



PLEASE REMEMBER TO BEND AND BLEND TILES

Polymeric Slate Tile Roof System

INSTALLATION GUIDE

This installation guide is written and provided for the use of professional roofing applicators and EcoStar® Gold Star Authorized Applicators. Contact the technical department for information on warranty availability and the requirements and benefits of the Gold Star program.

SPECIAL NOTE

Majestic Slate™ tiles are made in two different formulations; one formula has been tested and listed by Underwriters Laboratories as a Class A and C roofing material (UL 790). Majestic Slate has been tested and listed by Underwriters Laboratories as a Class 4 impact resistance product (UL 2218). To meet the requirements of these tests and their listings the roof system must be installed per this guide.

WARRANTIES

EcoStar warrants this product to be free of manufactured defects at the time of shipment from EcoStar's factory. EcoStar will at its option either supply new product or refund the purchase price of any product found to be defective hereunder.

EcoStar's limited warranties are the only warranties extended by EcoStar with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. EcoStar specifically disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever.

The dollar value of EcoStar's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the EcoStar material in question.

COLOR VARIATION

All tiles come with a shade variation. This shade variation will occur from pallet to pallet and within individual pallets. Application of the product should not begin until **ALL** material has been delivered to the project site. The shade variation has been specifically designed into the product to provide a more realistic appearance to the product. Because of this shade variation the applicator must take precautions to insure that the various shades of the product are properly blended. Tiles must be taken from different pallets and bundles to guarantee consistency in application. Natural weathering will produce further shade variations, even in tiles appearing to be identical in color when new. This product is meant to have a random appearance in shade variations.

NOTE: EcoStar will not be responsible for the improper blending or application of the product.

TEMPERATURE

It is recommended that the tiles not be stored in temperatures lower than 45° F since cold tiles will cause difficulty with the installation. If tiles have been stored in temperatures below 45° F, it is recommended that the tiles be restored to a temperature above 45° F. The tiles will expand and contract with temperature variations. If the tiles are applied while cold, special precautions must be taken to insure a quality looking application. The tiles should never be installed directly against each other. For assistance with installations below 45° F please contact the technical department.

SUBSTRATE

The tiles should only be installed on a minimum of 1/2" plywood decking, 7/16" OSB or minimum 1" tongue and groove decking with gaps not exceeding 1/4". Contact the technical department for approved alternatives. Under all circumstances existing roof materials must be removed down to the deck, prior to installation.

SLOPE

The tiles are not recommended for slopes less than 3/12. If this is desired, contact the technical department for review. On roof slopes less than 6/12, the tiles must be installed with a maximum 6" exposure. On roof slopes of 6/12 or greater, the tiles may be installed with a 6" or 7" exposure.

UNDERLAYMENT

Prior to installation, **Glacier Guard™** or equal must be applied to all eaves, rake edges, hips, valleys, and projections. Then cover the remaining exposed deck with **Aqua Guard** or equal. If a Class A listing is required, GP Gypsum Corporation's DensDeck® roof board or Elk's VersaShield® underlayment must be used. For a Class C listing, U L listed **Aqua Guard** or equal can be used. If EcoStar brand underlayments are used, they are included within the terms of the warranty. **Gold Star Warranty** application requires the use of **EcoStar's Glacier Guard** and **Aqua Guard** underlayment.

FASTENERS

Stainless steel roofing nails are recommended for application of the tiles. If **EcoStar Fasteners™** are used they are included within the terms of the warranty. **Gold Star Warranty** application requires the use of **EcoStar Ring Shank Fasteners**. Hand drive and pneumatic coil nails are available.

FLASHING MATERIAL

EcoStar recommends that flashing be either copper or stainless steel. Flashing metal, however, is not covered by any EcoStar warranty. Like materials should be used when fastening metal flashings



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INSTALLATION STEPS

EcoStar makes every effort to maintain the quality and consistency of all products, however, shade variations will occur within all tile products. **Due to these shade variations it is extremely important that all members of the installation crew be aware of the fact that tiles must be blended between bundles and pallets.** The entire lot of material must be blended evenly in rotation until all material is used. EcoStar recommends that a member of the crew be assigned the responsibility of blending tiles and insuring that no shade patterning or blotching occurs. This can best be accomplished by making periodic inspections of the roof from the ground.

Majestic Slate tiles are designed and manufactured to duplicate the look and feel of natural slate including the variations in color and texture.

1. Install **Glacier Guard** in all valleys, eaves, rake edges, hips, ridges and projections. **Gold Star Warranty** application requires the use of **Glacier Guard**.

2. Install a minimum of 30 lb. felt over the remaining area of the deck surface. If a Class C roof is required, the 30 lb. felt or equal must be UL Listed. **Gold Star Warranty** application requires the use of **EcoStar's Aqua Guard** underlayment.

