

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0515798
Insp Area: 2
Thos Bros: 336J2

Site Address: 7415 WINDBRIDGE DR SAC
Parcel No: 031-0750-006

Sub-Type: RES
Housing (Y/N): N

CONTRACTOR
CRUZ ROOFING
5041 STROMAN LANE
SAC CA 95835

OWNER
TSANG WILLIAM S/TERESA S
7415 WINDBRIDGE DR
SACRAMENTO, CA 95831

ARCHITECT

Nature of Work: REROOF - OVERLAY DECRA TILE OVER EXISTING WOOD SHAKE **JOB JACKET PERMIT

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 C39 License Number 795408 Date 10/5/05 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.)

PAID
CITY OF SACRAMENTO
OCT 05 2005

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: NEIGHBORHOODS PLANNING AND DEVELOPMENT SERVICES
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 10/5/05 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.

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 NO EMPLOYEES Policy Number _____ Exp Date _____

(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 10/5/05 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.

Filing Category: ROOF COVERING AND ROOF DECK CONSTRUCTION—Roof Covering

DECRA STEEL ROOFING PANELS

TASMAN ROOFING, INC.
1230 RAILROAD STREET
CORONA, CALIFORNIA 92882

1.0 SUBJECT

Steel Roofing Panels.

Tile Profiles: Decra Tile, Typhoon Tile, Diamond Lock Tile and Alfa Tile.

Shake Profiles: Decra Shake, Typhoon Shake, Diamond Lock Shake and Alfa Shake.

Shingle Profiles: Decra Shingle Plus.

2.0 DESCRIPTION:

2.1 General:

The steel roofing panels are pressure-formed from structural-quality sheet steel complying with ASTM A 792, Grade 37, with an AZ50 class hot-dip aluminum-zinc alloy coating. The steel has a minimum base-metal thickness of No. 26 gage [0.0159 inch (0.4 mm)] and a minimum coated thickness of 0.017 inch (0.43 mm).

The overall panel size of the Tile and Shingle profiles is 16½ inches (419 mm) by 52 inches (1321 mm), with an installed exposure of 14½ inches (368 mm) by 50 inches (1270 mm). The overall panel size of the Shake profiles is 14¾ inches (371 mm) by 53 inches (1346 mm), with an installed exposure of 12¾ inches (321 mm) by 51 inches (1295 mm). Side panel laps are 2 inches (51 mm), to provide a weather-tight construction. The Tile profiles have pan sections that form tile shapes. The Shake profiles have impressions forming irregular shake shapes across the panels. The Shingle profile consists of raised and lowered sections that form a series of rectangular shingle shapes. The panel butt edges are bent down 1 inch (25 mm), to provide an overlap for weather protection and nailing purposes. The top back edge of each panel is bent vertically up 1 inch (25 mm), then lipped horizontally back from 1 inch (25 mm) to 1½ inches (38 mm). See Figure 1 for typical panel profiles.

Both sides of the panels are treated with a corrosion-inhibiting coating. An opaque base coat of acrylic resin is applied to exposed surfaces, and this is followed by embedment of colored stone granules. The surface is then spray-finished with clear acrylic glaze.

Each panel weighs approximately 6.5 pounds (3 kg), and the installed weight of the panels is approximately 1.5 psf (7.3 kg/m²).

2.2 Roof Slope and Standard Underlayment:

The panels may be installed on roof slopes of 3:12 (25%) and greater, without an underlayment, except as noted in Section 2.3. For roof slopes of 2½:12 (21%) to less than 3:12 (25%), installation requires solid sheathing and underlayment as described in Section 2.3. For roof slopes of less than 2½:12 (21%), the panels must be installed over a roof covering system complying with the code, subject to building official approval.

2.3 Underlayment in Severe Climate Areas:

In areas subject to wind-driven snow, ice buildup, or wind-driven dust or sand, or in other areas as designated by the building official, both of the following are required:

1. Solid sheathing with two layers of Type 15 felt or one layer of Type 30 felt is required for the field of the roof. For installations without solid sheathing, underlayment must comply with the ICBO ES Acceptance Criteria for Concrete Tile Underlayment on Spaced Sheathing (AC08), and must be recognized in an ICBO ES evaluation report.
2. Solid sheathing with two layers of Type 15 felt, applied shingle-fashion and solid-cemented together with approved cementing material between plies, is required from the edge of the roof to a point 36 inches (914 mm) inside the exterior wall line of the building.

