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**MAJESTIC SLATE – CLASS A
ECOSTAR GOLD STAR ROOF SYSTEM
SPECIFICATIONS 07319.1**

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SPECIFICATION 07319.1
MAJESTIC SLATE – CLASS A
ECOSTAR GOLD STAR ROOF SYSTEM

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Furnish and install Majestic Slate – Class A Tile Roofing System as specified in the Contract Documents and roof plan.
- B. Furnish and install this Majestic Slate – Class A Tile Roof System in strict accordance with specifications and drawings approved by EcoStar.
- C. Related Work
 - 1. Metal flashing work is not covered in this specification since EcoStar does **NOT** warrant metal flashing. EcoStar advises that metal flashing and securement of metal should be to industry standards (SMACNA) to prevent the metal from pulling free or buckling. EcoStar also suggests that all flashing metal be copper, stainless steel or an equally long-term material.
 - 2. EcoStar Attic Guard Ridge Ventilation product must be used on those projects that will be using a ridge ventilation system. If a ridge ventilation system is not to be used on the project, another form of ventilation may be used, but will not be covered by any EcoStar warranties. EcoStar advises that a ridge style venting system be utilized to insure the best possible air movement and to provide the best aesthetic appearance to the roofing system.

1.02 QUALITY ASSURANCE

- A. To qualify for an EcoStar Gold Star Warranty, an authorized EcoStar Gold Star Applicator must install system.
- B. There shall be no deviation made from this specification without written approval from EcoStar prior to the start of the roofing project.
- C. For an EcoStar Gold Star Warranty, upon completion of the installation, an inspection must be conducted by a Technical Representative of EcoStar to ascertain that the roofing system has been installed according to EcoStar's most current published specifications and details. This inspection is not intended to be a Final Inspection for the benefit of the Owner, but for the benefit of EcoStar to determine whether a warranty shall be issued.
- D. It is the authorized Gold Star roofing applicator's responsibility to adhere to all applicable building codes (local and national) and to have or acquire the appropriate licenses and permits for the roofing system installation requirements and limitations in their local areas applicable at the time of the bid.
- E. Specific testing requirements:
 - 1. Class A Fire Resistance – UL 790 Test Standard
 - 2. Class 4 Impact Resistance – UL2218 Test Standard

1.03 SUBMITTALS

- A. Submit an “EcoStar Gold Star Project Survey” to EcoStar Technical Department for approval **PRIOR** to the job start to enable the Technical Department to approve and assign a job number to the project.
 - 1. The “EcoStar Gold Star Project Survey Form” must be filled out completely and accurately to include any prior deviations approved from this specification, including a roof drawing showing all dimensions, all penetrations, and roof slope.
- B. When an EcoStar Gold Star Warranty is desired, EcoStar must be contacted **PRIOR** to project bid and installation. Information may be required for wind design and slope requirements.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original unopened packages.
- B. Packages shall be labeled with manufacturer’s name, brand name, installation instructions and identification of various items.
- C. All tile materials must be stored between 45° F. and 80° F. If exposed to lower temperatures, restore to 45° F minimum temperature before using.
- D. Store all materials in a dry protected area. Damaged materials must **NOT** be used. Installed materials found to be damaged shall be replaced at Gold Star Authorized Applicator’s expense.

1.05 JOB CONDITIONS (CAUTIONS AND WARNINGS)

- A. Contact EcoStar Technical Department for procedures when installing a Majestic Slate – Class A Tile Roof System during temperatures less than 45° F.
- B. Do not install the Majestic Slate – Class A Tile Roof System directly over existing asphalt shingles or existing tile roof systems. All existing roof materials **MUST** be removed prior to installation of the Majestic Slate – Class A Tile System.
- C. Roofing surface must be free of ice, water, or snow prior to and during the roofing project.

1.06 WARRANTY

- A. EcoStar will provide the Gold Star Warranty for those materials supplied by EcoStar when the project is completed by an authorized EcoStar Gold Star Applicator and all required materials have been utilized within the roof system.
- B. Only when an EcoStar Technical Representative has inspected and approved the completed installation will an EcoStar Gold Star Warranty be issued.
- C. The warranty is available for all types of buildings and structures.
- D. The warranty period is expressed on the warranty certificate, which reflects the inclusive dates of coverage.
- E. The warranty does **NOT** cover the aesthetic appearance of the Majestic Slate – Class A Tiles. Care should be taken by the EcoStar Authorized Gold Star Applicator to insure that proper blending of the tiles occurs. When improper blending occurs the aesthetic appearance of the roof can be effected negatively. Blending should occur from a minimum of seven bundles from each pallet. It is highly suggested that **all** material be on site to blend from.

