# CITY OF LOS ANGELES

CALIFORNIA







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RESEARCH REPORT: RR 25612
(CSI 07320)

BASED UPON ICC ES EVALUATION
REPORT NO. ESR-1841
REEVALUATION DUE DATE:
May 1, 2010
Issued Date: June 1, 2009
Code: 2008 LABC

**GENERAL APPROVAL** – Lamarite Slate Composite Shingles as a Class A Roofing.

**DETAILS**

The above assemblies and/or products are approved when it compliance with the description, use, identification and findings of Report No. ESR-1841, dated June 1, 2008, of the ICC Evaluation Service, Incorporated. The report, in its entirety, is attached and made part of this general approval.

The parts of Report No. ESR-1841 marked by the asterisks have been removed by the Los Angeles Building Department from this approval.

**The approval is subject to the following conditions:**

1. For all new construction, including additions, the shingles shall be installed over 15/32-inch thick exterior grade wood structural panel.

2. Reroofing applications shall comply with Section 1507 of the 2008 Los Angeles City Building Code. Where spaced sheathing exist, a minimum 15/32-inch thick exterior grade wood structural panel shall be installed prior to roofing installation.

3. The installation in high wind areas shall conform to Information Bulletin P/BC 2008-16.

4. Except as specified herein, installation of the shingles shall be in accordance with the manufacturer's instructions. A copy of the installation instructions and this research report shall be available at each job site.

**DISCUSSION**

The report is in compliance with the 2008 Los Angeles City Building Code.

The approval is based on tests.

This general approval will remain effective provided the Evaluation Report is maintained valid and unrevised with the issuing organization. Any revisions to the report must be submitted to this Department, with appropriate fee, for review in order to continue the approval of the revised report.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this approval have been met in the project in which it is to be used.

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Attachment: ICC ES Report No. ESR-1841 (5 Pages).

ESR-1841
Reissued June 1, 2008
This report is subject to re-examination in two years.

**ICC Evaluation Service, Inc.**
www.icc-es.org

Business/Regional Office ■ 5360 Workman Mill Road, Whittier, California 90601 ■ (562) 699-0543
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**DIVISION: 07—THERMAL AND MOISTURE PROTECTION**
**Section: 07310—Roof Shingles**

**REPORT HOLDER:**

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**EVALUATION SUBJECT:**

**LAMARITE® SLATE COMPOSITE SHINGLE**

## 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

- 2006 *International Building Code®* (IBC)
- * 2006 ~~*International Residential Code®* (IRC)~~

**Properties evaluated:**

- Weather protection
- Wind resistance
- Durability
- Fire classification

## 2.0 USES

TAMKO's Lamarite® Slate is a composite shingle roof covering that is used as a steep-slope roof covering material and meets the requirements for a Class A roof covering.

## 3.0 DESCRIPTION

### 3.1 Lamarite® Slate Composite Shingle:

Lamarite® Slate composite shingle is composed of colorized, mineral-filled polymers and are produced by a proprietary manufacturing process. The shingle is available in 5-, 7- or 12-inch (127, 178 or 305 mm) widths and is 18 inches (457 mm) long, for installation with shingle exposures of 7, $7^1/_2$ or 8 inches (178, 191 or 203 mm). Spacer tabs are manufactured into the side edges of each shingle to maintain a $^1/_4$-inch-wide (6.4 mm) spacing between shingles. The shingle is manufactured in three shapes, Standard, Scalloped and Diamond. See Figure 1 for each of the typical shingle shapes. The Standard shingles weigh approximately 4.5 pounds per square foot (22.0 kg/m$^2$) when installed with a 7-inch (178 mm) exposure, 4.2 pounds per square foot (20.5 kg/m$^2$) when installed with a $7^1/_2$-inch (191 mm) exposure and approximately 3.9 pounds per square foot (19.0 kg/m$^2$) when installed with an 8-inch (203 mm) exposure. The Scalloped shingles weigh approximately 4.27 pounds per square foot (20.85 kg/m$^2$) when installed with a 7-inch (178 mm) exposure, and approximately 4.0 pounds per square foot (19.53 kg/m$^2$) when installed with a $7^1/_2$-inch (191 mm) exposure. The Diamond shingles weigh approximately 4.14 pounds per square foot (20.21 kg/m$^2$) when installed with a 6-inch (152 mm) exposure.

