

**CITY OF SACRAMENTO**

1231 I Street, Sacramento, CA 95814

Permit No: 0110412

Insp Area: 2

Thos Bros: 336G2

Site Address: 7315 POCKET RD SAC

Parcel No: 031-0470-004

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR

MILESTONE EXTERIORS  
9575 APPALACHIAN DR  
SACRAMENTO CA 95827

OWNER

BRANDON MORRIS L/LUCILLE  
7315 POCKET RD  
SACRAMENTO CA 95831

ARCHITECT

**Nature of Work:** REROOF 39 SQ'S-BATTON OVER 1 LAYER EXISTING MED. SHAKE,  
FILL INSULATION, COVER W/GERARD STONE COATED STEEL TILE  
PANELS.

**CONSTRUCTION LENDING AGENCY :** I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name \_\_\_\_\_ Lender's Address \_\_\_\_\_

**LICENSED CONTRACTORS DECLARATION:** I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class \_\_\_\_\_ License Number 699911 Date 8/17/01 Contractor Signature *[Signature]*

**OWNER-BUILDER DECLARATION:** I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

\_\_\_\_ I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

\_\_\_\_ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

\_\_\_\_ I am exempt under Sec. \_\_\_\_\_ B & PC for this reason: \_\_\_\_\_

Date \_\_\_\_\_ Owner Signature \_\_\_\_\_

**IN ISSUING THIS BUILDING PERMIT,** the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 8/17/01 Applicant/Agent Signature *[Signature]*

**WORKER'S COMPENSATION DECLARATION:** I hereby affirm under penalty of perjury one of the following declarations:

\_\_\_\_ I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

*[Signature]* I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier STATE FUND Policy Number 1586416-01 Exp Date 05/31/2002

\_\_\_\_ (This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 8/17/01 Applicant Signature *[Signature]*

**WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.**

**THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.**



# National Evaluation Service, Inc.

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Phone: 703/931-2187 Fax: 703/931-6505  
website: www.nateval.org

## NATIONAL EVALUATION REPORT

Report No. NER-423

Re-issued June 1, 2001

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### COATED STEEL ROOFING PANELS

### GERARD ROOFING TECHNOLOGIES

955 COLUMBIA STREET  
BREA, CALIFORNIA 92821-2923  
www.gerardusa.com

#### 1.0 SUBJECT

1.1 Gerard® Stone-Coated Tile and Shake Panels

#### 2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT

- 2.1 Roof Covering Classification
- 2.2 Wind Resistance
- 2.3 Weather Resistance

#### 3.0 DESCRIPTION

Gerard® Stone-Coated Tile and Shake Panels described in this report are used as roof coverings over new and existing roofs.

The roofing panels are formed from mild steel complying with ASTM A653 Structural Grade 33, minimum, and have a zinc-galvanized G90 coating complying with ASTM A924 or a Galvalume® AZ50 coating complying with ASTM A792. The steel panels have a baked-on primer on both sides with a semigloss wash coat on the underside. The base metal thickness is 26 gage [0.0159 in. (0.40 mm)]. After the panels are formed, the upper surface and flange edges are coated with crushed stone chips bonded to the panels with an acrylic resin. A clear acrylic overglaze is applied to the panels to complete the process.

The panels are 45 3/4 in. (1162 mm) wide by 15 1/2 in. (394 mm) deep. Shake panels are 44 3/4 in. (1137 mm) wide by 15 1/2 in. (394 mm) deep. \* Galvalume is a registered trademark of B/E/C International Inc.

#### 4.0 INSTALLATION

##### 4.1 General

Gerard® Stone-Coated Tile and Shake Panels shall be installed on wood or steel battens spaced approximately 14 1/2 in. (368 mm) on center over open rafters, spaced or solid sheathing, or an existing roof covering in accordance with the following:

##### 4.2 Battens and Counterbattens

Wood battens are nominal 2x2 in. (51x51 mm) and counterbattens are nominal 1x4 in. (25x102 mm) standard

grade, or better, Douglas fir or other species having a specific gravity of 0.50 or greater. Steel battens are hat-shaped sections with a 1 1/2 in. (38 mm) minimum height, fabricated from minimum No. 22 gage [0.0025 in. (0.64 mm)] galvanized steel. Battens are as shown in Figure 1 of this report.

##### 4.3 Roof Slope and Underlayment

Gerard® Stone-Coated Tile and Shake Panels shall be installed on roof slopes of 2 1/2:12 (20.8 percent slope) or greater with an underlayment complying with ASTM D226, Type 1. Where the roof slope is less than 2 1/2:12, the panels are limited to use as a decorative roof covering only, and shall be installed over a roof covering system in accordance with the applicable code.

