

CHAPTER 7E

FLASHING AND SHEET METAL

7E-01. PREPARATION FOR INSPECTION OF SHEET METAL WORK

a. Shop Drawings and Samples

- (1) Do the construction and the installation comply with requirements in the plans and specifications for: Shape? Joining? Fastening?
- (2) Factory fabricated internal and external corners should be shown or indicated.
- (3) Do the materials match the approved samples?
- (4) Compare detail information with specification tables "Weights, Thicknesses and Gages" and "Joints."
- (5) Remember that metal base flashings must detail wood nailers for fastening the roof flange.

b. Stiffness - Are exposed edges of all flashings folded back a full 1/2 inch?

c. Expansion joints - Examine specifications for spacing of these joints in all sheet metal work. Check plan, specifications and shop drawing for design of the expansion joints.

- (1) Note the specification table for joints and spacing of expansion joints.
- (2) Inspect the location of joints with respect to corners, end spacing and locations such as gutters and such items as midpoints from downspouts.
- (3) Check drawings for details of expansion joints. See if space has been allowed for expansion.

d. Dissimilar Materials

- (1) Evaluate the entire job to see that all dissimilar metal materials in contact, which may support galvanic action, have been isolated from each other. Some typical examples to watch for are:
- (a) Copper and aluminum flashings in contact with each other, or with ferrous material.
 - (b) Copper, stainless steel and aluminum flashings fastened with ferrous material.
 - (c) Aluminum bases set on pressure treated wood.

(2) Determine specification requirement for method of isolating dissimilar materials.

7E-02. INSTALLATION

a. Fastening: Check requirements for:

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(1) Attachment by direct nailing or cleating, for spacing, and for location. Are screw shank nails required?

(2) Soldering, welding, bolting, riveting, etc.

(3) Check detail on drawing for fastening or securing ends or edges in concrete or masonry construction.

b. Gravel Stop - Fascia

(1) Has 6-inch wide nailer been provided for attaching flange to roof deck?

(2) Check flange for 4-inch width applied in bituminous cement over roofing felt.

(3) Are screw shank nails of compatible material? Are nails driven within 1-inch of edge at 3-inches on center?

(4) Mop two plies of roofing felt, one 9 inches wide and one 12 inches wide, over inner flange. This is a strip flashing.

(5) Check for continuous cleat anchoring lower edge of fascia. Not required for fascia membering into gutters.

(6) Do butt joints have the 1/4-inch separation? Are the joint cover plates also set in bituminous cement?

(7) Design of extruded aluminum gravel stop-fascia is verified by approved shop drawing. Same for the manufacturer's installation method.

c. Metal Base Flashing

(1) Is base flashing installation same day as roofing installation?

(2) Check for flat locked and soldered or sealed joints.

(3) Check the location of lapped expansion joints.

(4) Is roof flange set in bituminous cement? Is vertical leg long enough for at least 3-inch lap with cap flashing?

(5) See that roof flange is covered with two plies of felt strip flashing after nailing at three inches on center.

(6) Corners, interior and exterior: Are they factory fabricated?

d. Cap Flashings

(1) Cap flashing system will be either the separate cap in reglet or a two-piece combination (cap in receiver) unit.

(2) Check the fabrication shown on the shop drawing for:

(a) Vertical location above finished roof surface.

(b) Shape for drainage away from anchorage point.

(c) Shape for pressure fit against base flashing.

(3) Is lower edge of flashing folded back $\frac{1}{2}$ inch?

(4) Check for 3-inch lap joints for cap and for receiver sections.

(5) Corners, interior and exterior: Are they factory fabricated?

e. Through-wall Flashing

(1) Carefully check for locations requiring through-wall flashing. All should be shown on the shop drawing.

(2) Assure that the flashing is being installed in the middle of the mortar joint. Assure that it extends to within $\frac{1}{2}$ inch of face of wall.