3. Install metal edging at eaves and rake edges. Any corrosion resistant metal edging is acceptable. Copper and stainless steel are recommended. It should be noted that all EcoStar Warranties do NOT cover metal flashing.

Note: When using copper and stainless steel flashing material the appropriate corresponding nails should be used.

4. A critical step is **BENDING**. Every tile that is installed must be bent in a downward arch before applying it to the roof deck. Whatever position the tile is in when fastened to the roof deck, is the position it will maintain. It is recommended that each member of the installation crew be instructed on how to bend the tile to insure that it lies flat when fastened to the roof deck. While grabbing the top of the tile (textured side up) with the right hand and the bottom edge of the tile with the left hand, bend the tile in a downward motion until the tile maintains arch. The tiles must be curved under when installing.

5. Beginning at the eave edge, install a starter row of tiles with two nails per tile (in location shown on tiles). 1-1/2" long stainless steel roofing nails are recommended. When EcoStar brand nails are used they are covered by the EcoStar Warranty. **Gold Star Warranty** application requires the use of **EcoStar Ring Shank Fasteners**.

6. If a pneumatic nailer is utilized for application of the tiles, care should be taken to determine that the proper pressure and depth setting is being used. Nails can be over driven causing tiles to lift and diminish the quality of the installation.

7. The initial layer of tiles becomes the starter row. This layer will be completely covered by the next row to be installed. The starter row may be installed either front side up or back side up. When the first course of tile is installed, tiles must be offset at least half a tile to cover the nails from the previous row.

WHEN THE ROOF SLOPE FALLS BELOW A 6/12 PITCH, A 6" EXPOSURE MUST BE USED. AT A 6/12 PITCH OR GREATER, THEN 6", 6-1/2" AND 7" EXPOSURE MAY BE USED.

8. **CAUTION:** Do not install the tiles with an upward curl. Whatever position the tile is in when fastened to the roof deck, it will maintain that position. It is required that each member of the installation crew be instructed on how to bend the tile manually to insure that it lies flat when fastened to the roof deck.

9. As the tiles are installed up the roof, the tile must be cut at rake edges, valleys and projections. The tiles may be cut using a straight edge and a utility or roofing knife. Once the tile has been scored

with a knife it can be snapped along the scored line.

10. As the tiles are installed up the roof slope, it is recommended that lines be snapped both horizontally and vertically. The horizontal lines will keep the tiles looking straight and uniform. The vertical lines will keep the space between the tiles in line from row to row. **DO NOT USE RED CHALK. Red chalk will stain the tiles.**

11. **CAUTION:** As the tiles are installed up the slope of the roof, the installation should be constantly checked from the ground to ensure there is no patterning developing and proper blending is occurring. **Gold Star Warranty** application requires that the Authorized Applicator correct any blending problems prior to issuance of the warranty.

12. Continue to install the tiles up the roof slope. Be sure to place the nails directly in the position noted on the tiles. Stainless steel nails are recommended. If **EcoStar Fasteners** are utilized they will be covered by the warranty. **Gold Star Warranty** application requires the use of **EcoStar Fasteners**. At no time should any tile be placed directly against any other tile. A minimum of 3/8" is required between tiles.

When using pneumatic nailing equipment, frequently check both the depth and pressure setting, so nails are not over driven, causing tiles to lift. Lifted tiles will diminish the aesthetic appearance of the finished roof system.

For 10" Majestic Slate tiles, there are two ways to install: 1) the entire project is 10" tile and the installation is the same as the current 12" specification or 2) for a 10"/12" blend, mix the two sizes together for desired random width look. Take caution when installing to ensure enough coverage past nail heads of previous course. If a staggered pattern is installed it must be installed at 5" & 6" to ensure that nails are not missing tiles below.

Tiles can be slippery when wet, caution should be exhibited with early morning dew and after rain. EcoStar suggests the use of toe boards, OSHA approved harnesses and safety equipment at all times.

13. When all tiles have been applied to the roof slopes, the pre-formed Universal Hip & Ridge tiles are applied to all hips and ridges. Universal Hip & Ridge tiles are always installed with a 6" exposure with 2" or 2.5" nails per tile. The use of ridge vent will require 2.5" nails. Before installing the Universal Hip & Ridge tiles at the ridge, roof venting should be installed. Ridge venting systems are highly recommended. Mushroom cap style vents may be used, but ridge venting provides better venting and improves the aesthetic appearance of the roof system. **Gold Star Warranty** application requires the use of **EcoStar EcoVent** for ridge ventilation.