### 3.2 Lamarite® Shingle Starter:

Lamarite® Preformed Starter strips are either 10 inches wide by 12 inches long (254 by 305 mm) or 10 inches wide by 6 inches long (254 by 152 mm), as shown in Figure 2.

### 3.3 Lamarite® Hip & Ridge Shingles:

Lamarite® Preformed Hip & Ridge shingles are shown in Diagram A of Figure 3. Alternately, Lamarite® Site-made Hip & Ridge shingles can be fabricated by cutting standard 12-inch-wide (305 mm) Lamarite® Slate composite shingles in half lengthwise. Typical Lamarite® Site-made Hip & Ridge shingles are shown in Diagram B of Figure 3.

### 3.4 Fasteners:

Fasteners must be minimum No. 12 gage [0.105-inch (2.7 mm)], $^3/_8$-inch-diameter-head (9.5 mm), corrosion-resistant roofing nails. Fasteners must be of sufficient length to penetrate into the roof sheathing a minimum of $^3/_4$ inch (19.1 mm), or through the sheathing, whichever is less.

### 3.5 Underlayment:

Roof underlayment must be a minimum of one layer of either ~~TAMKO's Moisture Guard Plus® (ICC-ES report ESR-1252)~~ or ~~TAMKO's TW Metal and Tile Underlayment® (ICC-ES report~~ ESR 2531). ** TYPE G1 PLY SHEET

## 4.0 INSTALLATION

### 4.1 General:

Installation of the Lamarite® Slate composite shingles must comply with this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions must be available at the jobsite during installation. The deck must consist of either code-complying, minimum $^{15}/_{32}$-inch-thick (11.9 mm) exterior plywood in accordance with DOC PS-1 or solid sheathing consisting of maximum 1-by-6-inch (25 by 152 mm) solid-sawn lumber.

The minimum roof slope must be 3:12 (25 percent) and the maximum slope 21:12 (173 percent). Metal flashing, consisting of a minimum No. 26 gage [0.019 inch (0.48 mm)] corrosion-resistant metal, must be installed at all penetrations and at locations which are susceptible to leaks. Such locations include, but are not limited to, roof valleys, where roofs abut vertical walls, dormers, vent pipes, and chimneys. The flashing installation must comply with IBC Section 1507.7.6 or * ~~IRC Section R905.6.6, as applicable.~~ See Figure 4 for typical flashing details.

Ventilation of concealed roof spaces must be provided in accordance with IBC Section 1503.5 or ~~IRC Section R806, as~~ * ~~applicable.~~



* DELETED BY CITY OF LOS ANGELES
** REVISED BY CITY OF LOS ANGELES

**4.1.1 Underlayment Application:** A minimum of one layer of the underlayment described in Section 3.5 of this report must be installed in accordance with the requirements of the applicable code, and the respective ICC-ES report, so that it covers the entire roof deck. Dust, dirt, loose nails, and other protrusions must be removed from the roof deck prior to installation of the underlayment.

**4.1.2 Lamarite® Preformed Shingle Starter Application:** The Lamarite® Preformed Shingle Starter must be attached with two corrosion-resistant fasteners described in Section 3.4. The starter course must be installed as shown in Figure 2 of this report.

**4.1.3 Lamarite® Slate Shingle Application:** Each full Lamarite Slate composite shingle must be fastened with two corrosion-resistant fasteners described in Section 3.4. One nail must be placed in each of the nailing locations marked on the shingle. (See Figure 1.) The Lamarite Slate composite shingle is installed with shingle exposures of 7, $7^1/_2$ or 8 inches (178, 191 or 203 mm). The Scalloped shingle is installed with a shingle exposure of 7 or $7^1/_2$ inches (178 or 191 mm). The Diamond shingle is installed with a shingle exposure of 6 inches (152 mm). A minimum $^1/_4$-inch-wide (6.4 mm) spacing is maintained between shingles by means of the spacer tabs manufactured into the side edges of each shingle.