On all steep slope roofs (greater than 2 1/2:12), where the January average temperature is 25°F (-4°C), or less, or where there is a possibility of ice dams forming along the eaves causing a backup of water, an ice shield shall be installed in accordance with the following:

- Spaced or solid sheathing and two layers No. 15 (or one layer No. 30 in jurisdictions adopting the Uniform Building Code) organic-fiber felt underlayment shall be installed in the field of the roof.

• Solid sheathing and two layers No. 15 felt applied, shingle fashion, solid-cemented between the plies or a waterproofing membrane shall extend from the eaves edge to a point 24 in. (610 mm) minimum inside the exterior wall line of the building. Felt layers or waterproofing membrane shall also run the full length of the metal valleys.

##### 4.4 New Roofing Application

4.4.1 Class A: In jurisdictions adopting the 2000 International Building Code, the 1999 Standard Building Code, or the 1997 Uniform Building Code the roofing panels, recognized as Class A, noncombustible, are designed to be installed on wood or steel battens placed 14 1/2 in. (368 mm) on center, over spaced or solid sheathing.

Wood battens are attached to the supporting framing members, spaced 24 in. (610 mm) on center, maximum, with 16d galvanized nails of sufficient length to penetrate at least 1 in. (25 mm) into the framing member. When 1x4 in. (25x102 mm) counterbattens (installed parallel to framing) are used, wood battens shall be attached with 16d galvanized nails spaced 12 in. (305 mm) on center. Steel battens are attached to the supporting framing members, spaced 24 in. (610 mm) on center, maximum, with two No. 10x3/4 in. (19.1 mm) corrosion-resistant galvanized sheet metal screws spaced 24 in. (610 mm) on center.

This report is limited to the specific product and data and test reports submitted by the applicant in its application requesting this report. No independent tests were performed by the National Evaluation Service, Inc. (NES), and NES specifically does not make any warranty, either expressed or implied, as to any finding or other matter in this report or as to any product covered by this report. This disclaimer includes, but is not limited to, merchantability. This report is also subject to the limitation listed herein.

Panels adjacent to the ridge are field adjusted by cutting and bending vertically.

Valleys are framed using wood or steel battens spaced 6 in. (152 mm) apart, fastened on both sides of the valley. Valleys are framed to receive No. 28 gage [0.016 in. (0.41 mm)] corrosion-resistant metal flashing which extends out at least 3 in. (76 mm) on both sides of the center line. Valley flashing end laps are 4 in. (102 mm) minimum. Metal valley flashing shall have one layer of Type 30 felt underlayment, 36 in. (914 mm) wide, under the full flashing length.

All full size panels shall be fastened to the roof prior to cutting panels for placement at hips, ridges or valleys. The panels are staggered a minimum of one module, and are fastened to the battens with five 6d galvanized nails, 1 1/2 in. (38 mm) long, or No. 10x1 1/2 in. (38 mm) galvanized sheet metal screws. Fasteners are positioned 1 1/2 in. (38 mm) from the center of the concave and along the down-turned edge of the panel. Care shall be exercised in nailing to avoid striking the finished surface of the panel.

Ridge and hips shall have a minimum 2 in. (51 mm) nominal thickness and project approximately 4 in. (102 mm) minimum, above the rafters or existing roof surface. The panels shall be fastened to the side of the ridges and hips after mitering, cutting, and bending, and shall then be capped with the appropriate trim and finished as the regular panels.

Gable ends shall be capped with gable cap pieces, rake or barge molds, or individual trim caps.

Roof openings shall be flashed with flashing formed to match the shape of the panels.

4.4.2 Class A: In jurisdictions adopting the *BOCA National Building Code/1999* the roof panels, when installed over spaced or solid sheathing covered with minimum 1/2 in. (12.7 mm) thick gypsum board or 1/4 in. (6.4 mm) thick Georgia Dens-Deck® mechanically fastened to the deck followed by 2x2 in. (51x51 mm) battens installed as described in Section 4.4.1.

4.5 Reroofing Application  
Gerard® Stone-Coated Tile and Shake Panels shall be installed over existing wood shake, wood shingle, asphalt shingle or gravel surfaced roofing, subject to the conditions set forth here and providing the roof slope complies with Section 4.3 of this report. Battens and counterbattens shall be installed in accordance with the applicable code. When Gerard® steel panel assemblies are installed over existing classified roofs, the classification shall remain the same.

Class C: Wood shake and wood shingle ridge and hip caps shall be removed, and the existing roof covering cut back flush with the fascia or barge cover. Nominal 1x4 in. (25x102 mm) wood counterbattens are installed parallel to the framing (perpendicular to the eaves) at a maximum spacing of 24 in. (610 mm) on center. Counterbattens shall be fastened to the framing members using nails of sufficient length to penetrate 1 in. (25 mm) into the framing member or through minimum 3/4 in. (19.1 mm) thick sheathing. Nail spacing is 12 in. (305 mm) on center. The diamond point of the nail shall be fully exposed on the underside of the sheathing. Nominal 2x2 in. (51x51 mm) battens are spaced 14 1/2 in. (368 mm) on center for Gerard shake panels, and are nailed to the counterbattens using 16d galvanized nails. Nailing shall be done to prevent splitting the battens or counterbattens. The panels shall be fastened to the battens in the same manner as described in Section 4.4 of this report. New flashing shall be installed over and around all existing valleys, vents and chimneys in accordance with the requirements of the applicable code. The valley dance in reroofing shall be as shown in Figure 3 of this report.

