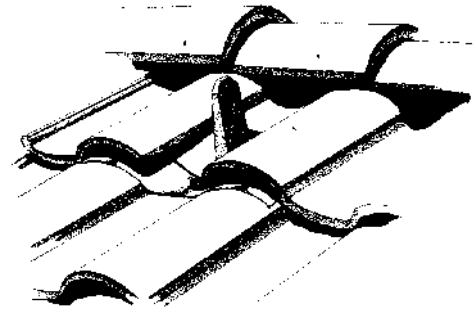


SUPER ANCHOR® ARS TILE ROOF ANCHOR #1020
Compatible with High / Low Profile Roof Tiles
14 Gauge Stainless Steel

INSTALLATION/SPECIFICATION GUIDE

Note to User:

This manual is a supplement to the primary, 6 page instruction manual for the ARS 2x8; 2x12 roof anchors, dated 3/2000, and is not intended to replace or substitute the primary manual. If you do not have the "primary" manual, you need to obtain a copy before installing or using the ARS Tile Roof Anchor. You may request the primary ARS 2x8 Instruction/Specification manual by contacting your distributor or the manufacturer using the phone number or web site listed here. **(425) 488-8868** or **www.superanchor.com**.



ARS TILE ROOF ANCHOR

The stem is 1-1/4" longer than the ARS 2x8/2x12 which allows the tile flashing base (Part #2020), to be installed over high and low profile roof tiles with sufficient stem penetration through the flashing boot to enable a lifeline to be attached. Manufactured in only one size, the 14 gauge anchor will attach to all standard framing members by bolting under the top chord or drilling through. See **Figs. 8a & 8b** on page 3.

ANCHOR INSTALLATION

As an approved installation option, anchors installed near the ridge may be positioned 10.0" down to avoid cutting two courses of tile (**Fig. 3**), and for more efficient top flashing when used.

This varies from the 12.0" specification for ARS 2x8 / 2x12 anchors. When using the buried method (page 4), the 12.0" anchor location shown in **Fig. 2**, may also be used; however, when using the top flashing method (page 6), the 10.0" anchor location will be required for the top edge of the flashing base to be overlapped by the ridge tile.

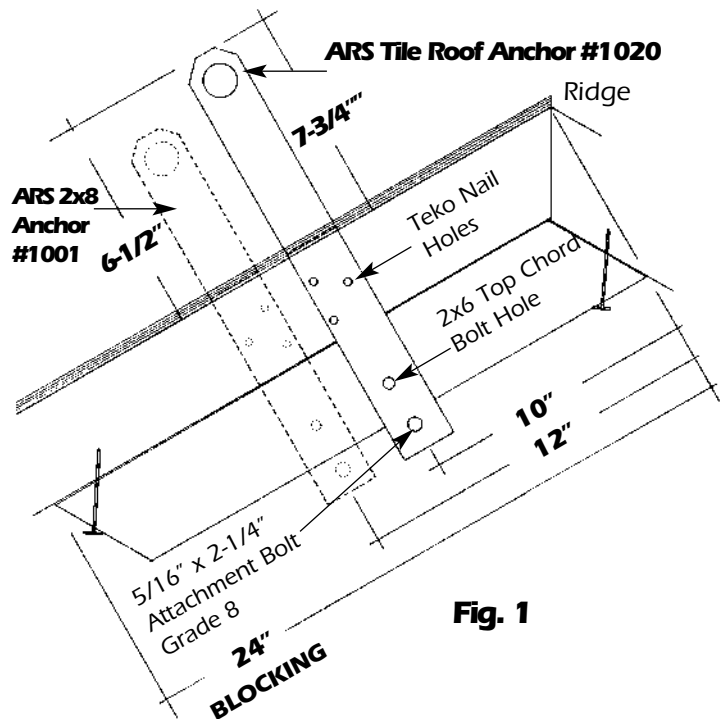


Fig. 1

ANCHOR POSITION / TOP CHORD

High Profile S-Tile shown

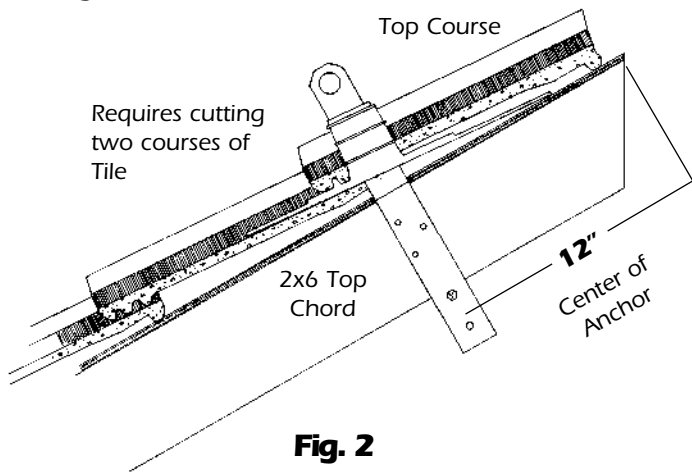


Fig. 2

Flat Profile Tile shown

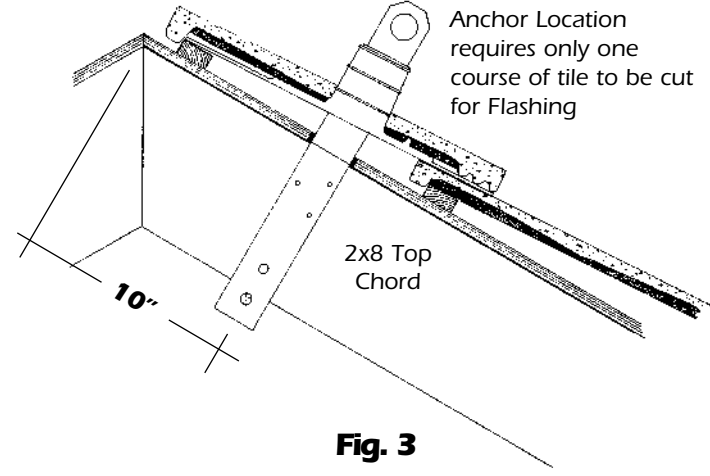


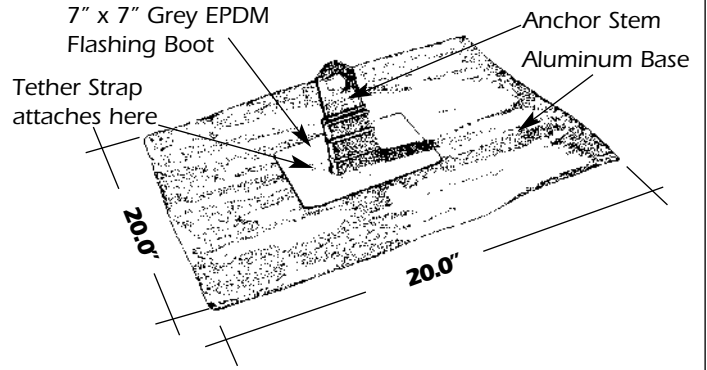
Fig. 3

FLASHING BASE

The ARS tile roof anchor is designed to be used with **Part #2020** tile roof flashing base. See **Fig. 4**. The grey 7.0" x 7.0" EPDM flashing boot is vulcanized to a malleable .024" thick aluminum base of 20" x 20" and allows the greatest degree of flexibility in application over a wide range of tile profiles.