**4.1.4 Hip and Ridge Application:**

**4.1.4.1 General:** An 8-inch-wide (203 mm) strip of cap flashing material, cut from one of the underlayment materials described in Section 3.5, must be fastened over all hips and ridges. The cap flashing must be positioned so that it is centered over the ridge and one half of the cap flashing [minimum of 2 inches (51 mm)] rests on the top course of the shingles on each side of the ridge. Intersecting roof surfaces at hips and ridges must then be capped with hip and ridge shingles described in Section 4.1.4.2 or 4.1.4.3. (See Diagram A or B of Figure 3.)

**4.1.4.2 Lamarite® Preformed Hip & Ridge Shingles:** Each hip and ridge shingle must be installed using two corrosion-resistant fasteners, as described in Section 3.4. One nail must be placed in each of the marked locations on the shingle. The hip and ridge shingle must be installed with the same weather exposure [7 , $7^1/_2$ or 8 inch (178, 191 or 203 mm)] as the field of the roof. (See Diagram A of Figure 3.)

**4.1.4.3 Site-made Hip and Ridge Shingles:** Site-made hip and ridge shingles must be made by cutting the 12-inch-wide (305 mm) shingle in half to yield two 18-inch-by-6-inch (457 by 152 mm) pieces. The two halves must be applied by butting the cut edge of one half to the bottom side of the other half, and nailing in the location marked on each piece with one of the fasteners described in Section 3.4 of this report. (See Diagram B of Figure 3.) The side of the hip and ridge shingle with the cut edge must alternate as each shingle is fastened. Shingle spacer tabs on the edges of the site-made hip and ridge shingles must be removed prior to installation.

**4.2 Roof Classification:**

When installed in accordance with this report, the roof covering has a Class A roof classification in accordance with * IBC Section 1505.2 or IRC Section R902.1.

**4.3 Wind Resistance:**

When installed in accordance with this report, the shingles must be limited to installation in areas where the maximum wind speed is 100 mph (161 km/h) (3-second gust) on structures with a maximum height of 40 feet (12 192 mm) in Exposure B areas.

**4.4 Reroofing:**

Prior to application of the shingles, the existing roof covering and underlayment must be completely removed. Any damaged sheathing must be replaced. The installation of the shingles must then proceed as described in Section 4.1 of this report.

## 5.0 CONDITIONS OF USE

The TAMKO Lamarite® Slate Composite Shingles described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

**5.1** Installation of the Lamarite® Slate Composite Shingles must comply with this report and the manufacturer's published installation instructions. In the event of a conflict between the installation instructions and this report, this report governs.

**5.2** The use of the shingles must be limited to areas where the wind speed, building height and exposure do not exceed the limits set forth in Section 4.3 of this report.

**5.3** The shingles are manufactured in Lamar, Missouri, under a quality control program with inspections by Underwriters Laboratories Inc. (AA-668).

## 6.0 EVIDENCE SUBMITTED

**6.1** Manufacturer's published installation instructions.

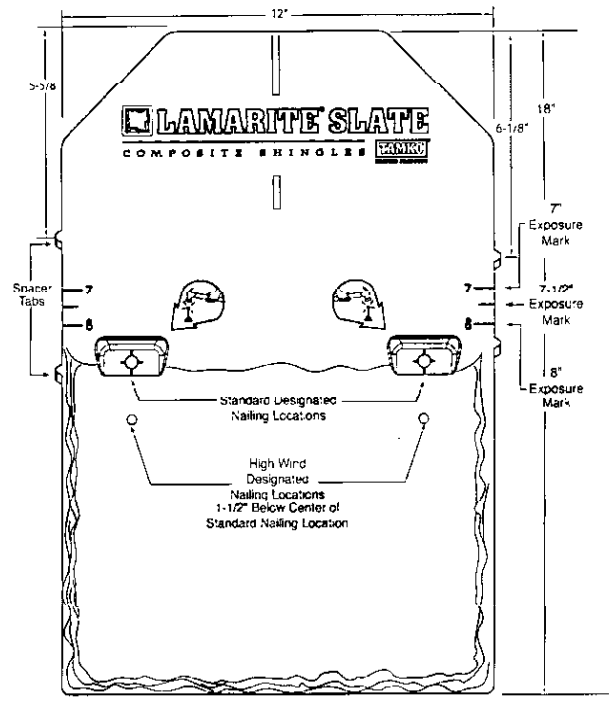
**6.2** Data in accordance with the ICC-ES Acceptance Criteria for Special Roofing Systems (AC07), dated April 2007.