Class B: When a Class B roof covering is required over an existing non-rated roof covering, installation shall be as described for the Class C roof with the following addition:

Mineral-surfaced 72 pound cap sheet, complying with ASTM D3909, shall be fastened in place over the existing roofing material with 2 in. (51 mm) minimum head and side laps, prior to the application of 1x4 in. (25x102 mm) counterbattens and 2x2 in. (51x51 mm) battens. The cap sheet functions as a fire-resistive sheet and is permitted to be used to satisfy the underlayment requirement of Section 4.3 of this report.

As an alternative to using mineral-surfaced 72 pound cap sheet for Class B installations, an underlayment of 1 1/2 in. (38 mm) thick foil-faced fiberglass batt insulation or one layer of Elk Corporation's "Verashield Underlayment" is permitted to be installed. Installation shall be with the foil face up and 2 in. (51 mm) headlaps over the existing roof surface prior to the application of 1x4 in. (25x102 mm) counterbattens and 2x2 in. (51x51 mm) battens.

Class A: When a Class A roof covering is required over an existing non-rated roof covering, installation shall be as described for the Class C roof with the following exceptions:

- One layer of 1/4 in. (6.4 mm) thick minimum Georgia Pacific Dens-Deck® overlayment followed by nominal 2x2 in. (51x51 mm) battens shall be placed directly over existing shakes or shingles (mechanically fastened to the roof deck) or attached to 1x4 in. (25x102 mm) counterbattens; or
- One layer of Type G3 Cap Sheet, granule side up, shall be placed over existing shakes or shingles followed by nominal 1x4 in. (25x102 mm) counterbattens mechanically fastened to the roof deck. Nominal 2x2 in. (51x51 mm) battens shall be mechanically fastened to the nominal 1x4 in. (25x102 mm) counterbattens followed by 1 1/2 in. (12.7 mm) thick FSK-faced batt and blanket, foil face up, placed between each nominal 2x2 in. (51x51 mm) batten row, or
- Gerard foam insert/insulation and support panels over existing wood shake or shingles shall be placed above the vertical nominal 1x4 in. (25x102 mm) counterbattens and between the horizontal nominal 2x2 in. (51x51 mm) battens. In all four assemblies the roof panels shall be attached to the 2x2 in. (51x51 mm) battens.

Recognition in jurisdictions utilizing the 1997 *Uniform Building Code* is limited to Exposure B areas where the basic wind speed does not exceed 80 mph (129 km/h), the building height is less than 40 ft (12.192 m), and installation is in accordance with Section 4.4 or 4.5 of this report. In jurisdictions utilizing the 2000 *International Building Code*, the 2000 *International Residential Code*, the 1998 *International One and Two Family Dwelling Code*, the *BOCA National Building Code/1999*, and the 1999 *Standard Building Code* the maximum allowable wind uplift pressure is as shown in Table 1 of this report. The balance of the installation shall be as described in Section 4.0 of this report.

4.7 Structural Diaphragm  
Structural roof diaphragms using the roof panels described in this report shall be constructed as follows:

Nominal 1x6 in. (24x152 mm) standard grade, or better, Douglas fir sheathing or sheathing of other species having a specific gravity of 0.50 or greater, spaced a maximum of 9 1/2 in. (241 mm) on center, shall be nailed to framing in accordance with the applicable code. The framing shall be spaced a maximum of 24 in. (610 mm) on center. Wood battens, counterbattens and the roofing panels are installed over the spaced sheathing in accordance with Section 4.1 of this report. Fasteners attaching the counterbattens to the roof shall penetrate into the framing and shall be within 6 in. (152 mm) of the counterbatten ends.

The resulting diaphragm has an allowable shear of 180 lb/ft (2628 N/m) and is equivalent to 15/32 in. (11.9 mm) thick CDX plywood using 8d nails over 2 in. (51 mm) wood framing.

6.7 BRANTZ Appraisal 128 1985.

6.8 Test report, Assessment of Resistance of Roof Coverings to Impact of Hailstones, prepared by Common-wealth Scientific and Industrial Research Organization, Report CSIRO, DBR, August 1978, signed by K.J. Martin, officer conducting test, and F.A. Blakey, chief of division.

6.9 Test report, Simulated Wind and Snow Load Tests, prepared by Department of Scientific and Industrial Research, Auckland Industrial Development Division (A.I.D.D.), Reference 81/971, dated June 6, 1979, signed by J. Phillips.