The installer will need to form, trim, caulk, and secure the flashing base using the suggestions in this manual along with customary local practices and tile installation specifications. The aluminum base is designed to replace lead flashing bases that may not be approved for installation in your area. However, custom size lead flashing bases are available upon request, as well as custom designed roof anchors.

Fig. 4 Tile Flashing - Part #2020



ANCHOR INSTALLATION PROCEDURE

Position anchor 10.0" down from the ridge and mount on top chord, (**Fig. 5**). Plywood or OSB sheathing may be cut around stem penetration covering the anchor shoulder or a 3.0" x 3.0" opening may be cut to allow the anchor to be removed if needed.

TOP CHORD BLOCKING

For 2x4 top chords, a 24.0" length 2x4 block is required to be attached to the underside of the top chord as shown in **Fig. 5**. Extend the upper end of the blocking as far into the opposite truss member as possible. A minimum of 5.0" of "contact" length is recommended where the top edge of the blocking intersects the bottom edge of the top chord. When truss center posts or intersecting web members reduce the "contact" length to less than 5.0", then the anchor may be moved downslope far enough to allow the blocking to be installed per **Fig. 5a**. If moving the anchor location is not practical, it is recommended that you consult your truss Manufacturer or engineer regarding additional blocking or bracing that may be used.

When web members interfere with top chord blocking, the anchor position can be moved downslope using standard course spacing. (Typical 13.0" for concrete tile)

Fig. 5

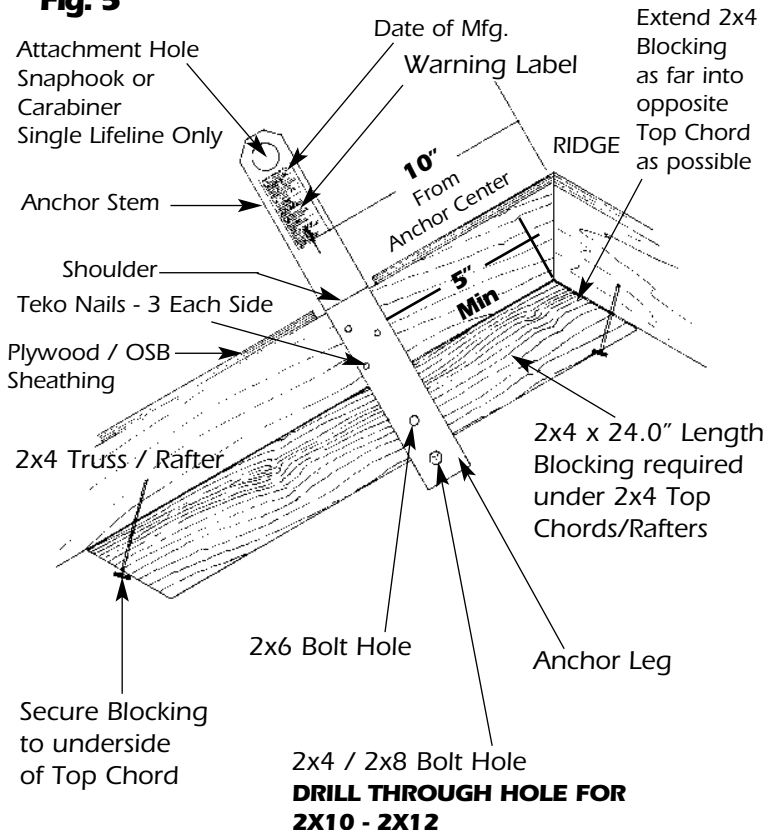


Fig. 5a

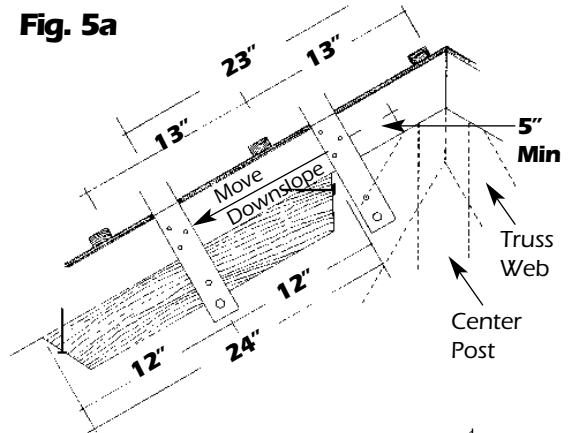
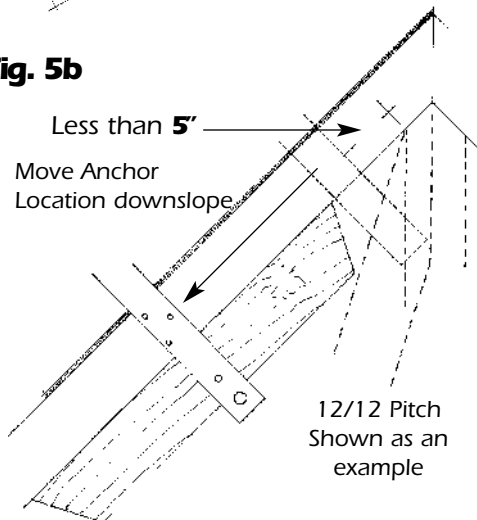