(3) Check the design and installation requirement for the various locations of metal flashing, such as: above the roof line, below the roof line in cavities more than $\frac{3}{4}$ -inch wide, at lintels and sills.

(4) There are actually seven different flashing materials which can be used in cavities less than $\frac{3}{4}$ -inch wide.

(5) Is each sill flashing one piece and does it extend at least 4 inches beyond the ends of each sill?

(6) Check for the smooth copper slip joint in the bed joint at the end of lintels adjacent to control joint.

(7) Is the metal through-wall factory deformed for bond with mortar?

(8) Do joints between sections of lightweight flashing consist of at least 3-inch laps with sealant?

(9) Check anchor holes such as for parapet cap anchors to see that they are completely filled with plastic cement at the flashing course.

f. Valley Flashing

(1) Check installation for coverage and lap beneath roof covering.

(2) Check cleating operation for adequate anchoring.

g. Stepped Base Flashing

(1) Check for neat installation with a separate flashing section for each shingle course.

(2) Are sections sized to lap 3 inches and run 4 inches each way?

(3) Are cap flashings used? If not, the stepped sections must be fitted beneath siding.

h. Edge Strip

(1) The strips are provided continuously at bottom edge of fascia and act as a drip and continuous cleat.

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(2) Check fastening to supporting construction and fascia.

(3) Check for the required washers, which are electrolytically compatible, to hold the strips away from vented gravel stops.

i. Louvers

(1) Check fabrication for first class workmanship. Check for compatible fasteners.

(2) Check louvers after installation for water tightness against a driving rain.

(3) Examine specifications for requirement for such items as insect or bird screen, movable shutters, etc.

(4) Additional information is provided in Chapter 15.

j. Reglets

(1) Make sure that polyvinyl chloride reglets are used with aluminum cap flashings.

(2) Check the setting of reglets in concrete and masonry to assure a method of firm and secure anchorage at the required elevations.

(3) Check the contractor*s proposed provision for anchoring the cap in reglets. Also check the actual firmness of the flashing as installed.

(4) Is the receiver of the two-piece combination unit used as planned instead of the reglet? Eliminate flat spots. Be sure receiver slopes from face of wall.

k. Gutters

(1) Recheck approved gutters, for type, shape, general design, and layout. Make sure that the continuous cleat or bracket supports permit freedom of movement. Make sure back of gutter is higher than front.

(2) Check slope of gutter to provide drainage to outlets.

(3) Check brackets and spacers for size, type, location and spacing.

(4) Check basket strainers for gutter openings into downspouts.

(5) Do expansion joints limit runs with the specified distances? Are these joints at highpoints? Do joint covers have diverters?

l. Downspouts

(1) Check downspouts for being factory fabricated and corrugated longitudinally in approximately 10, lengths.

(2) Check for the requirement for specials, such as downspout leaders, scuppers, overflow scuppers, conductor heads, etc. (See the Architectural Sheet Metal Manual by SMACOMA)

(3) Check to see that the downspouts are plumb, that they clear the wall by at least 1 inch and that they are firmly secured with 1-inch-wide straps; one strap anchor located at the top of each downspout section.

(4) Downspout sections are telescoped together except that the leader downspout joint is riveted.

(5) Check downspouts terminating in drainage line. They should be neatly fitted and secured with a Portland cement mortar cap.

m. Parapet Covers

- (1) Does shop drawing show anchorage and joints?
 - (a) Both sides must be cleated at lower edge.
 - (b) Flat lock joints are required between all sections.
- (2) Is top of cover sloped for drainage?

n. Miscellaneous

(1) Check for miscellaneous sheet metal items, especially those shown on the plan but omitted from the specifications. (See the Architectural Sheet Metal Manual by SMACOMA.)

(2) Check those items which have been included in the specifications. Check items such as snow guards, splash pans, radiator-recess linings, perimeter insulation covers, etc., for type required, for fabrication, and for method of installation. Shop drawings are required.