6.10 Test report on Cyclic Loading, prepared by Cyclone Testing Station, Report TS 126, dated July 23, 1980, signed by Professor K. P. Stark.

6.11 Test report on ultraviolet light testing, prepared by Wakefield Laboratories, Limited, Report 9870, dated August 18, 1983.

6.12 Test Report on Test Record 1, Class B fire resistance of roofing over Class C organic felt shingles, and Class A fire resistance of roofing over Class A fiberglass shingles. Test Report on Test Record 2, penetration test of 200 lb load with 3 inch diameter steel plate. Test report on Test Record 3, weatherometer test, 2000-hour carbon arc, performed by Underwriters Laboratories Inc., File R12596, Project 88NK17073, dated February 24, 1989, signed by Kenneth D. Rhodes, engineering group leader, Fire Protection Department, and Wayne A. Kleinfelder, associate managing engineer, Fire Protection Department.

6.13 Underwriters Laboratories Inc. written reply/opinion on modifications to existing Gerard tile and introduction of Gerard shake. Letter dated February 7, 1989, signed by Kenneth D. Rhodes, engineering group leader, Fire Protection Department, and William G. Marshall, senior engineering assistant, Fire Protection Department.

6.14 Test report on wind-driven rain using a 2:12 roof slope, prepared by Underwriters Laboratories Inc., File R12596, Project 90NK5766, dated May 8, 1990, signed by Roger Anderson and Kenneth Rhodes.

6.15 Test report on wind-uplift resistance, prepared by Underwriters Laboratories Inc., Files R14086-2 and R14086-3, Project 90NK5767, issued May 31, 1990, revised September 19, 1990, signed by Greg Rezek and Kenneth Rhodes.

6.16 Engineering calculations for wind and diaphragm design, prepared by Research and Code Development, dated June 1992 (revised September 3, 1992), and additional calculations dated November 16, 1993, signed and sealed by T.H. Carter, P.E.

6.17 Test report on racking shear, prepared by United States Testing Company, Inc., Test Report 186038-1, dated May 13, 1992, signed by Michael Beaton, P.E., and David Pereg.

6.18 Test report on wind driven rain and static pressure uplift performance tests using a 2 1/2:12 roof slope, prepared by Construction Research Laboratory, Inc., Test 5603, dated May 19, 1992, signed by Richard Sambella.

6.19 Test report on Class A spread of flame test in accordance with ASTM E108, by Underwriters Laboratories Inc., File R12596, Project 92NK11696, dated June 22, 1992, signed by William G. Marshall, senior engineering assistant, Engineering Services, Dept. 411, and Douglas C. Miller, engineering team leader, Engineering Services, Dept. 411.

6.20 Test reports on racking tests in accordance with ASTM E72, by United States Testing Company, Inc., Test

members in an unlocked diaphragm, with nails 6 in. (152 mm) on center at the edges and 10 in. (254 mm) on center in the face of the plywood. The maximum aspect ratio is 4:1. Diaphragm deflections, based on using 15/32 in. (11.9 mm) thick CDX plywood, shall be estimated by using the following equation:

$$\Delta = 5V^2/8EAB + VL/59600 + 0.003384L + \sum(\Delta^2X)/2b$$

For SI:

$$\Delta = 381V^2/2EAB + VL/2347 + 0.086L + 25.4\sum(\Delta^2X)/2b$$

where:

$$A = \text{Area of chord cross section [in}^2 \text{ (mm}^2\text{)]}$$

$$b = \text{Diaphragm width [ft (mm)]}$$

$$E = \text{Elastic modulus of chords [lb/ft}^2 \text{ (kPa)] (per AFPA-NDS)}$$

$$L = \text{Diaphragm length [ft (mm)]}$$

$$V = \text{Maximum shear due to design loads in the direction under consideration [lb/ft (N/m)]}$$

$$\Delta = \text{Deflection (in. (mm))}$$

$$\sum(\Delta^2X) = \text{Sum of individual chord-splice slip values on both side of the diaphragm, each multiplied by X, the splice distance to the nearest support.}$$

Calculations for diaphragm deflection shall account for the usual bending and shear components as well as any other factors, such as nail deformation, which will contribute to the deflection.

### 5.0 IDENTIFICATION

Pallets or bundles of Gerard Stone-Coated Tile and Shake Panels shall bear a label indicating the manufacturer's name, address, product name, and this Evaluation Report No. (NER-423).

### 6.0 EVIDENCE SUBMITTED

6.1 Manufacturer's descriptive literature and installation recommendations, Reference 08-97.

6.2 Test report on Class A fire resistance in accordance with ASTM E108 (UL 790), prepared by Underwriters Laboratories Inc., File R12596/87NK4698, dated June 24, 1987, signed by James M. O'Shea and R.L. Donahue.