2.4 Battens and Counterbattens:

Wood battens are nominal 2-by-2 Douglas fir-larch, standard grade or better. Steel battens are hat-, C-, J- or U-shaped sections with a 1½-inch (38 mm) minimum height, formed from minimum 0.017-inch-thick (0.43 mm) galvanized steel. When acting as spaced sheathing or purlins, wood battens are to be limited to supports spaced a maximum of 24 inches (610 mm) on center, and steel battens must be designed to resist the design loads. Counterbattens are nominal 1-by-4 standard grade Douglas fir-larch or better.

2.5 New Construction Application:

See Figure 2. Battens are installed 14½ inches (368 mm) on center for Tile and Shingle profiles, or 12¾ inches (321 mm) on center for Shake profiles, over solid sheathing, spaced sheathing or open rafters, and fastened to the supporting framing members with one 16d common nail or equivalent per intersection. Battens installed over open rafters must act as the spaced sheathing. Measurements are made from the face of the fascia board up to the face of succeeding battens. The final panel width, adjacent to the ridge board, is adjusted by cutting and bending the panel vertically in the field. All ridges and hips are provided with either two nominal 2-by-2 boards or one nominal 2-by-4 board.

ES REPORTS™ are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICBO Evaluation Service, Inc., express or implied, as to any finding or other matter in this report, or as to any product covered by the report.



Valleys must be flashed in accordance with Section 1508.3 of the 1997 *Uniform Building Code*™ (UBC). Where the roof slopes range from 2½:12 to less than 3:12, flashing sections have minimum 6-inch (152 mm) end laps.

Panels are fastened to wood battens with a minimum of four 6d corrosion-resistant common nails or equivalent. Panels are fastened to steel battens with a minimum of four No. 8 by 1-inch-long (25.4 mm), corrosion-resistant steel sheet metal screws or equivalent. One fastener is placed near the bottom on the downturn of the panel, approximately 1 inch (25 mm) from the overlapped edge of the adjoining panel. The remaining fasteners are evenly spaced across the panel at the same location as the first fastener.

Gable rakes are provided with a continuous gable cap piece or barge cover made and finished with the same materials as the roofing panels. Ridges and hips have the panels fastened to the side of the ridge or hip boards after mitering and bending, and are capped with hip/ridge caps made and finished with the same materials as the roofing panels. Panels are cut and bent down into valleys, leaving either an open or a closed valley. (See Figures 2-C, 3-E and 3-F.)

Openings in the roof must be flashed with standard roof jacks and flashing as required by Sections 1402.2 and 1509 of the UBC. Care must be taken to adequately weatherproof the openings and to support them with additional blocking or roof framing as necessary. The manufacturer's published installation recommendations, reference date December 1999, must be followed, and a copy shall be available upon request.

2.6 Roof Covering Classification:

Steel roof panels installed in accordance with this report on new roofs are noncombustible roof coverings in accordance with Section 1504.2 of the UBC. Noncombustible roof covering as defined in Section 1504.2 may be applied in lieu of a Class A, B or C fire-retardant roofing assembly as permitted by Section 1503 of the UBC.

2.7 Reroofing Application:

2.7.1 General: With the old roof covering removed, all conditions noted in Sections 2.1 to 2.6 of this report apply. The steel panels may be installed over existing wood shake, wood shingle, asphalt shingle, or built-up roofs as described in Sections 2.7.2, 2.7.3 and 2.7.4, provided the roof slope complies with Section 2.2. The existing roof must be inspected as set forth in Appendix Chapter 15 of the UBC.

When the steel panels are installed over an existing classified fire-retardant roof covering, the resulting fire-retardant classification remains unchanged.

When the steel panels are installed over wood shake or wood shingle roofs, the entire existing surface must be covered in accordance with Section 1516.3 and Table A-15-A of the UBC Appendix.

2.7.2 Installation Requirements for Reroofing over a Nonrated Roof Covering—Class C Fire-retardant Roofing Assembly: Ridge and hip caps must be removed and the existing roof covering cut back flush with the fascia or barge cover. The 1-by-4 counterbattens are installed parallel to the framing members, to provide a base for the roofing system, at a maximum spacing of 24 inches (610 mm) on center. Counterbattens are fastened through the existing roof covering to the framing, or through the sheathing, using minimum 16d common nails or equivalent, spaced a maximum of 12 inches (305 mm) on center and

penetrating at least 1 inch (25.4 mm) into the roof framing member or completely through minimum ¾-inch-thick (19.1 mm) sheathing. The diamond point of the nail must be fully exposed on the underside of the sheathing. Battens, spaced 14½ inches (368 mm) on center for Tile and Shingle profiles or 12⅝ inches (321 mm) on center for Shake profiles, are nailed to the counterbattens with 16d common nails or equivalent. The panels are fastened to the batten system in the same manner as described in Section 2.5. New flashing must be installed over and around all existing flashing, vents and chimneys in accordance with this report and the UBC. The valley used in reroof applications must be as shown in Figure 3.