**6.3** Report of testing in accordance with ASTM E 108 (UBC Standard 15-2).

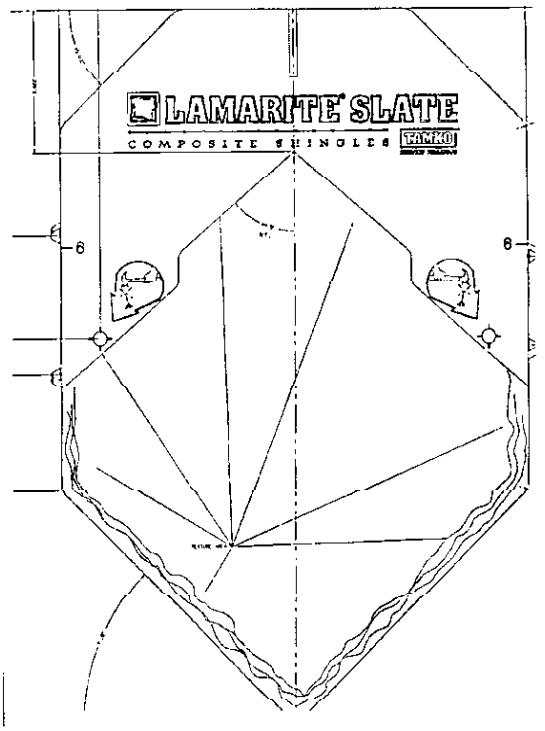
**6.4** A quality control manual.

## 7.0 IDENTIFICATION

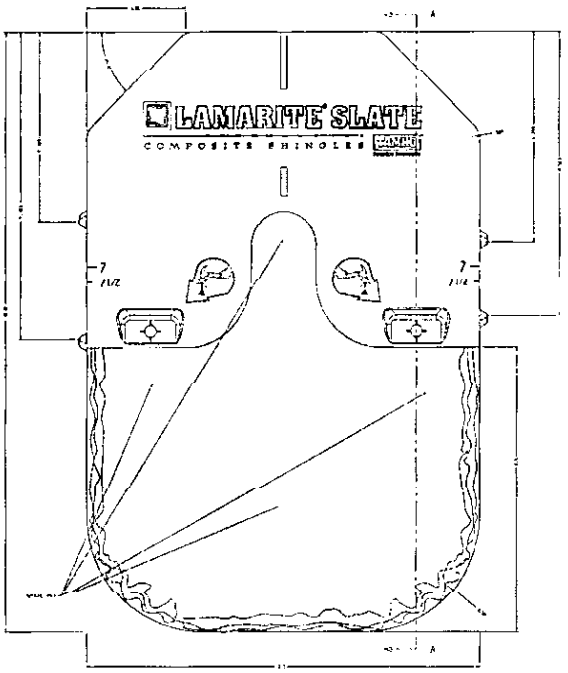
Each shingle is identified with the product name and the TAMKO® Building Products, Inc., name. Each pallet of shingles bears the evaluation report number (ESR-1841) and the name of the inspection agency (Underwriters Laboratories Inc.).