6.3 Fire Resistance Classification Tests in accordance with ASTM E108 (UL 790), performed by United States Testing Company, Inc., signed by Michael S. Elliott and Patrick V. McCullen;

Classification	Report No.	Date
B	LA 21024	6-30-82
B (Over Existing Roofs)	LA 21992	11-30-82
C	LA 40231	3-27-84

(Addendum to LA 21557)

6.4 Test report on static pressure uplift, prepared by Construction Research Laboratory, Inc., CRL Test 4170, dated September 26, 1984, signed by A.A. Sakhnovsky.

6.5 Engineering calculations for wind design, prepared by Johnson Engineering, dated October 8, 1987, signed and sealed by Gary D. Johnson, P.E.

6.6 BRANTZ MTR 836 5000 Hour Accelerated Weathering Test Copy of BRANTZ Test MTR 836 certified and

1990, and Test Report 176876, dated October 9, 1990, signed by Michael Beaton, test engineer, and Stephen A. Castle, manager, Engineering Department.  
 6.21 Report of static, transverse uplift load tests, prepared by RADCO, Test Report RAD-165, Project C-5086, issued June 1993.

6.22 Underwriters Laboratories Inc., Test Report File R12596, Project 93NK11425, dated February 3, 1994, containing fire tests conducted in accordance with ASTM E108 on panels with an alternate base coat and panels installed over wood shingles and shakes, signed by William G. Marshall, engineering associate, and Douglas C. Miller, engineer team leader.

6.23 Underwriters Laboratories Inc., Test Report File R12596, Project 96NK26630, issued November 27, 1996, revised April 15, 1997, containing 2000 hour carbon-arc accelerated weathering tests on panels with an alternate base coat, signed by Roger Anderson, senior engineer associate, and James Hatcher, staff engineer.

6.24 Underwriters Laboratories Inc., Test Report File R12596, Project 98NK14487, dated May 27, 1998, containing fire tests conducted in accordance with ASTM E108 for Class A fire resistance classification on panel assembly as described in section 4.5 Class A exceptions 1 and 2, signed by Roger Anderson, senior engineer associate, and Douglas C. Miller, engineer team leader.

6.25 Underwriters Laboratories Inc., Test Report File R12596, Project 00NK19313, dated August 10, 2000, containing fire tests conducted in accordance with ASTM E108 for Class A fire resistance classification on panel assembly as described in section 4.5 Class A exception 4, signed by William G. Marshall, engineering associate, and Douglas C. Miller, engineer team leader.

6.26 Underwriters Laboratories Inc., Test Report File R12254, Project 00NK11270, dated October 9, 2000, containing fire tests conducted in accordance with ASTM E108 for Class A fire resistance classification on panel assembly as described in section 4.5 Class A exception 3, signed by Roger Anderson, senior engineer associate, and Douglas C. Miller, engineer team leader.

6.27 Underwriters Laboratories Inc., Test Report File R19254, Project 99NK45831, dated March 21, 2000, containing fire tests conducted in accordance with ASTM E108 for Class A fire resistance classification on panel assembly as described in section 4.5 Class A exception 3 and Class B alternative, signed by Roger Anderson, senior engineer associate, and Douglas C. Miller, engineer team leader.

**CONDITIONS OF USE**

7.0 The National Evaluation Service Committee finds that the Gerard Stone-Coated Tile and Shake Panels described in this report comply with the requirements of the 2000 International Building Code, the 2000 International Residential Code, the 1998 International One and Two Family Dwelling Code, the BOCA National Building Code/1999, the 1999 Standard Building Code, and the 1997 Uniform Building Code, subject to the following conditions:

7.1 Prior to reroofing with the panels, the existing roof shall be inspected and approved by the building official, when required by the applicable code.

7.2 This report is subject to periodic re-examination. For information on the current status of this report, consult the NES Product Evaluation Listing or contact the NES.

**Table 1 - REROOFING OVER EXISTING ROOFS FASTENER REQUIREMENTS FOR STONE-COATED STEEL ROOF PANELS AND BATTENS**

WIND SPEED (mph)	WIND ABOVE GRADE (ft)	RATING	ROOF AREA (sq ft)	DESIGN WIND UPLIFT PRESSURE (lb/ft <sup>2</sup> )	EXISTING WOOD SHAKES <sup>1</sup>		BATTEN TO COUNTER-BATTEN <sup>2</sup>	
					7 in. spaced sheathing	10 in. spaced sheathing	(qty-size)	(qty-size)
90	40	C	35.5	1-16d @ 7 in. o.c.	1-16d @ 7 in. o.c.	1-16d @ 7 in. o.c.	2-16d @ 7 in. o.c.	1 #8x3" screw in each panel
110	40	C	52.8	1-16d @ 7 in. o.c.	1-16d @ 7 in. o.c.	1-16d @ 7 in. o.c.	1-16d @ 7 in. o.c.	1-16d & 1 #8x3" screw in each panel
				1-16d @ 7 in. o.c.	1-16d @ 7 in. o.c.	1-16d & 1 #8x3" screw in each panel	2 #8x3" screw in each panel	
130	40	C	73.8	1-16d @ 7 in. o.c.	1-16d @ 7 in. o.c.	1-16d @ 7 in. o.c.	1-16d @ 7 in. o.c.	2 #8x3" screw in each panel
				1-16d @ 7 in. o.c.	1-16d @ 7 in. o.c.	1-16d & 1 #8x3" screw in each panel	3 #8x3" screw in each panel	