14. As work progresses up roof slopes care should be taken to minimize traffic over completed areas of the roof. The tiles will show any mud or dirt tracked across them. This will cause aesthetic issues with the completed appearance of the roof. It is the responsibility of applicator or building owner to remove this mud or dirt. A mild detergent should be used in combination with a bucket of water and soft bristle brush to remove the mud or dirt. Clean water can then be used to finish the cleaning process. Do not use any chemicals or solvents without first checking with the EcoStar technical department. EcoStar Universal Cleaner/Primer may be used for those situations where a chemical cleaning solution is required. **EcoStar is not responsible for the cleaning of any tiles.**

15. Upon completion of the installation it is recommended that all debris and dirt be cleaned off the roof system. When cleaning the roof tiles DO NOT USE CHEMICALS OF ANY KIND! EcoStar recommends that the roof be cleaned using water and a mild detergent. Clean the tiles using a soft bristled scrub brush. Please note that EcoStar is not responsible for cleaning of the tiles.

PRODUCT IDENTIFICATION

This area provides identification of the product and a toll free contact telephone number for questions or assistance with the product and installation.

IMPORTANT INFORMATION

This area of the tile provides pertinent information about installation and the need to use a trained applicator to install the product.

QUALITY INFORMATION

This area of the tile is used by the production department to denote the date the part was manufactured. This allows tracking of quality by production time. This information may be found on the front or back of the tile.

INSTALLATION MEASUREMENT

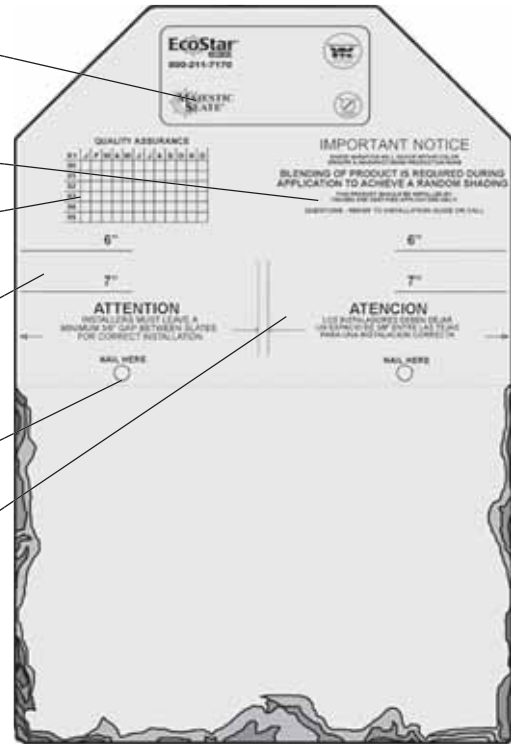
Two marks are molded into every tile. When these marks are placed in alignment with the top edge of the previous row of tiles, proper tile exposure is provided automatically.

TILE FASTENING

Molded into each tile is a fastener locator. This assists during installation for proper positioning of the fastener.

GAP

During installation the tiles must be placed a minimum of 3/8" apart. Tiles must never be installed directly adjacent to each other. This area of the tile states this in both English and Spanish.

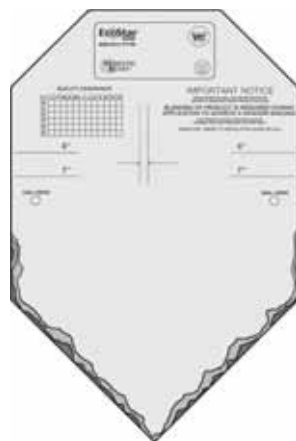


Majestic Slate - Traditional Design
(Available in 10" and 12")



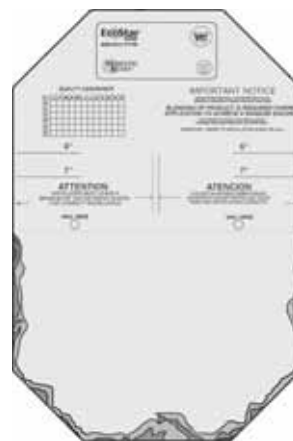
Majestic Slate
Traditional Design

10" wide x 18" long



Majestic Slate
Chisel Point Design

12" wide x 18" long



Majestic Slate
Beveled Edge Design

12" wide x 18" long



Majestic Slate
Beaver Tail Design

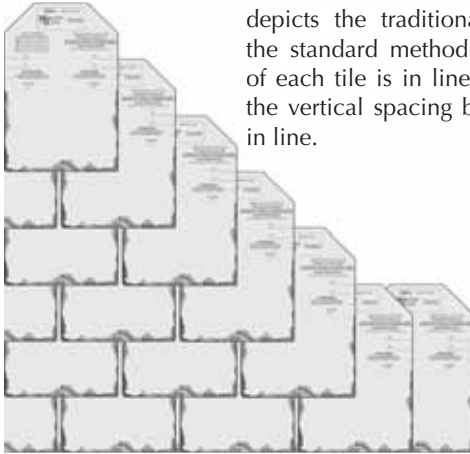
12" wide x 18" long

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Majestic Slate Traditional Design

