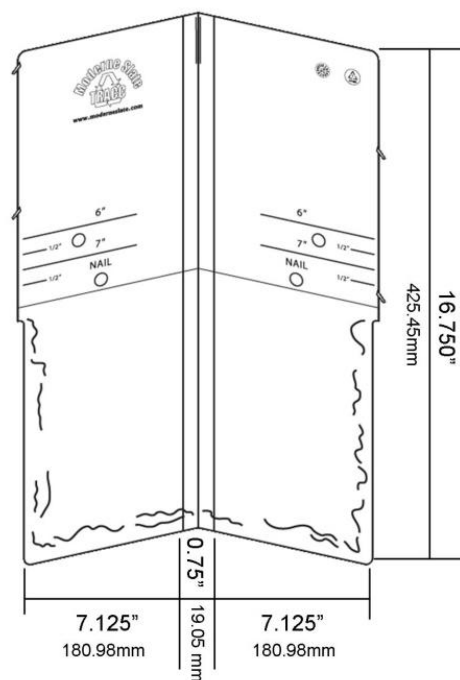
MODERNE SLATE FULL SQUARE



MODERNE SLATE FAN GATE



MODERNE SLATE SCALLOP ROUND



MODERNE SLATE CROWN RIDGE



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