Fig. 5b

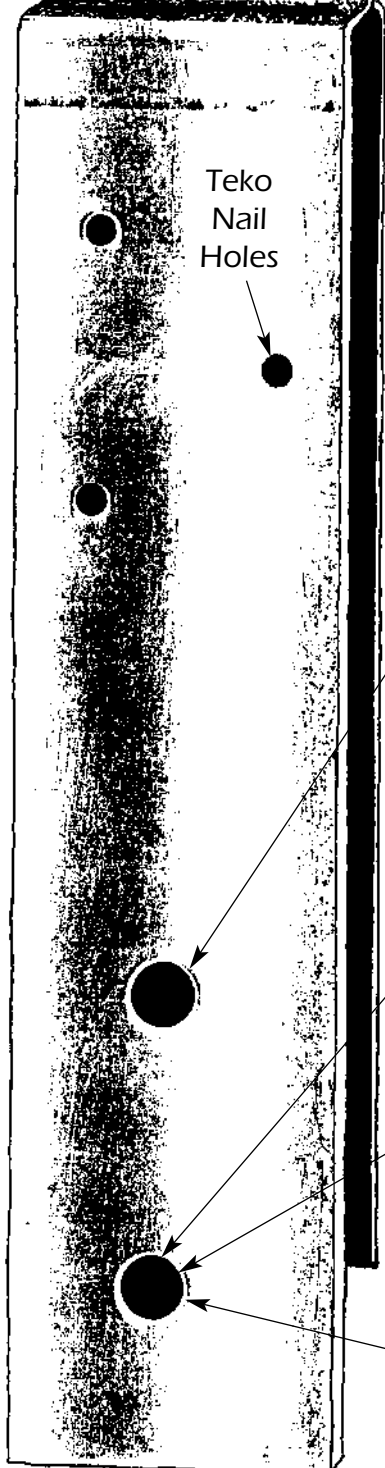


HORIZONTAL SYSTEMS WITHOUT ENGINEERING.
INSTALLATION FASTENERS:
 Use ONLY mfg. supplied fastener pkg.
 Grade 8 bolt w/lock nut.
 DO NOT DRILL RAFTER, EXCEPT AS NOTED IN MANUFACTURER'S INSTRUCTION MANUAL.
FLASHING SYSTEM:
 #2007 Storm Cover and #2020 Flashing base must be installed to ensure a waterproof installation.
ANCHOR SIZE SPECIFICATION:
 2x4, 2x6, 2x8 - Part #1020 or 2820
 2x10, 2x12 - Part #1020 or 2820
 Note: Installation on 2x10 or 2x12 requires drilling through rafter.
 Rev. 2/807

ATTACHING ANCHOR TO TOP CHORD

Attachment Bolt Kit w/Lock Nut - Part #2006

The ARS Tile Roof Anchor is designed to be attached to the Top Chord by using the factory supplied Grade 8; 2-1/4" x 5/16" bolt and lock nut provided with each anchor. DO NOT SUBSTITUTE WITH OTHER BOLTS. USE ONLY FACTORY SUPPLIED FASTENERS.



ARS TILE ROOF ANCHOR
Part #1020 **Fig. 6**

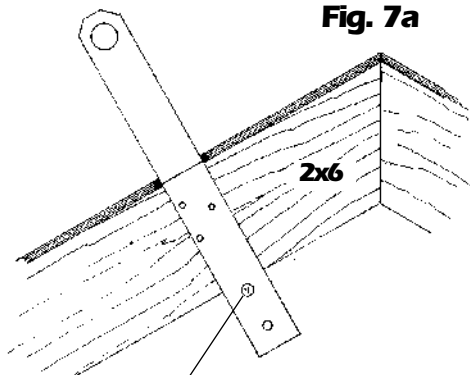


Fig. 7a

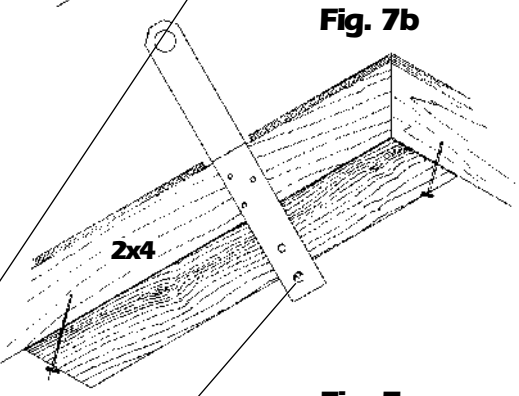


Fig. 7b

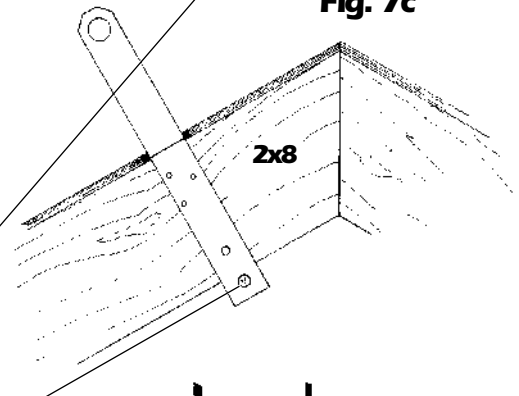


Fig. 7c

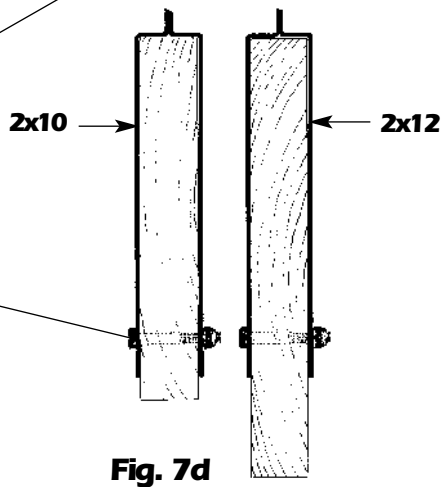


Fig. 7d

BOLT UNDER 2x4 - 2x6 - 2x8

For 2x4, 2x6, and 2x8 Top Chords. The attachment bolt will be visible as shown in Fig. 8a. A gap may exist between the bolt and truss.

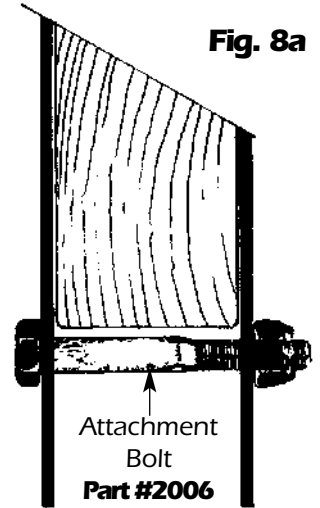


Fig. 8a

WARNING: DO NOT USE THE ANCHOR IF THE ATTACHMENT BOLT IS NOT INSTALLED. TEKONAILS WILL PULL OUT WITH APPROXIMATELY 300-500 LBS. OF FORCE.

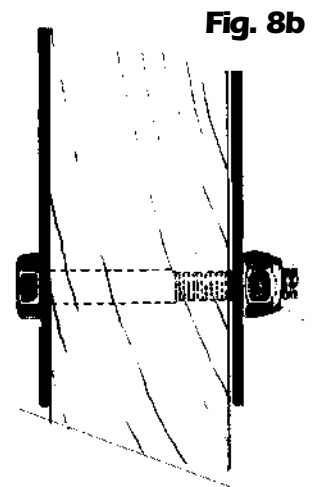


Fig. 8b

DRILL THROUGH 2x10 - 2x12

For 2x10 and 2x12 Top Chords, drill the lowest bolt hole location through the Rafter using a 3/8" drill bit.