When the steel panel roofing system is installed over wood shake or wood shingle roofs, 1½-inch-thick (38 mm) fiberglass insulation is installed over the existing wood roof, between the 2-by-2 battens, to comply with the requirements of Section 1516.3 of the UBC Appendix. See Figure 4 for Class C roofing assembly over wood shake or wood shingles.

When installation is over existing nonrated built-up roof coverings, all loose gravel and debris must be swept off. Blisters in the plies must be cut and nailed flat. Raised perimeters, such as gravel stops, must be covered by the roofing system. The system may be installed over integral gutters, provided there is a fascia board, nailed to the rafters, installed outside the gutter.

Steel roof panels so installed over existing roofs comply with UBC Standard 15-2 and are Class C fire-retardant roofing assemblies.

2.7.3 Installation Requirements for Reroofing over a Nonrated Roof Covering—Class B Fire-retardant Roofing Assembly: Installation is similar to that for the Class C assembly described in Section 2.7.2, except an underlayment of 1½-inch-thick (38 mm), foil-faced fiberglass batt insulation, listed by a quality control agency accredited by ICBO ES, is installed with the foil-face up and with 2-inch (51 mm) head laps over the existing roof surface, prior to the installation of the batten system. As an alternative to 1½-inch-thick (38 mm), foil-faced fiberglass, use one layer of ELK VersaShield Underlayment as described in evaluation report ER-5627.

When the steel panel roofing system is installed over wood shake or wood shingle roofs, the above 1½-inch-thick (38 mm), foil-faced fiberglass insulation or one layer of Elk VersaShield Underlayment (ER-5627) installed over the existing wood roof, satisfies the requirements of Section 1516.3 and Table A-15-A of the UBC Appendix. See Figure 4 for Class B roofing assembly over wood shakes or wood shingles.

Steel roof panels so installed over existing roofs comply with UBC Standard 15-2 and are Class B fire-retardant roofing assemblies.

2.7.4 Installation Requirements for Reroofing over a Nonrated Roof Covering—Class A Fire-retardant Roofing Assembly: Installation is the same as that for Class C, except a layer of minimum ½-inch-thick (12.7 mm) water-resistant core gypsum sheathing, complying with ASTM C 79-92, is installed over the counterbattens using 4d drywall nails or equivalent. The gypsum sheathing joints must be tightly butted. As an alternative to ½-inch-thick (12.7 mm) gypsum sheathing, use two layers of Elk VersaShield Underlayment as described in evaluation report ER-5627.

When the steel panel roofing system is installed over wood shake or wood shingle roofs, the above 1/2-inch-thick (12.7 mm) water-resistant core gypsum sheathing, installed over the counterbattens and covering the entire surface of the existing wood roof or one layer of EK VersaShield Underlayment (ER-5627), satisfies the requirements of Section 1516.3 and Table A-15-A of the UBC Appendix. See Figure 4 for Class A roofing assembly over wood shakes or wood shingles.

Steel roof panels so installed over existing roofs comply with UBC Standard 15-2 and are Class A fire-retardant roofing assemblies.

2.8 Structural Diaphragm:

Steel roofing panel systems may be used as structural roof diaphragms when constructed as indicated in Sections 2.5 and 2.7 of this report, but with counterbatten nailing as indicated in Section 2.8. Installation over an existing wood shake roof is acceptable, provided the shakes are in nailable condition, with all shakes securely fastened in accordance with Table 15-B-2 of the code. Counterbattens must be fastened through to framing members or completely through existing spaced sheathing, with one nail per intersection with spaced sheathing.

If the wood shakes or shingles are installed on nominal 1-by-6 spaced sheathing nailed to framing as specified in the code, or if the shakes are installed over solid sheathing, 1-by-4 counterbattens, aligned over framing spaced at 24 inches (610 mm) on center (maximum), are secured with minimum 16d common nails or equivalent, nailed at 10 inches (254 mm) on center. The nails must be long enough to penetrate 1 inch (25.4 mm) into framing or for the diamond point to penetrate through the sheathing. Nails must be within 6 inches (152 mm) of counterbatten ends.