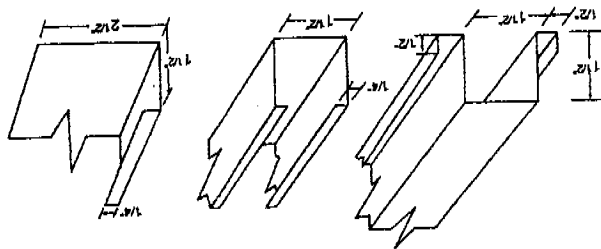
For S1: 1 in. = 25.4 mm, 1 mph = 1.61 km/h, 1psf = 0.047 kPa

Notes to Table 1:

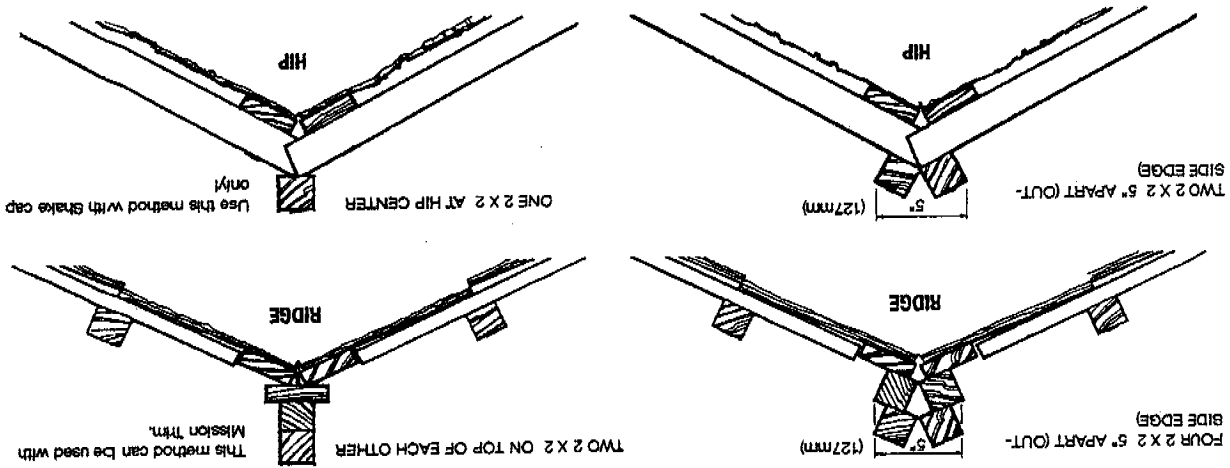
1. Fasteners shall penetrate a minimum of 1 in. into or through the roof sheathing or framing member.