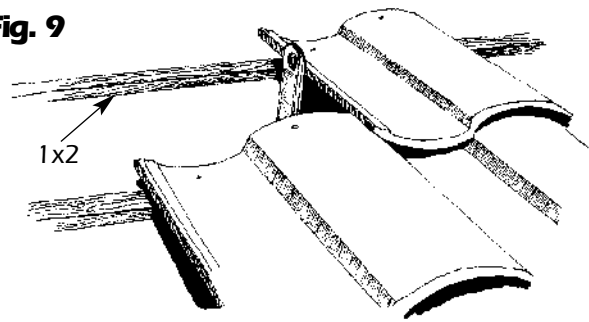
FLASHING INSTALLATION

Mission S / Espania Styles - Buried Flashing Method

Using Tile roof flashing base #2020, high profile tiles can be easily flashed utilizing the buried method whereby the flashing base is overlapped by a succeeding course of tile; either at the ridge or in the field.

The amount of anchor stem visible after flashing depends on the anchor position relative to the tile pan (Fig. 10a & 10b), or barrel section (Fig. 11a & 11b). It is recommended that at least 50% of the anchor attachment hole is visible above the flashing boot, so a lifeline may still be attached by pushing the flashing boot down slightly.

Fig. 9



NOTE: ELEVATION DIFFERENCE WITH OR WITHOUT BATTENS IS APPROXIMATELY 1/4".

BURIED FLASHING - PAN PENETRATION

Anchor stem extends approximately 3.0" above flashing boot.

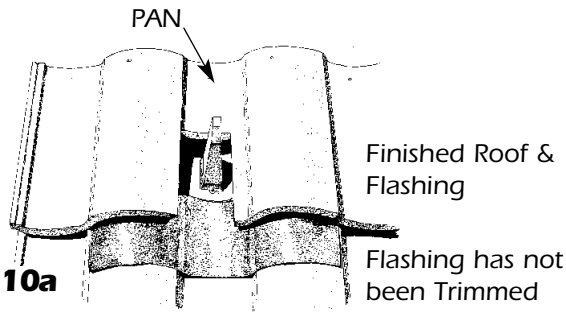


Fig. 10a

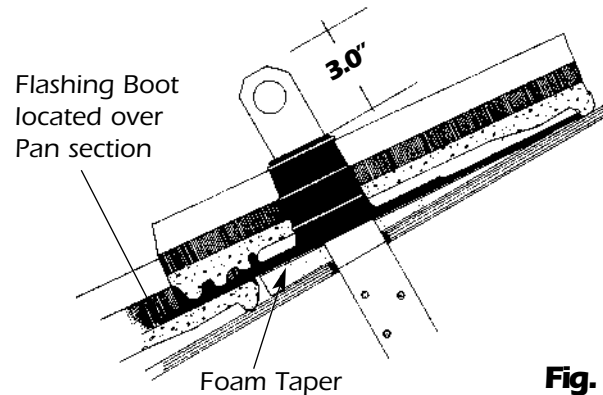


Fig. 10b

Stem extends approximately 1-1/4".

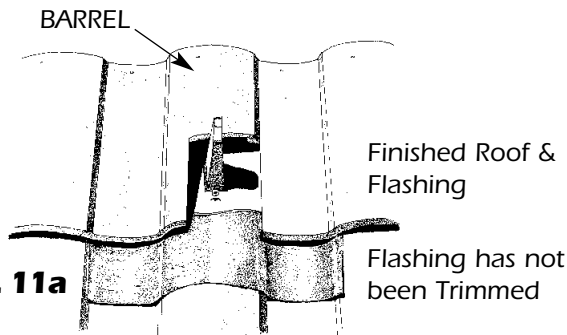


Fig. 11a

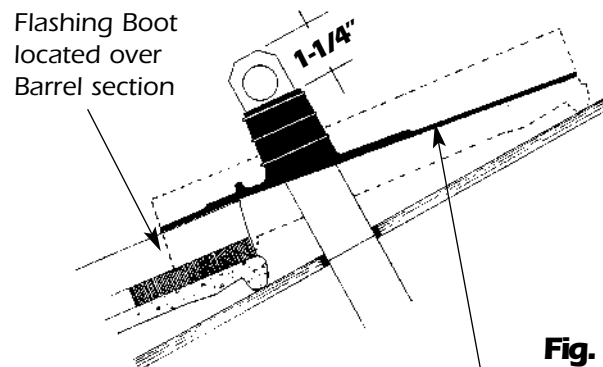


Fig. 11b

NOTE: If desired, the angle and elevation of the flashing base when installed over the barrel section, may be reduced by using one or more of the methods shown on page xx.

PREPARING FLASHING

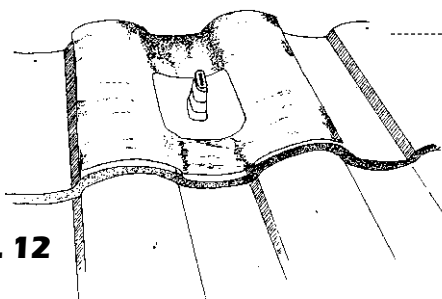


Fig. 12

- 1) Set flashing base over anchor stem and form to tile contour.
- 2) Anti-ponding support under the flashing base can be provided by foam taper, concrete mortar, or other moisture resistant type material. See Fig. 10b above.

TRIM / SECURE / CAULK

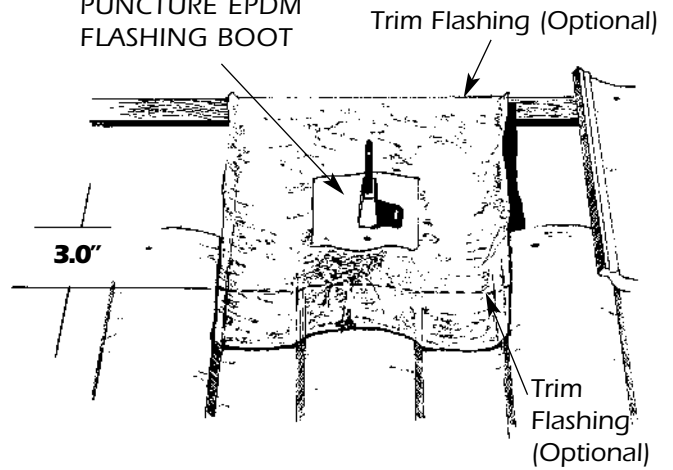
3) Flashing may be trimmed at the bottom edge to reduce visibility. Allow a minimum of 3.0" overlap onto preceding course. Maintain at least a 2.0" margin between the EPDM portion of the flashing and any trimmed edges of the aluminum base. If battens are used, the top edge may be trimmed to prevent interference with tile lugs.

OVERLAPPING CUT TILES

Cut tiles may be fitted before or after the flashing base has been trimmed, secured, and caulked. Take care not to damage the flashing during tile cutting.

DO NOT CUT OR PUNCTURE EPDM FLASHING BOOT

Fig. 13



Secure the flashing to prevent movement by using approved fasteners such as screws, nails, or metal clips, compatible with aluminum.