STANDARD




DIAMOND




SCALLOPED

FIGURE 1 TYPICAL SHINGLE SHAPES

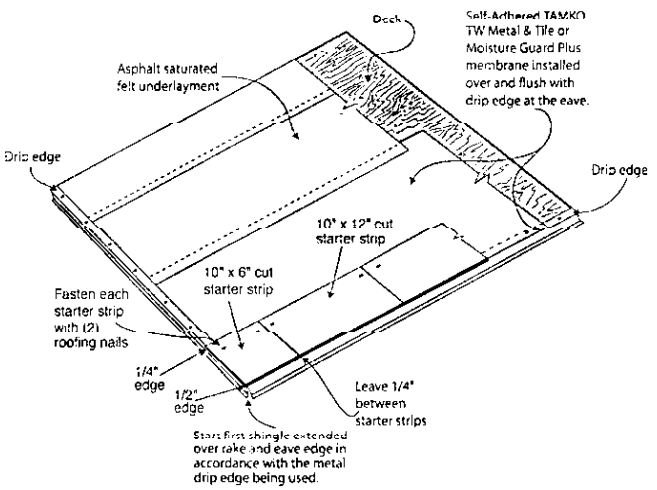



FIGURE 2—TYPICAL STARTER STRIP

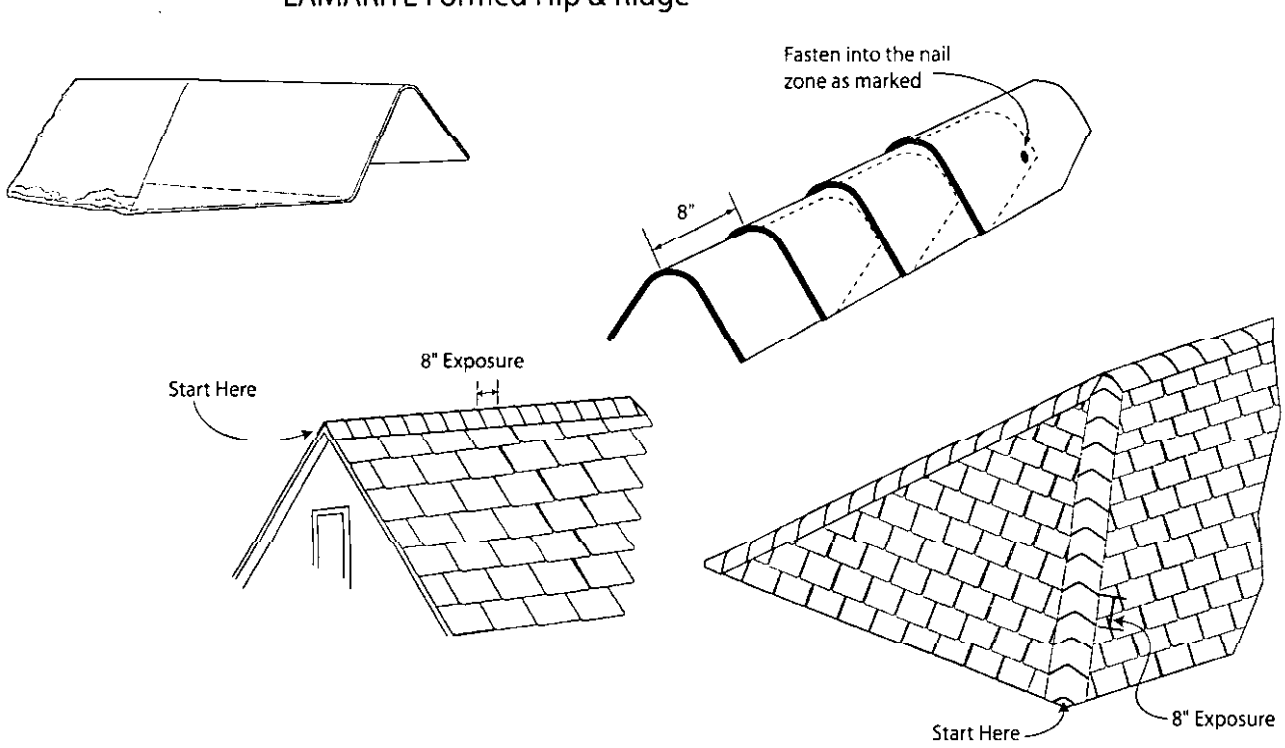



DIAGRAM A

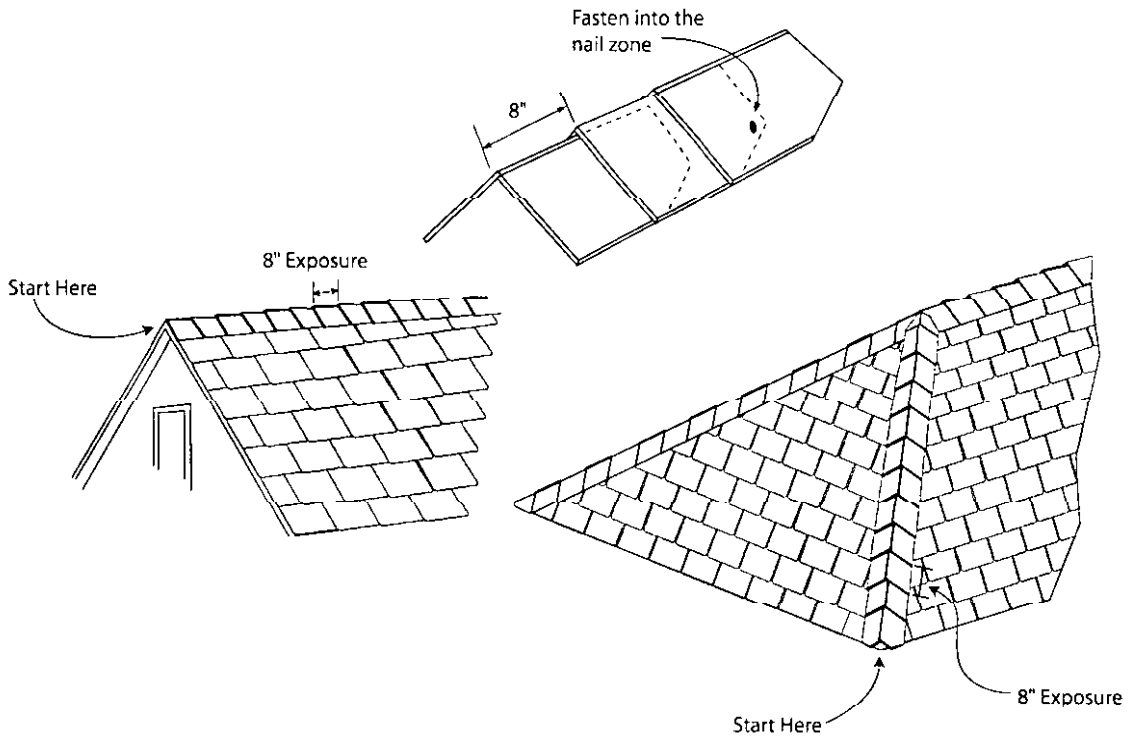
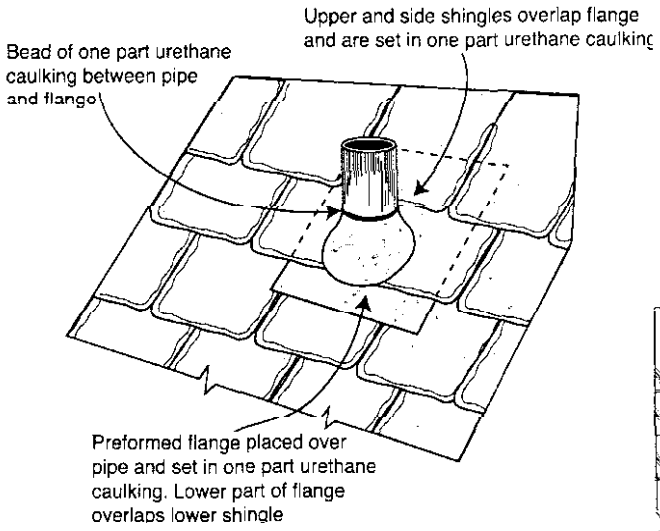
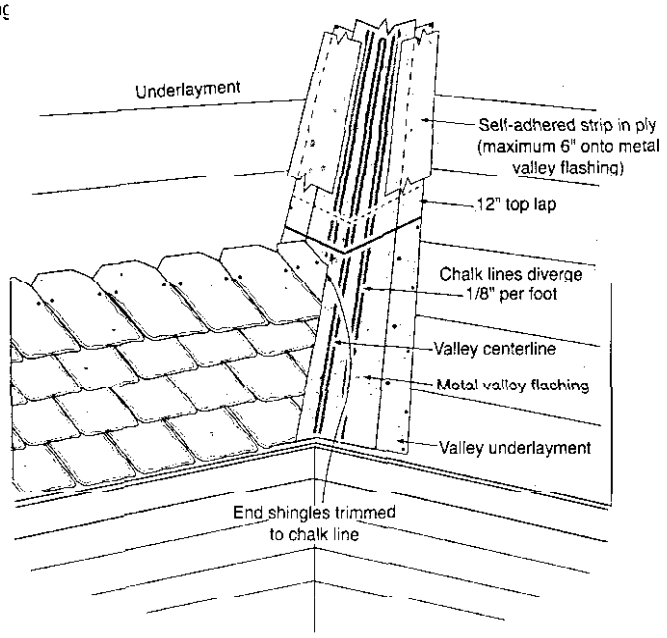