If the wood shakes or shingles are installed over nominal 1-by-4 spaced sheathing nailed to the framing in accordance with the code, 1-by-4 counterbattens aligned over framing at 24 inches (610 mm) on center (maximum) are secured with minimum 16d common nails or equivalent nailed at 7 inches (178 mm) on center. The nails must be long enough to penetrate through the sheathing.

With existing wood shake or shingle roofing removed, or for new construction, the 1-by-4 counterbattens, aligned over framing spaced at 24 inches (610 mm) on center (maximum), must be fastened with minimum 16d common nails or equivalent, nailed at 10 inches (254 mm) on center.

To support the panels, nominal 2-by-2 battens are placed

across the counterbattens at 14 1/2 inches (368 mm) on center for Tile and Shingle profiles and at 12 5/8 inches (321 mm) for shake profiles. The battens are attached with one 16d common nail at each framing intersection. The panels must be installed in accordance with Section 2.5 of this report.

The resulting diaphragm has an allowable shear equivalent to 15/32-inch-thick (12 mm) structural wood panel sheathing installed in accordance with Table 23-II-H of the UBC using 8d nails over 2-inch nominal (51 mm nominal) wood framing members in an unblocked diaphragm. The maximum aspect ratio is 4:1. Diaphragm deflections may be estimated using the equations in Section 23.222 of UBC Standard 23-2, using values for 15/32-inch-thick (12 mm) wood structural panels.

2.9 Wind Uplift:

Steel roofing panels installed with not less than four 6d corrosion-resistant common nails having a minimum 1 1/8-inch (28.6 mm) penetration into battens are acceptable on any portion of a roof having a maximum height of 40 feet (12 192 mm) in areas identified as Exposure B as set forth in Table 16-G of the UBC, with a maximum basic wind speed of 80 miles per hour (129 km/h). This is equivalent to a maximum design pressure of 35.8 psf (1.71 kPa) as defined in Section 1620 of the UBC.

2.10 Identification:

Affixed to each pallet is a tag showing the Tasman Roofing, Inc., name and address, the product name and the evaluation report number (ICBO ES ER-4361).

3.0 EVIDENCE SUBMITTED

Data in accordance with the ICBO ES Acceptance Criteria for Metal Roof Covering (AC166), dated March 2000; results of comparative racking-shear tests; and installation instructions.

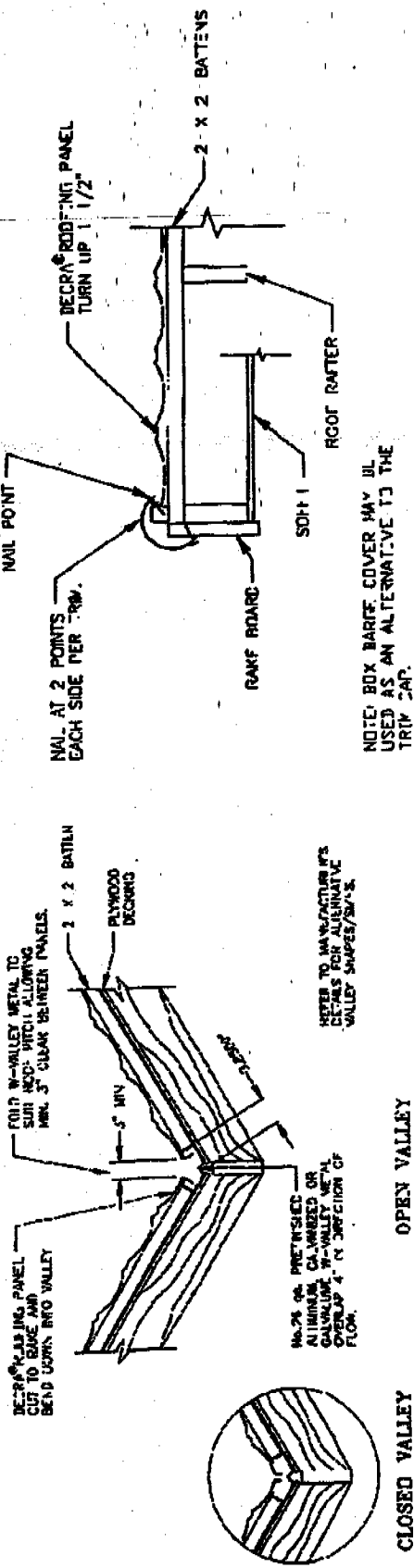
4.0 FINDINGS

That the steel roofing panels described in this report comply with the 1997 *Uniform Building Code*™, subject to the following conditions:

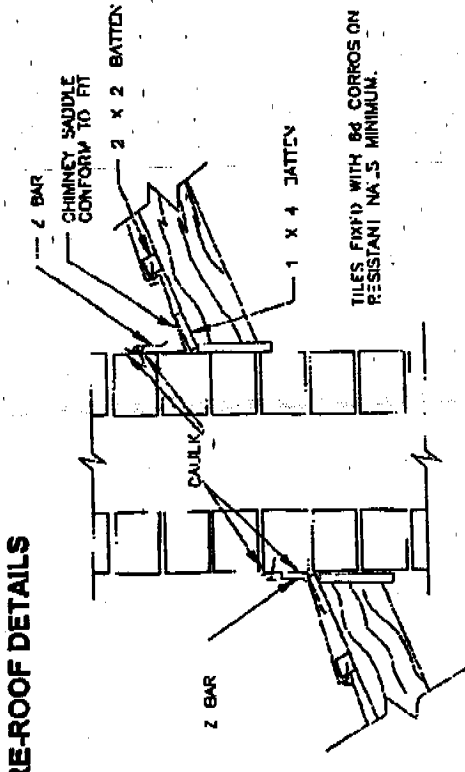
- 4.1 They are manufactured, identified and installed in accordance with this report and the manufacturer's instructions.
- 4.2 Installation is performed by installers field trained by Tasman Roofing, Inc.

This report is subject to re-examination in two years.

INSTALLATION DETAILS—NEW CONSTRUCTION (Continued)

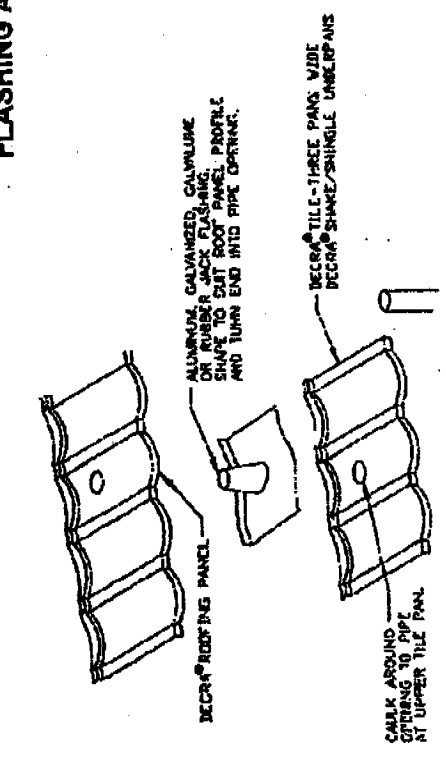


RAKE DETAIL WITH PANEL TURN UP
FIGURE 2-D

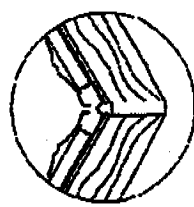


BRICK CHIMNEY AND ROOF TO WALL FLASHING
FIGURE 3-B

FLASHING AND RE-ROOF DETAILS



VENT PIPE ROOF PENETRATION IN LINE FOR ASSEMBLY
FIGURE 3-A



CLOSED VALLEY

OPEN VALLEY

VALLEY DETAILS

FIGURE 2-C

REFER TO MANUFACTURER'S DETAILS FOR ALTERNATIVE VALLEY SHAPES/SIZES.

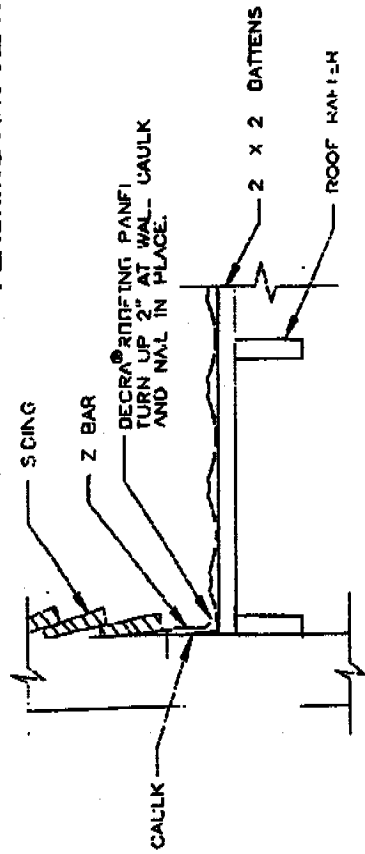
NA-25 OR PRE-FINISHED ALUMINUM GALVANIZED CALVALUME ON INSIDE OF ROOF PANEL PROFILE OVERLAP 4" IN DIRECTION OF FLOW.