Fig. 14

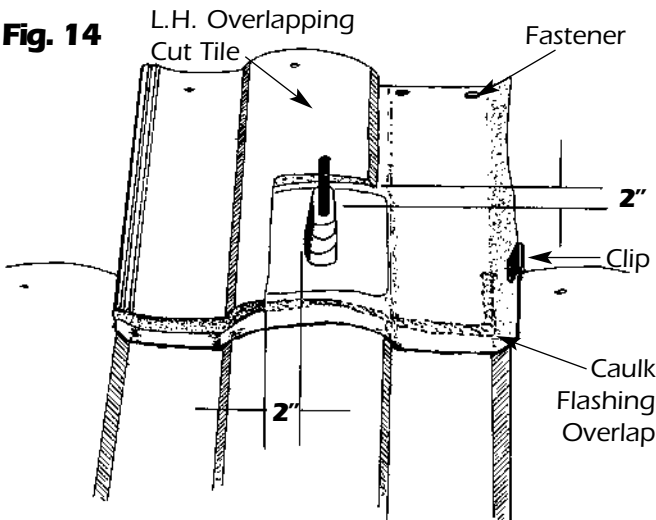
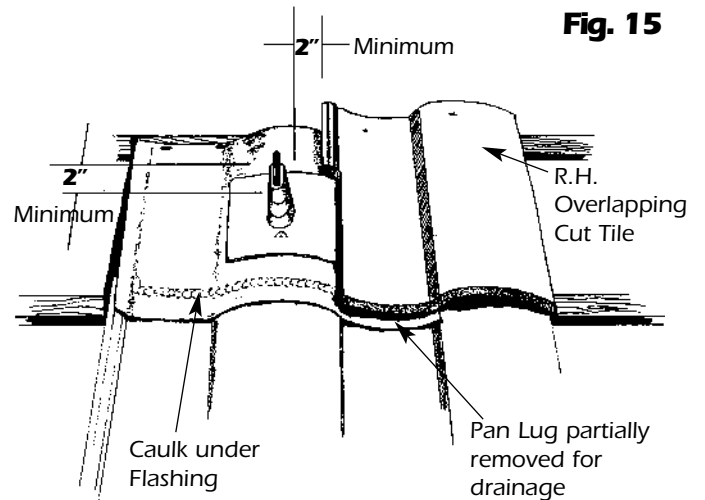


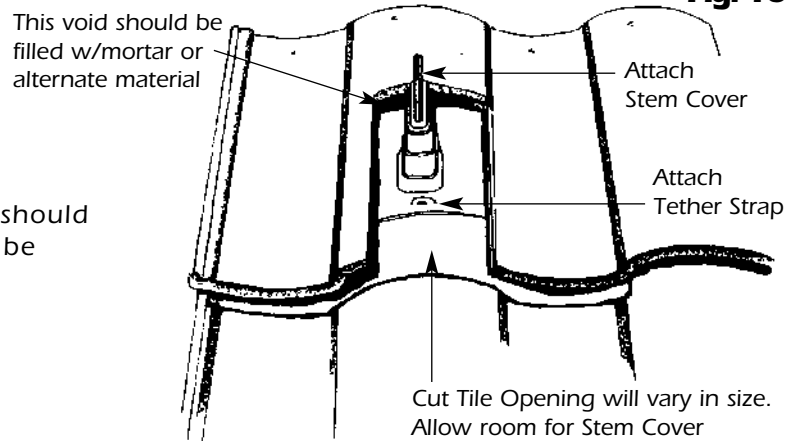
Fig. 15



4) A caulking that is compatible with aluminum and concrete or clay tile, should be used to seal the bottom edge of the flashing base where it overlaps the preceding course of tile. Be sure to remove all dust, debris, or any moisture from the tile and flashing before caulking.

Tile lugs located on the underside of the pan section, nested over the flashing base, may be removed or modified to allow the flashing to drain properly. Usually a portion of the lug is left intact to support the tile and maintain continuity.

Fig. 16



5) Depending on customary methods, the finished opening around the flashing boot should allow sufficient room for the stem cover to be attached / removed easily. **Fig.10a.**

FLASHING INSTALLATION

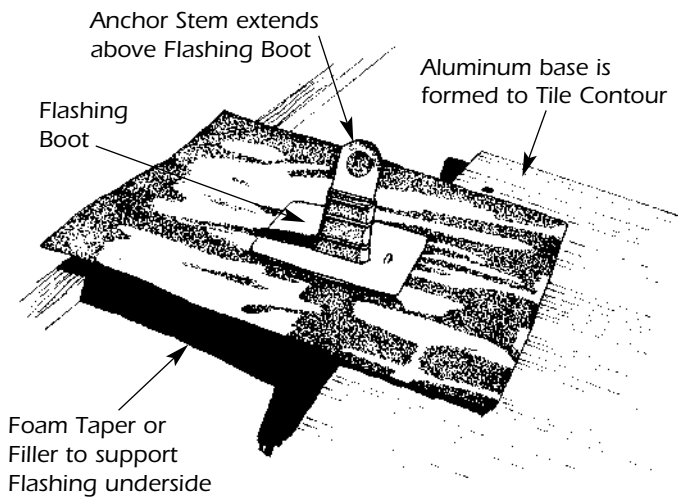
Flat Profile Tiles / Buried Flashing Method

Tile Roof Anchor #1020 Flashing Base #2020 with 1/2" Sheathing

FLASHING OPTIONS

The following instructions may be used with flat profile concrete tiles when installed with or without battens. Roof sheathing thickness may be increased provided the anchor stem extends above the flashing boot sufficient to allow lifeline connection.

Fig. 17



1) Set flashing over anchor stem and ensure that at least 50% of the attachment hole is visible above the flashing boot. Shape aluminum base to conform to tile contours.

OPTIONAL: A foam taper or other type of water resistant material may be used to support the underside of the flashing. See **Fig. 23** on page 7.

2) Trim flashing base top and bottom edges if needed to conform to tile installation. If bottom edge is to be trimmed back, allow a minimum of 3.0" to overlap onto lower course.

WARNING: DO NOT CUT INTO EPDM FLASHING BOOT WHERE IT IS ATTACHED TO THE ALUMINUM BASE.

NOTE: When installing without battens, the top edge may be bent upward or trimmed at the ridge and overlapping tiles nailed through. See **Fig. 25** on page 8.