2. Fasteners shall be spaced at 14-1/2 in. o.c.

Figure 2\* - BATTENS



STEEL BATTEN CHANNEL SECTIONS  
PANEL BATTEN CHANNEL SECTIONS



SHAKE TRIM FRAMING

MISSION TRIM FRAMING

Figure 1\* - PRODUCT ILLUSTRATION

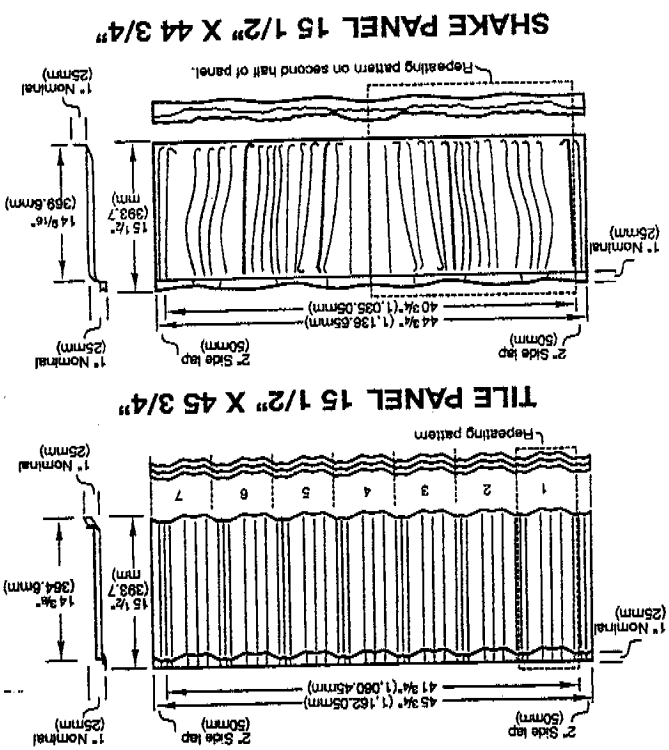
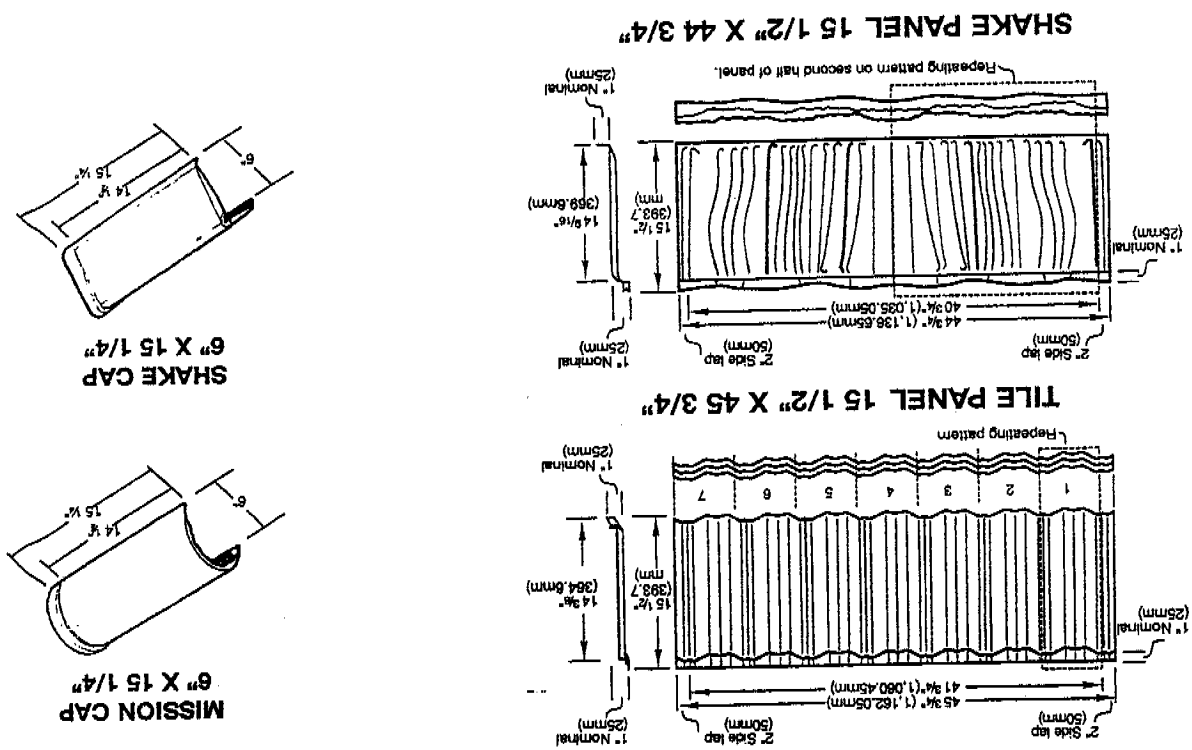
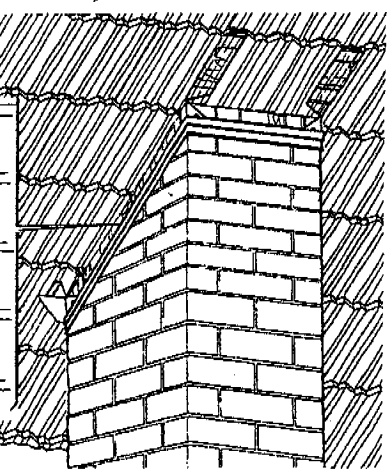
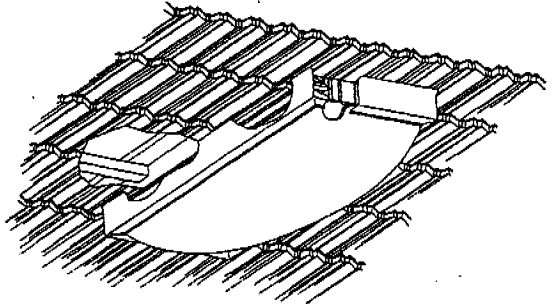
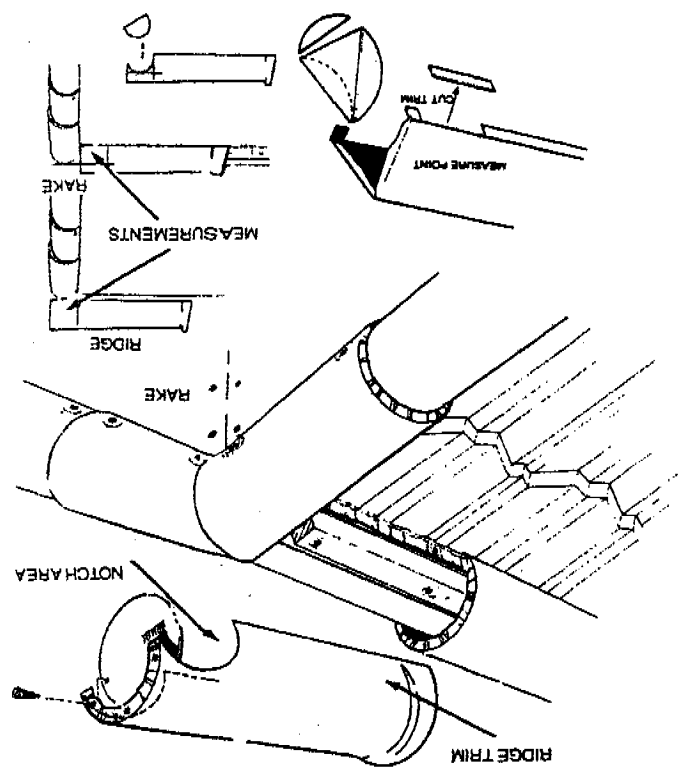