ALUMINUM GALVANIZED CALVALUME ON INSIDE OF ROOF PANEL PROFILE AND TURN END INTO PIPE OPENING.

DECK TILE-THREE PANS WIDE DECK SHAKE/SHINGLE UNDERPANS

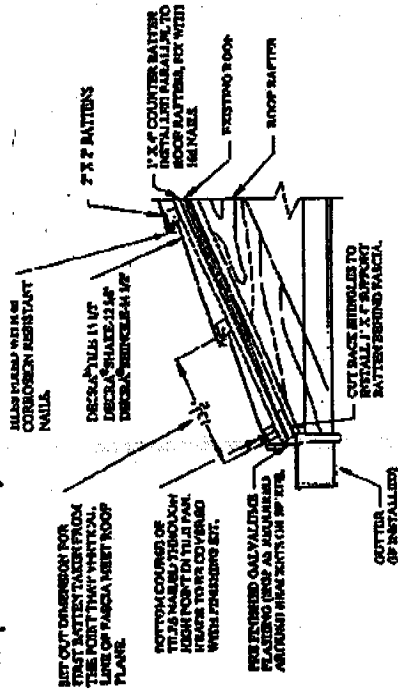
CAULK AROUND OPENING TO PIPE AT UPPER TILE PAN.

FLASHING AND RE-ROOF DETAILS (Continued)