Fig. 18

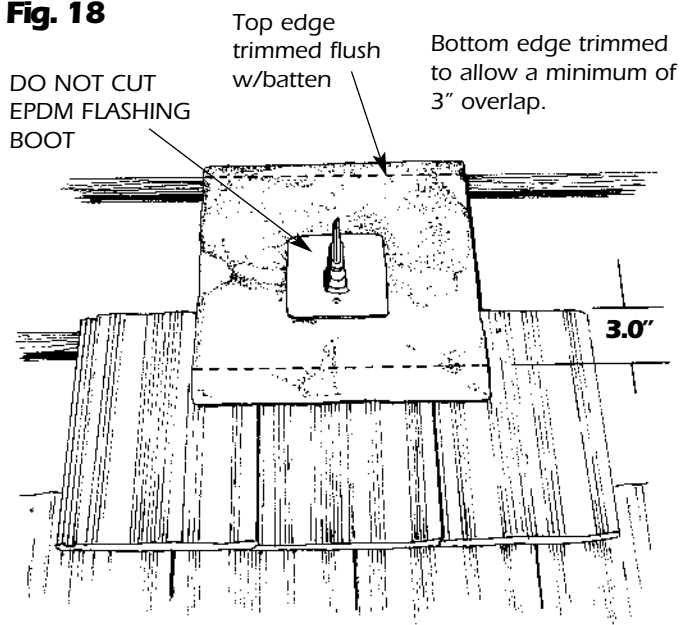
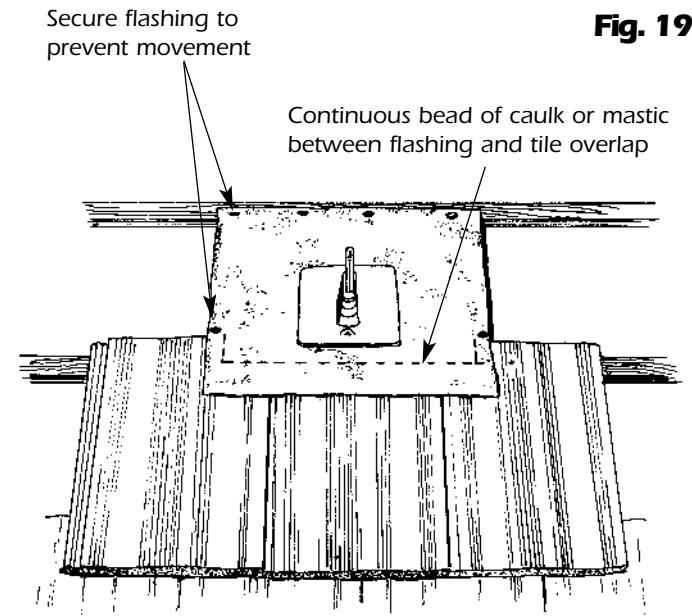


Fig. 19



3) Fasten flashing to batten or roof sheathing at top and bottom to prevent movement. Apply a continuous bead of sealant or caulking between flashing and roof tile. Make sure roof tile and back side of flashing are clean and dry before caulking.

4) Cut overlapping tiles to allow a 4.0" minimum horizontal opening for the flashing boot and about 2.0" above the flashing boot. Sufficient tolerances of cut tiles need to allow the stem cover to be installed without touching the overlapping tiles.

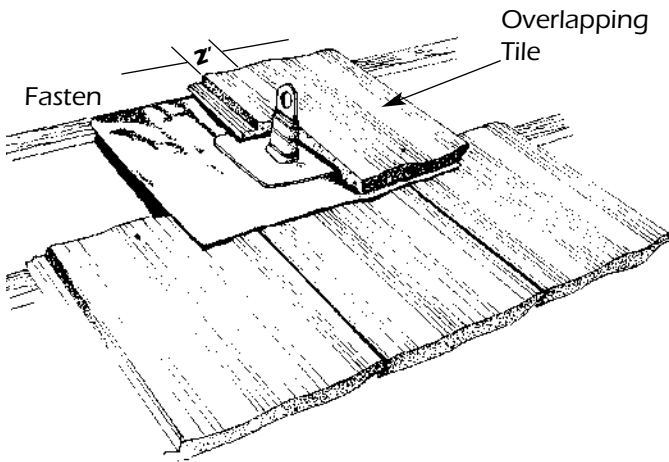


Fig. 20

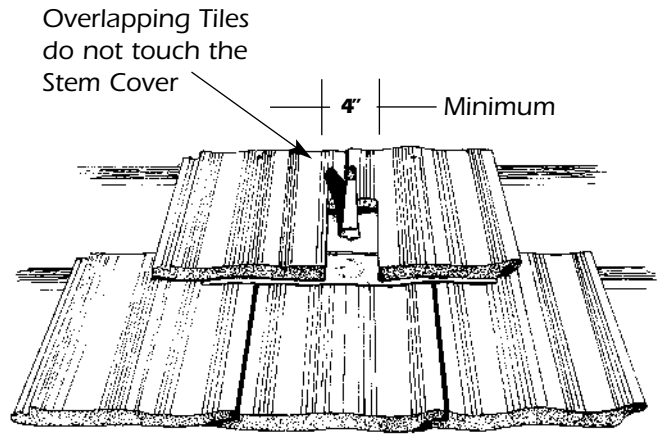


Fig. 21

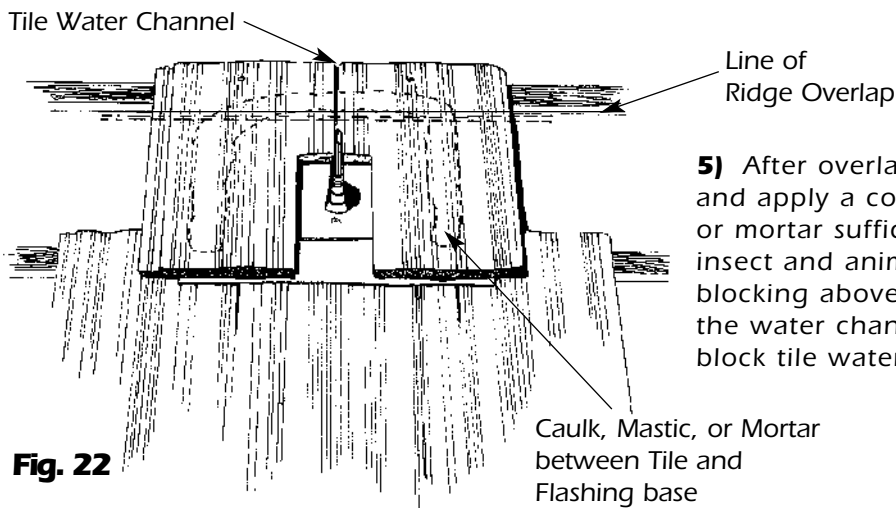


Fig. 22

5) After overlapping tiles have been cut, remove and apply a continuous bead of sealant, caulking, or mortar sufficient to prevent wind, rain, dust, insect and animal penetration. Extend sealant / blocking above the ridge overlap where it intersects the water channel. Care must be taken not to block tile water channels with sealant.