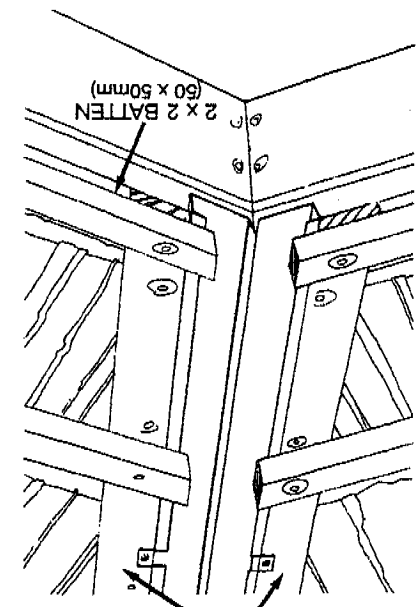
Figure \*3 - TYPICAL DETAILS



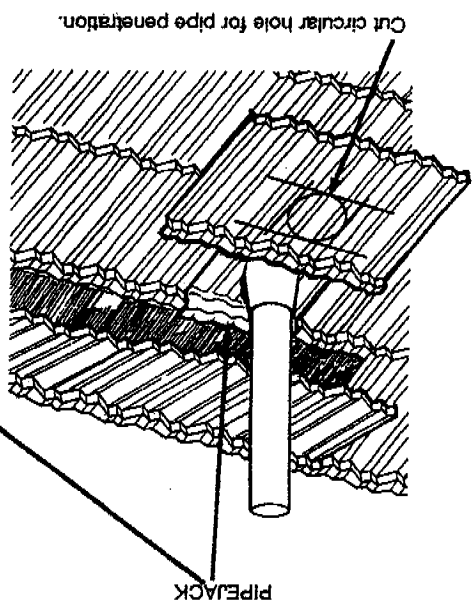
CHIMNEY / SKYLIGHT FLASHING



TRIM INSTALLATION

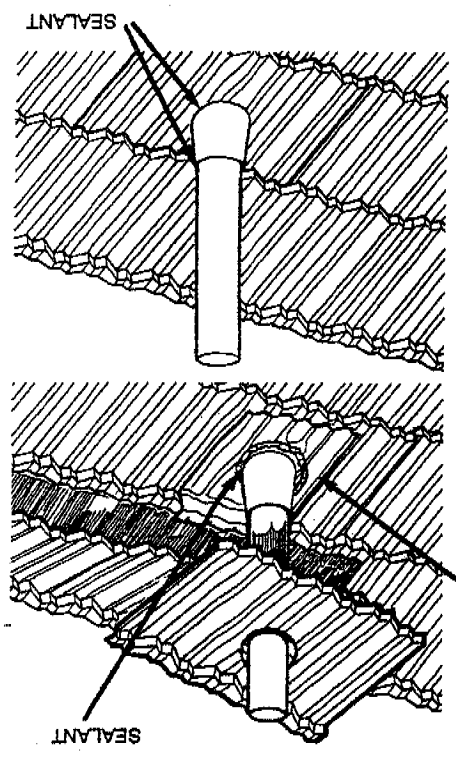


VALLEY (Re-Roof)  
1 x 4 COUNTERBATTENS  
2 x 2 BATTEN (60 x 50mm)



Cut circular hole for pipe penetration.

PIPE JACK



VENT PIPE FLASHING

SEALANT