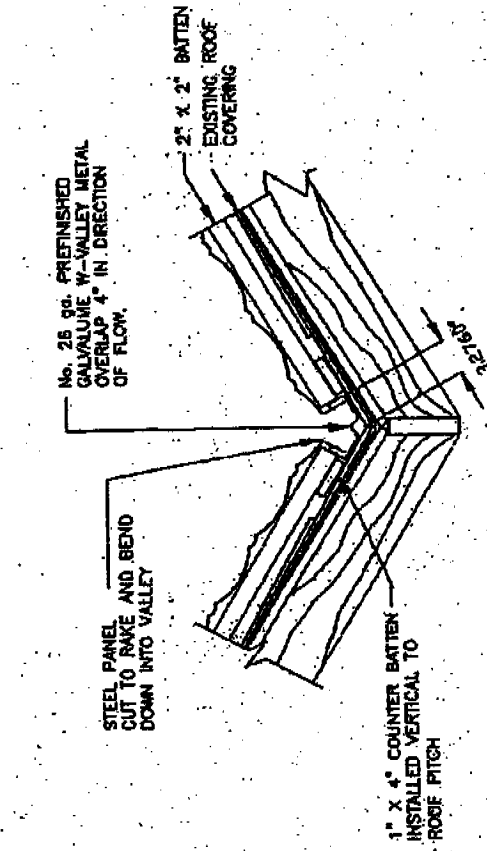
ROOF TO WALL FLASHING

FIGURE 3-C



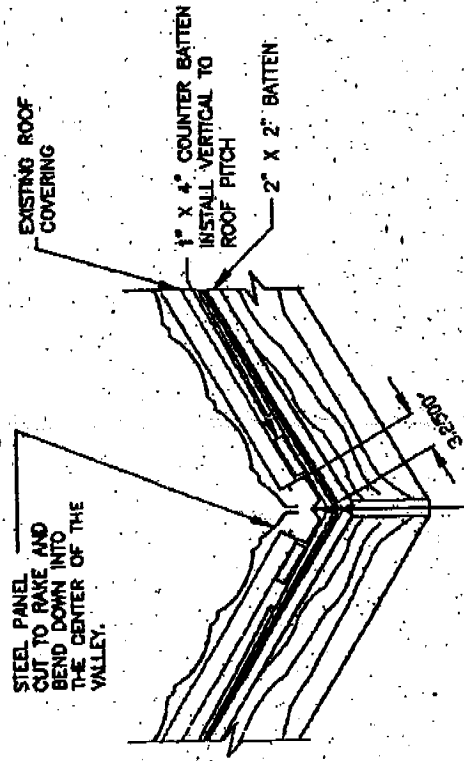
BATTEN LAYOUT REROOF

FIGURE 3-D



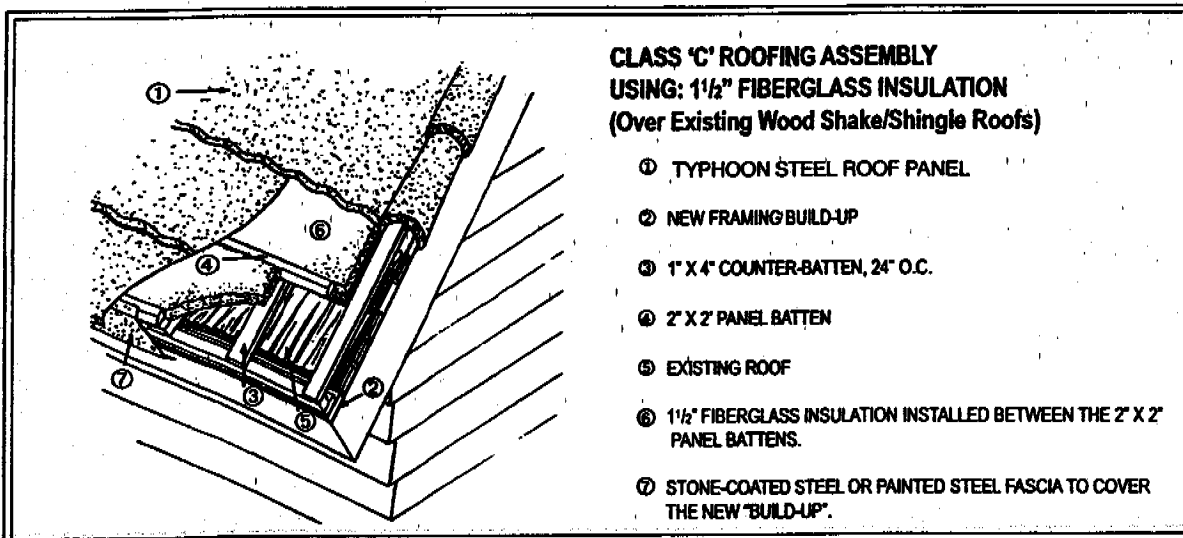
OPEN VALLEY DETAIL

FIGURE 3-E



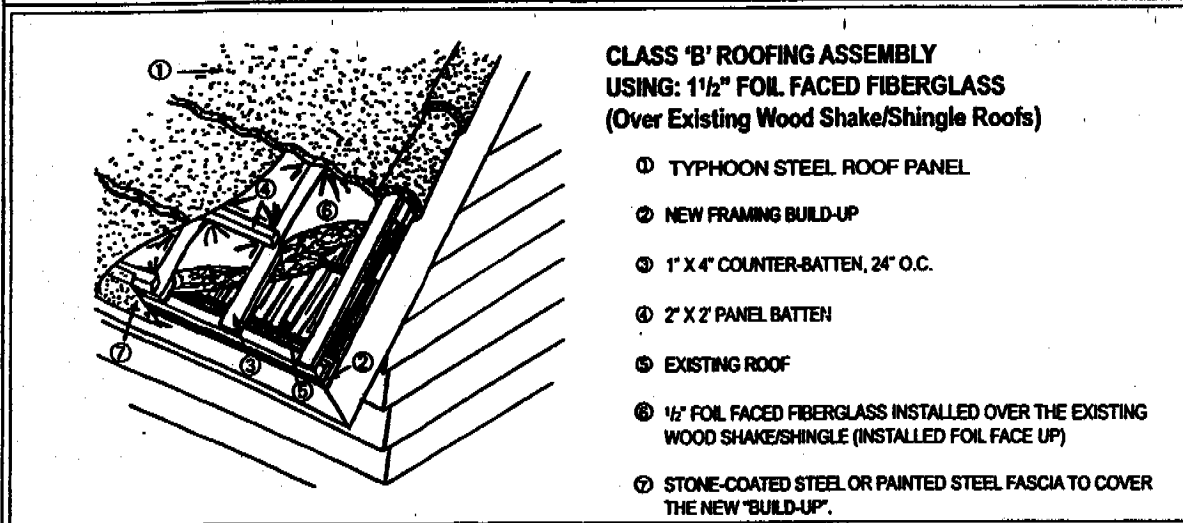
CLOSED VALLEY DETAIL

FIGURE 3-F



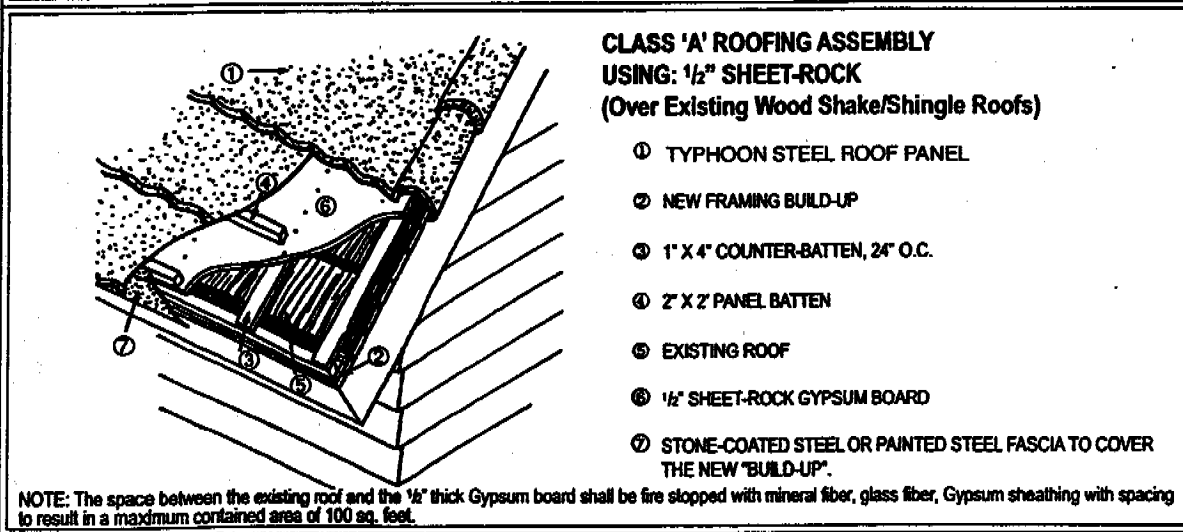
**CLASS 'C' ROOFING ASSEMBLY
USING: 1 1/2" FIBERGLASS INSULATION
(Over Existing Wood Shake/Shingle Roofs)**

- ① TYPHOON STEEL ROOF PANEL
- ② NEW FRAMING BUILD-UP
- ③ 1" X 4" COUNTER-BATTEN, 24" O.C.
- ④ 2" X 2" PANEL BATTEN
- ⑤ EXISTING ROOF
- ⑥ 1 1/2" FIBERGLASS INSULATION INSTALLED BETWEEN THE 2" X 2" PANEL BATTENS.
- ⑦ STONE-COATED STEEL OR PAINTED STEEL FASCIA TO COVER THE NEW "BUILD-UP".



**CLASS 'B' ROOFING ASSEMBLY
USING: 1/2" FOIL FACED FIBERGLASS
(Over Existing Wood Shake/Shingle Roofs)**

- ① TYPHOON STEEL ROOF PANEL