PART 2 – PRODUCTS

2.01 GENERAL

- A. All Components of the Majestic Slate – Class A Tile Roof System are to be products manufactured or supplied by EcoStar, a Division of Carlisle SynTec Incorporated.

NOTE: Only products supplied by EcoStar, a Division of Carlisle SynTec Incorporated are included in the warranty unless otherwise specified and approved in writing by EcoStar, a Division of Carlisle SynTec Incorporated.

2.02 TILES

- A. Majestic Slate – Class A Tiles made of **Starloy™**, 100% recycled rubber & plastic compound, 12" wide by 18" long with a nominal thickness of 1/4". Weight shall be determined by the following acceptable tile exposures:
- | | | |
|---------------------------------|---|--------------------------|
| <input type="checkbox"/> 7" | = | 258 - 276 lbs per square |
| <input type="checkbox"/> 6-1/2" | = | 278 - 294 lbs per square |
| <input type="checkbox"/> 6" | = | 300 - 321 lbs per square |
- B. Majestic Slate – Class A Tile color selection shall be made prior to bid opening and shall conform to one of the following colors:
- | | | | | |
|------------------------------------|--|---------------------------------------|---|--------------------------------------|
| <input type="checkbox"/> Black | <input type="checkbox"/> Midnight Gray | <input type="checkbox"/> Federal Gray | <input type="checkbox"/> Smoke Gray | <input type="checkbox"/> Earth Green |
| <input type="checkbox"/> Stone Red | <input type="checkbox"/> Mountain Plum | <input type="checkbox"/> Cedar Brown | <input type="checkbox"/> Chestnut Brown | |

2.03 RELATED MATERIALS

- A. Underlayment
1. VersaShield – One layer of Elk VersaShield meeting or exceeding the requirements of ASTM D226.
 2. Glacier Guard Ice & water underlayment –Granular Surface (55 mil), Smooth Surface (40 mil), or Smooth Surface High Temperature (40 mil), a composite membrane consisting of fiberglass reinforced rubberized asphalt laminated to an impermeable polyethylene film layer (Smooth Surface & Smooth Surface High Temperature) or coated with a granular surface providing maximum skid resistance (Granular Surface).
- B. Fasteners
1. VersaShield
 - a. Roofing nails with one inch (1") diameter round or square head, plastic or metal, and 3/4" long shank. Metal parts of fastener are to be corrosion resistant.
 2. Tile Fasteners
 - a. EcoStar Roofing Nail with a 3/8" diameter head and a minimum of 1-1/2" long shank made from stainless steel. Nails can be supplied either as a hand drive style or in coils for use in pneumatic tools.

NOTE: EcoStar Roofing Nails when used in the Majestic Slate – Class A Roof System are included in the EcoStar Warranty.

PART 3 - EXECUTION

3.01 SUBSTRATE CRITERIA

- A. The Building owner or Owner's Representative is responsible for providing and determining that the substrate is suitable to receive the Majestic Slate – Class A Tile Roof System and the authorized EcoStar Gold Star Applicator should not proceed until all defects have been corrected.
- B. The Majestic Slate – Class A Roof System may only be applied over:
 - 1. Minimum ½" plywood or OSB decking
 - 2. Minimum 1" tongue and groove wood decking
 - 3. Approved metal deck systems – for specifics contact EcoStar Technical Department.
- C. Minimum slope of substrate for installation of Majestic Slate – Class A Roof System shall be a minimum of 3/12 for 6" exposure installation and a minimum of 6/12 for 7" exposure installation. Contact the EcoStar Technical Department for approval of applications on lower slopes or exceptions to this requirement.

3.02 SUBSTRATE PREPARATION

- A. The Building Owner or Owner's Representative is responsible for ensuring that all wet or damaged substrate has been removed in a re-roofing application.
- B. Existing roof material **MUST** be removed and a clean substrate free of foreign material be provided prior to the installation of the Majestic Slate – Class A Tile Roof System. Majestic Slate – Class A Tiles may **NOT** be installed directly over any existing roof material or system.

3.03 INSTALLATION

- A. Flashing & Sheet Metal – Install sheet metal and flashing metal in all valleys and where required on projections furnish in accordance with Section 07634.
- B. Where required, install metal starter strip at all eaves and roof edges. Furnish metal in accordance with Section 07634.
- C. EcoStar suggests that all metal work be made from copper, stainless steel or an equally long-term material.
- D. Underlayment.
 - 1. Glacier Guard Ice and water underlayment:
 - a. Lap end joints 6" and side joints 3.5"
 - b. Apply continuous 36" wide sheet in valley centered over valley.
 - c. Apply rows of 36" wide sheets along all eaves and rakes. Lap end joints 6" and side joints 3.5".
 - d. Apply rows of 36" wide sheets along and around all dormers and roof projections. Lap end joints 6" and side joints 3.5".
 - e. When applicable install as far as it can be installed on any head walls or vertical walls a minimum of 12".