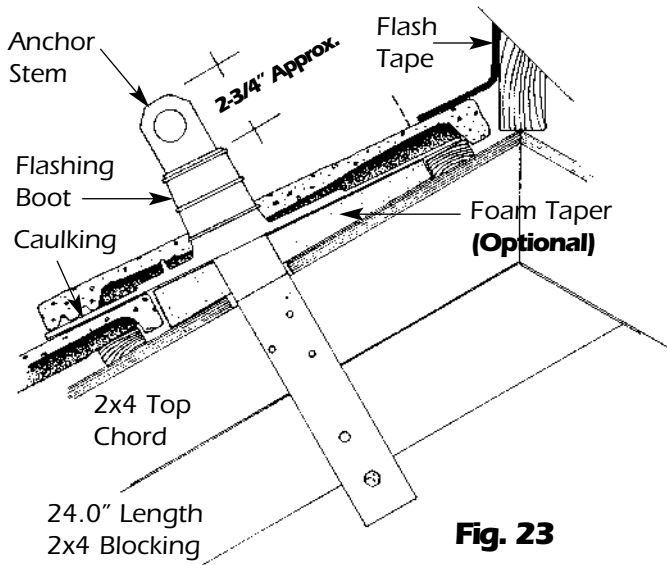


Fig. 23

6) Using the buried flashing method with flat profile tiles, the anchor stem should extend approx. 2-3/4" above the flashing boot's stem section. Flash tape or other water resistant material should be used to seal between ridge and overlap tiles.

NOTE: Ridge board and battens are optional depending on tile installation specification.

FLASHING ALTERNATES

7) Flashing edges may be hemmed or turned up as shown in **Figs. 24a & 24b**. Sealant, caulk, or mortar blocking shown in **Fig. 22** on page 7, may also be used with this detail. Flashing can also be secured to the sheathing using sheet metal clips instead of nails if preferred.

NOTE: Blocking sealant between flashing and overlap tiles should contact only the aluminum portion of the flashing base.

DO NOT ALLOW CAULKING OR MASTIC TO COME IN CONTACT WITH THE EPDM (GREY PART) OF THE FLASHING BOOT OR STEM COVER.

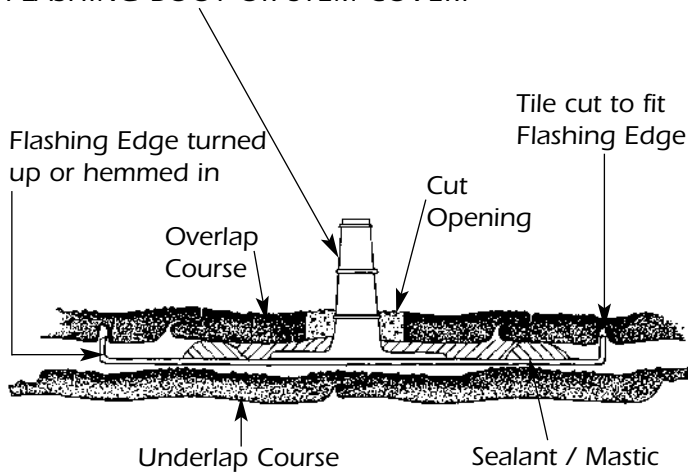


Fig. 24a

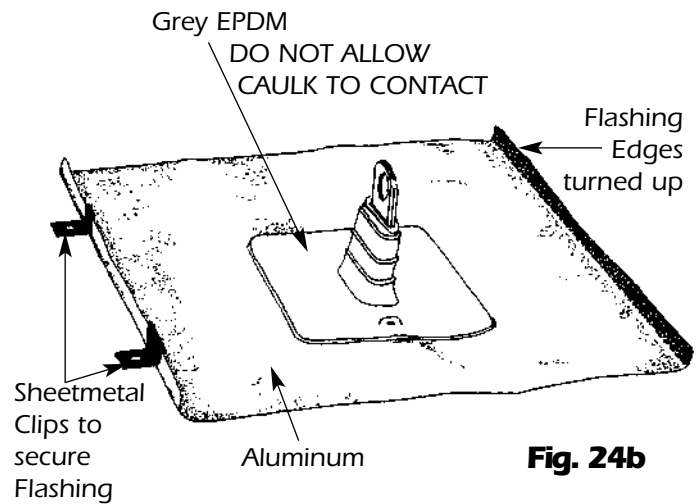


Fig. 24b

8) When tiles are direct nailed without battens or if ridge boards are not used, the top overlapping course of the flashing will need to be nailed through the flashing base as shown in **Fig. 25**.

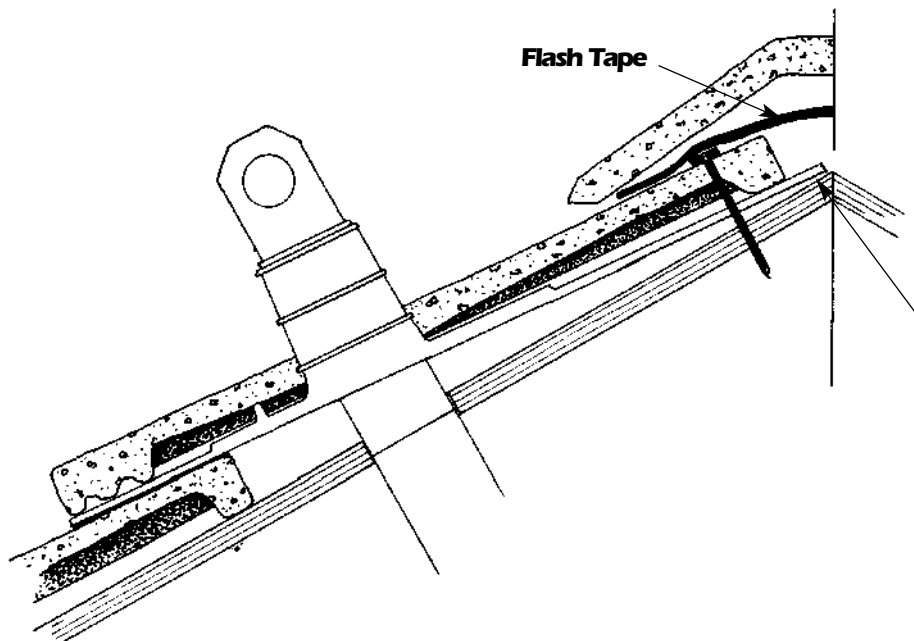


Fig. 25

The top edge of the flashing may be trimmed flush with the ridge or bent over the opposite side. Flash tape or other type of waterproofing should be used to prevent water penetration at the ridge overlap. Foam taper should also be used to support the underside of the flashing base.

Flashings cut or bent over Ridge

FLASHING INSTALLATION

Flat Profile Tiles / Top Flashing Method

When climate / weather conditions, such as ice and snow build up or freeze-thaw conditions exist, top flashing may be required to facilitate drainage. Open cavities around the flashing stem created by cutting overlap tiles when using the buried method can allow snow / ice to build up under the cut tiles. Subsequent freeze-thaw could lift or break the cut tiles.*

* The buried method can be used provided the cut tiles are properly sealed to prevent snow or ice penetration, usually by means of concrete mortar. See **(Item #13)** and **Fig. 30** on page 10.

The high visibility of the top flashed method may be reduced by using a paint that is compatible with the aluminum base. However, water based paint suitable for EPDM* should be used to paint the flashing boot.