- ② NEW FRAMING BUILD-UP
- ③ 1" X 4" COUNTER-BATTEN, 24" O.C.
- ④ 2" X 2" PANEL BATTEN
- ⑤ EXISTING ROOF
- ⑥ 1/2" FOIL FACED FIBERGLASS INSTALLED OVER THE EXISTING WOOD SHAKE/SHINGLE (INSTALLED FOIL FACE UP)
- ⑦ STONE-COATED STEEL OR PAINTED STEEL FASCIA TO COVER THE NEW "BUILD-UP".



**CLASS 'A' ROOFING ASSEMBLY
USING: 1/2" SHEET-ROCK
(Over Existing Wood Shake/Shingle Roofs)**

- ① TYPHOON STEEL ROOF PANEL
- ② NEW FRAMING BUILD-UP
- ③ 1" X 4" COUNTER-BATTEN, 24" O.C.
- ④ 2" X 2" PANEL BATTEN
- ⑤ EXISTING ROOF
- ⑥ 1/2" SHEET-ROCK GYPSUM BOARD
- ⑦ STONE-COATED STEEL OR PAINTED STEEL FASCIA TO COVER THE NEW "BUILD-UP".

NOTE: The space between the existing roof and the 1/2" thick Gypsum board shall be fire stopped with mineral fiber, glass fiber, Gypsum sheathing with spacing to result in a maximum contained area of 100 sq. feet.

FIGURE 4—CLASS A, B AND C ROOFING