- f. Do not leave Glacier Guard Granular Surface exposed to weather more than 14 days after beginning of installation. Do not leave Glacier Guard Smooth Surface exposed to weather more than 30 days after beginning of installation. Do not leave Glacier Guard Smooth Surface High Temp exposed to the weather more than 60 days after the beginning of installation.

2. VersaShield

- a. Apply 42" wide sheet over complete deck, covering the entire roof deck **INCLUDING** those areas with Glacier Guard Ice & Water underlayment. Lap end joints 4" and side joints 6".
- b. Lap the VersaShield 6" from both sides over all hips, valleys, and ridges.
- c. Where the roof meets a vertical surface, carry the VersaShield 3" to 4" up the surface.
- d. Do not leave exposed to weather more than **30** days after beginning of installation without written approval of owner.
- e. Do not leave any fastener heads exposed. Nail only in areas to be covered by lapping of underlayment.

E. Majestic Slate – Class A Tile Installation

- 1. After installing underlayment and before installing the Majestic Slate – Class A Tiles, clean the surface of debris and dirt.
- 2. Beginning at the eave, install a layer of Majestic Slate – Class A tiles gapped a minimum of 3/8" between tiles and any projections, with two roofing fasteners per tile (in location shown on tiles). This layer of tiles will become the starter row. Install another layer of tiles in the same manner as the first with the exception of the second layer having a 1/2 tile offset to the first layer.
- 3. Continue installing tiles per the chosen exposure.
- 4. Care must be taken to place tiles so color variations are evenly distributed over the entire roof area. Tiles between bundles and pallets **MUST** be shuffled to insure even distribution of color variations. "Patchy" or "Blotching" in appearance is not acceptable and the EcoStar Authorized Gold Star applicator will be required to correct. It is recommended that work not begin until all EcoStar materials have been delivered to the job site.
- 5. It is the responsibility of the Gold Star Authorized Applicator to insure that all Majestic Slate – Class A Tiles are bent back in a downward curve prior to installation. **Do not install tiles with an upward curve.**
- 6. Either an open or closed valley design may be used.
 - a. With an open valley design leave a minimum of 2" on each side of the center of the valley exposed and uncovered by the roof tiles. A V-Style or W-Style Valley metal may be used.
 - b. With a closed valley design cut the tiles in a straight line to fit no closer than 3/8" against tile of adjoining roof slope.

7. Minimum Fastening – No less than 2 EcoStar Fasteners per tile shall be used with a minimum length of 1-1/2”.
8. CAUTION: When using a pneumatic nailer care should be taken to insure that nails are not over driven causing the tiles to curl upward. If tiles have been installed with over-driven nails causing the ends of the tile to curve upward, tiles will never lay flat. Over-driven tiles must be removed and re-nailed properly.
9. Install EcoStar Attic Guard ridge vent system per the manufacturer's application instructions, and then place the Majestic Slate – Universal Hip/Ridge Tile over the ridge vent. A minimum 2.5” stainless steel, hand-driven EcoStar fastener should be used on a ventilated hip/ridge to fasten the hip/ridge tile to the deck. A minimum 2” stainless steel, hand-driven EcoStar fastener should be used on an unventilated hip/ridge to fasten the hip/ridge tile to the deck. Place fasteners in the location marked on the tile. Majestic Slate – Universal Hip/Ridge Tile must be installed with 6” exposure.
10. Majestic Slate – Class A Tiles may not be installed if the tiles have been stored in temperatures lower than 45^o. If tiles have been stored in temperatures below 45^o F., tiles must be brought back to an ambient material temperature of 45^o F. As the temperature rises Majestic Slate – Class A will expand beyond the designed installation pattern if the product is installed while cold or frozen.
11. Do not install tiles directly adjacent to each other. A minimum gap of 3/8” must be maintained between installed tiles.
12. After the initial row of tiles has been installed, it is recommended that a chalk line be placed parallel to the roof edge and running perpendicular to the first row of tiles. This chalk line will insure that the tiles stay true and plumb to the roof edge throughout installation.
13. Care must be taken to minimize foot traffic over completed areas of the roof. Majestic Slate – Class A tiles will show mud and dirt and cause appearance problems. The removal of dirt and debris is the responsibility of the applicator.
14. Majestic Slate – Class A Tiles can be slippery when wet, caution should be exhibited with early morning dew and after rain. EcoStar suggests the use of toe boards and OSHA approved harnesses and safety equipment at all time.
15. Upon completion of the roof system installation, inspect and remove all debris from roof, sweep clean and wash with a mild, non-bleaching detergent.