* EPDM (ethylene propylene diene terpolymer)

The primary concern with using top flashing is securing the flashing base to the exterior of the tile, especially if high wind is a problem. Although several vertical bands of an adhesive type caulk suitable for aluminum may be used, optional methods to address high winds are shown in **Fig. 30**. The roofing contractor may provide additional specifications not addressed in this manual.

9) Cut a close tolerance opening around the anchor stem as shown in **Fig. 26**. Then set the flashing base over the tile and form to the tile contours. Make sure at least 50% of the attachment hole on the anchor stem is extended above the flashing boot.

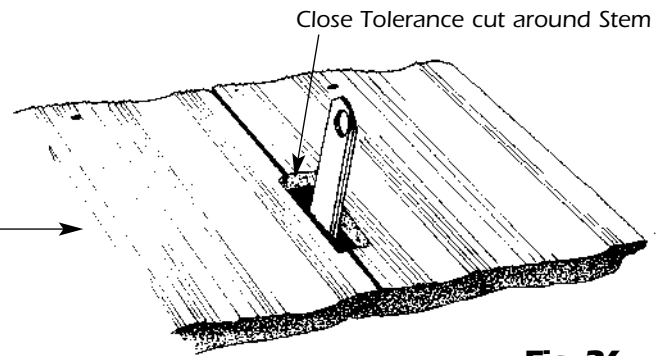


Fig. 26

10) Trim or bend the flashing as needed to fit the tile. If a ridge board is used, fold the top edge of the flashing up and secure by nailing.

CAULKING: Make sure flashing and tile surfaces are clean and free of moisture. Apply several vertical bands of an adhesive type caulk along each side of the aluminum base making sure not to contact the EPDM portion.

When using a Ridge Board, Flashing may be bent up and nailed.

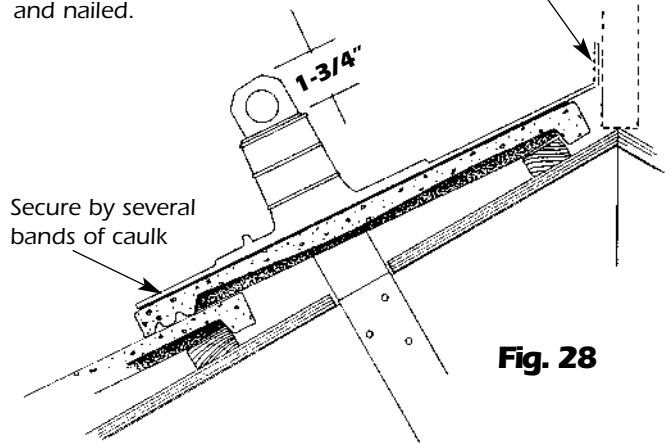


Fig. 28

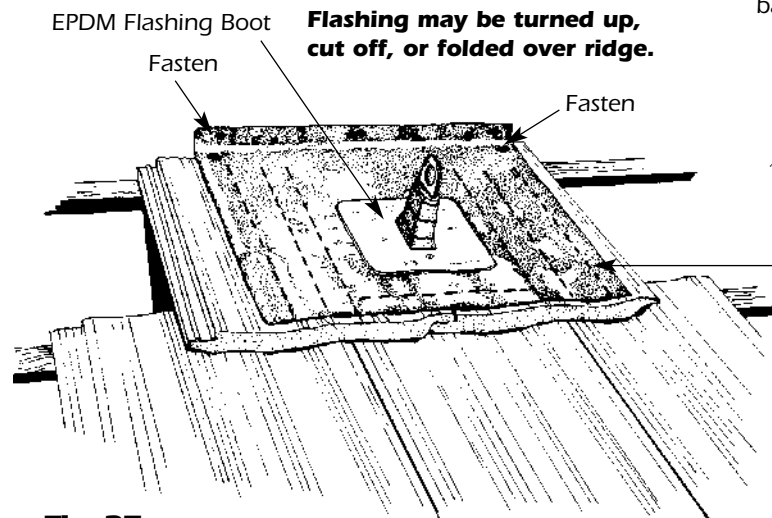
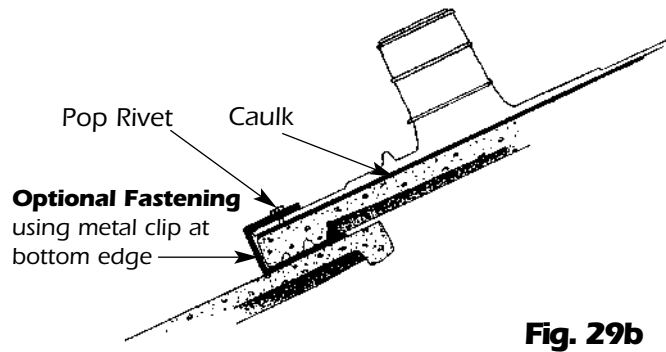
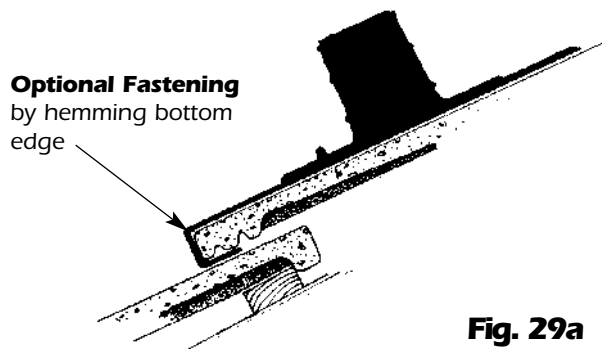


Fig. 27

Use an Adhesive grade caulking to secure Flashing

OPTIONAL FASTENING OF FLASHING BASE

11) The flashing base can be hemmed over the nose of flat profiles and then bent under to provide a cleat to secure the flashing. The top edge must also be secured by clipping or nailing and caulking is recommended. See **Fig. 29a**. In addition to adhesive caulk, use at least 2 or more sheet metal clips pop riveted to the flashing base. Secure the top edge by clip or nailing. See **Fig. 29b**.



HIGH WIND / FREEZE-THAW USING BURIED FLASHING METHOD

When top flashing is not an acceptable method and high wind or freeze-thaw conditions exist, the following buried method may be used. However, it is suggested that you review this procedure with the roofing contractor to ensure that flashing methods used will provide the best system for local conditions.

12) Follow the guidelines for buried flashing shown in **Figs. 17-23** on pages 6-7, and after the flashing base has been secured to the sheathing, cut overlapping tiles about 1.0" beyond the EPDM portion of the flashing base on all sides.

WEATHER BLOCKING

13) Provide a weather blocking method, usually concrete mortar, that allows no snow or ice to penetrate under cut tiles. Weep holes should be provided to allow any trapped moisture to drain.

If a water channel intersects the mortar area, ensure that it is not blocked by mortar and that it allows for proper drainage. When using mortar, the flashing base should be supported by a foam taper or other moisture resistant type of material to prevent bending of the flashing base; otherwise, water could pond up under the tiles.