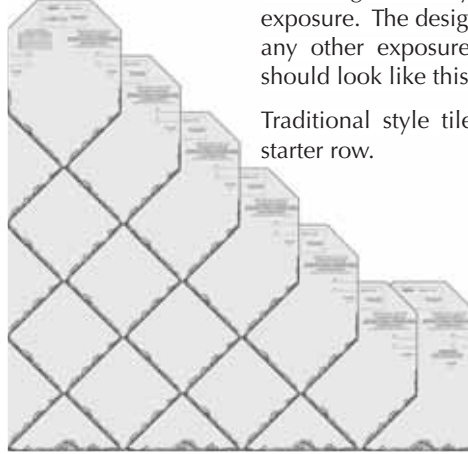
Standard Installation: This drawing depicts the traditional tile installed in the standard method. The bottom edge of each tile is in line with the next and the vertical spacing between the tiles is in line.



Majestic Slate Chisel Point Design

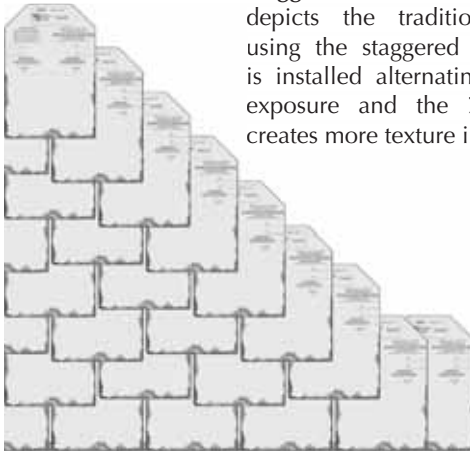
This design can only be put down using a 6" exposure. The design will not accommodate any other exposure. The installed product should look like this drawing.

Traditional style tiles must be used as the starter row.



Majestic Traditional Design

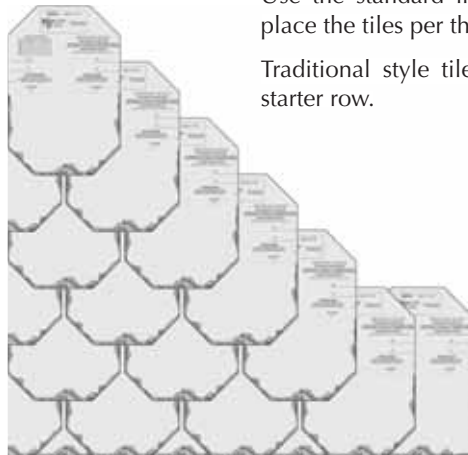
Staggered Installation: This drawing depicts the traditional tile installed using the staggered method. Each tile is installed alternating between the 6" exposure and the 7" exposure. This creates more texture in the roof system.



Majestic Slate Beveled Edge Design

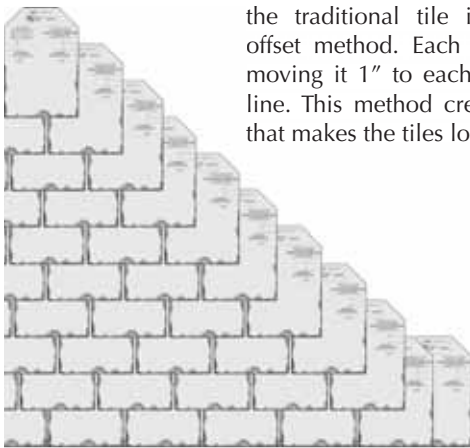
Use the standard installation methods and place the tiles per this drawing.

Traditional style tiles must be used as the starter row.



Majestic Slate Traditional Design

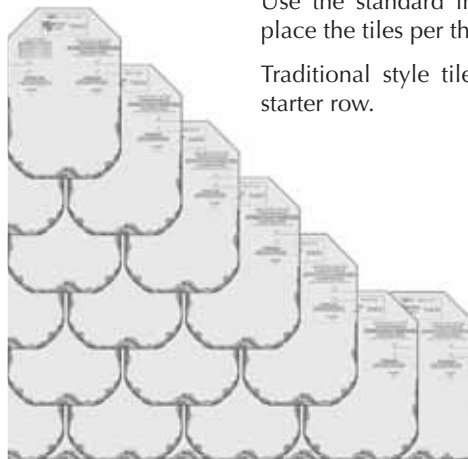
Offset Installation: This drawing depicts the traditional tile installed using the offset method. Each tile is installed by moving it 1" to each side of the center line. This method creates a roof system that makes the tiles look different sizes.



Majestic Slate Beaver Tail Design

Use the standard installation methods and place the tiles per this drawing.

Traditional style tiles must be used as the starter row.



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