

Slate Roofing Specifications

Section 07310 – Slate Shingles

1.01 Installation Assurance

1. Slates shall be installed by skilled and experienced roofers who will fit and fasten each slate. Each roofer proposed for the Project should be interviewed to determine that person's relevant experience.

1.02 Certificate

1. Vermont Structural Slate Company ("VSS") shall furnish a certificate stating that materials used for the Project strictly adhere to the provisions of these specifications. The certificate shall also state that any required roof repairs resulting solely from defective materials or workmanship by VSS furnished under this contract shall be made without cost to the owner for a period of two years.
2. The roofer awarded the Project shall order the slate within thirty (30) days of receiving a contract. The architect shall promptly receive written confirmation of said order from VSS.

1.03 Project Conditions

1. The roofer shall proceed with slate shingle installation only after all penetrating work has been completed correctly, the substrate is dry, and weather conditions are favorable.

2.01 Roofing Slate

A. Material

1. Classification: Slate shall meet the requirements of Grade S1 per ASTM C-406-06.
2. Color: Select color(s) bearing in mind the slate's weathering characteristics. There are three broad classifications of weathering characteristics: "unfading", "semi-weathering" and "weathering". Unfading slates will hold their basic color

after many years; weathering slates will change color (usually to brownish tones) over time. Contact VSS for samples and slate matching services.

3. Roof Style: Standard, textural and graduated roofs are available. Standard roofs are sloping roofs utilizing one length and one thickness, with uniform or random widths. Textural roofs are sloping roofs utilizing various sizes, thicknesses, textures and colors for architectural effects. Graduated roofs are sloping roofs utilizing a greater range of sizes, thicknesses and exposed lengths of shingles. The slates are arranged on the roof so that the thickest and longest occur at the eaves and gradually diminish in size and thickness toward the ridges. It is possible to graduate the lengths only. Contact VSS for assistance in generating detailed roof plans and sketch details.
4. Size: Specify length(s) and width(s). Common lengths are 20 inch, 18 inch, 16 inch, 14 inch and 12 inch. Common widths are 12 inch, 10 inch and 8 inch. Specify a uniform width or random widths.
5. Shape: Slate shingles shall be rectangular unless otherwise specified.
6. Exposure: A function of shingle length and headlap. Graduated exposures are available.
7. Headlap: A function of roof pitch. 3 inch headlap is standard.
8. Thickness: Select nominal thicknesses of 1/4 inch, 3/8 inch, 1/2 inch, 3/4 inch or custom thickness. Contact VSS for various weights per square.
9. Nail Holes: Each slate shall be machine punched or drilled for two nails located for proper headlap.

B. Physical Requirements

1. Slates with a strong grain must be produced "on the grain", that is, the direction of the grain of the stone must be parallel to the long dimension of the shingle. Slates shall be randomly selected from each shipment and tested for grain direction to ensure proper fabrication.
2. Slates with broken corners on the exposed ends shall not be installed when either the base or leg of the right triangular piece broken off is greater than 1 1/2 inches. Slates with broken corners are acceptable for cutting stock.

3. The curvature of shingles shall not exceed 1/8 inch in 12 inches. Curved slates shall be trimmed and holed to permit them to be laid with the convex side facing up.
4. "Knots" and "knurls" are rounded defects that affect the smoothness of split. They are acceptable on the exposed portion of the top face but on other parts will prevent close contact of shingles. Shingles having knots or knurls on the covered portions projecting in excess of 1/16 inch shall not be used if they prevent proper fit and contact.
5. Slates shall be free from ribbons.
6. Not more than 1% of broken slates, including those having cracks materially precluding ringing when sounded, shall be accepted.
7. Face dimensions shall not differ from those specified by more than 1/8 inch.

C. Approved Slate Supplier

1. The slate shall be furnished by:

Vermont Structural Slate Company ("VSS")

3 Prospect Street

Fair Haven, Vermont, USA

Telephone 1 800 343 1900 or 802 265 4933

Fax 802 265 3865

Email info@vermontstructuralslate.com

Website www.vermontstructuralslate.com

2.02 Roofing Felt

1. The roofer shall use 30 pound asphalt saturated rag felt per ASTM D 226.

2.03 Nails

1. The roofer shall use large head slaters' solid copper nails, 1 1/2 inch or longer for field, and 2 inch for slates on hips and ridges. Nails should adequately penetrate the roof deck.

2.04 Caulking

1. The roofer shall use approved waterproof elastic slaters' cement, color to match slate.

2.05 Flashing

1. The roofer shall use copper flashing in accordance with Section 07600.

3.01 Roofing Felt Installation

1. The Roofer shall lay the felt in horizontal layers, with joints lapped toward the eaves at least 2 inches. The felt shall be well secured along laps and at ends as necessary to properly hold the felt in place and protect the structure until the slate has been installed.
2. The Roofer shall lap the felt over all hips and ridges at least 12 inches to form double thickness.
3. The Roofer shall lap the felt 2 inches over the metal of any valleys or built-in gutters.

3.01.1 Membrane Waterproofing Installation

1. The roof decks shall be treated with a self-adhering membrane of rubberized asphalt integrally bonded to polyethylene sheeting (Ice & Water Shield, manufactured by W.R. Grace & Co.). Follow manufacturer's literature for membrane application. Areas to be sheeted with membrane are hips, eaves, low slope areas, all slope changes or tie-ins and protrusions through the roof.

3.02 Slate Installation

1. Select either "saddled" or "mitred" hips.
2. All ridges shall be laid to form "saddled" ridges. Nails of the combing slate shall pass through the joints of the slates beneath.
3. Select either "open" or "closed" valleys.
4. Slate shall project 2 inches at eaves and 1 inch at gable ends, and shall be laid in horizontal courses with 3 inch headlaps, and each course shall break vertical

joints with a minimum of 3 inch sidelap. Starter or "undereave" slates and slates at the ridge shall be canted 1/4 inch by a wooden cant strip which shall be provided by the roofer.

5. Nails shall not be driven as to produce strain on slates. The slate shall be loose when fully nailed. If this is not executed properly, building movement could draw the nail head through the slate.
6. Because roofing slate varies in terms of color shade, texture and weathering characteristics, the roofer shall draw slates from several pallets at once (shuffle) so as to blend the material on the roof.
7. Exposed nails are only permissible at the top courses where unavoidable. Exposed nail heads shall be covered with elastic cement. Hip slates and ridge slates shall be laid in elastic cement spread thickly over unexposed surface of under courses, nailed securely in place, and pointed with elastic cement.
8. All penetrations such as pipes and ventilators shall have slate neatly fitted around them.
9. The roofer shall build in, and place, all flashing pieces. Each course of slate shall have copper step-flashing neatly woven into the slate.
10. Entire surfaces of all roofs, except as noted, shall be covered with slate in a proper and weatherproof manner. Upon completion, all slates must be sound, whole and clean. The roof must be left watertight and neat in every respect, and subject to the architect's approval.
11. The owner shall be furnished with a stock of 2% extra slates for future roof repairs.