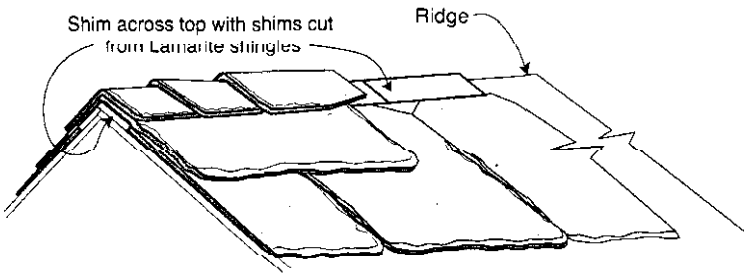

DIAGRAM B

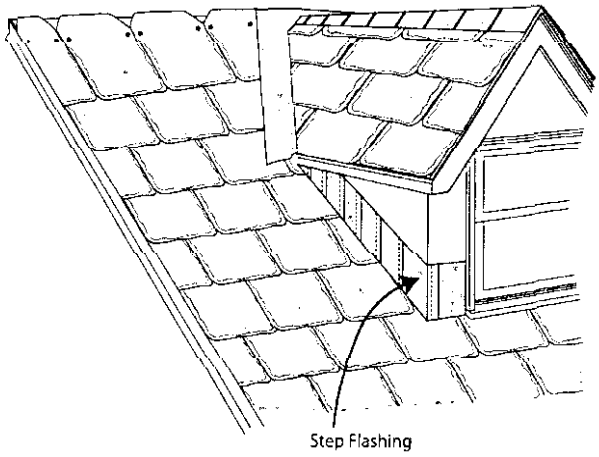
FIGURE 3—TYPICAL HIP AND RIDGE SHINGLES

LAMARITE Open Valley



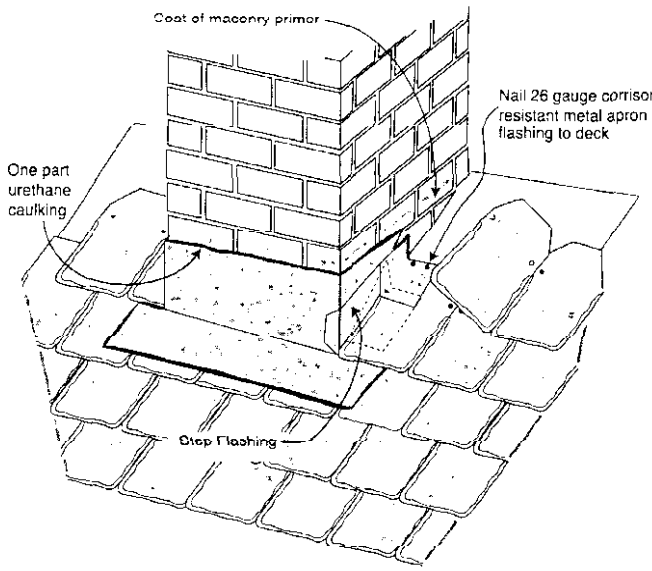




FIGURE 4—TYPICAL FLASHING DETAILS