# BUILT-UP ROOFING

# SECTION 7 - MEMBRANE FLASHING

## 7.1 GENERAL

.1 To ensure protection against water entry into a newly installed roofing system, the membrane flashings shall be installed as the application of the primary membrane progresses.

.2 The membrane flashing shall be uniformly supported by and adhered to a solid substrate. Gypsum board substrate is not accepted and must be covered with new plywood or OSB sheathing prior to membrane flashing application.

.3 When preservative treated wood components are incorporated into a roof assembly, the potential for corrosion of some metal fasteners, sheet steel and roof decking exists when in direct contact with non-C.C.A. (Chromate Copper Arsenate) preservatives.

.4 With adequate support and backing the accepted substrates for the attachment of the membrane flashing are dimensional wood blocking, minimum 12.7 mm (1/2") thick plywood, minimum 11 mm (7/16") thick oriented strand board, minimum 22 gauge sheet metal flashing, concrete and smooth surfaced concrete block or masonry.

.5 For conventional designs, maintain a minimum membrane flashing height of 200 mm (8”) above the surface of the primary membrane.

.6 For protected membrane and combination BUR designs, the vertical membrane flashing termination shall extend a minimum distance of 200 mm (8”) above the primary insulation when using gravel ballast or 200 mm (8”) above the paver surface when concrete pavers are used as the ballast.

.7 The maximum length of the membrane flashing felt during application is limited to 3000 mm (10 ft).

.8 Modified bitumen flashing plies shall be applied in roll width sections.

.9 The tops of walls not covered by membrane flashing shall be covered with a water resistant sheet extending down from the top of the blocking a minimum distance of 50 mm (2”) on each side.

.10 Inorganic (Fiberglass) roofing felt is not permitted for use in membrane flashing applications.

.11 At scupper drains, the membrane flashing shall cover the sheet metal scupper flanges and shall extend past the scupper opening to terminate inside a minimum distance of 75 mm (3") measured from the interior face of the parapet or wall.

.12 Added June 2010

.12 Exposed penetrations through the membrane flashing shall be placed no lower than 200 mm (8”) above the finished roof surface.

## 7.2. CONVENTIONAL B.U.R. MEMBRANE FLASHING

.1 For conventional organic felt and inorganic BUR membranes, the horizontal to vertical membrane flashing shall be comprised of a minimum of three (3) plies of No. 15 organic felt adhered in hot bitumen.

.2 The vertical termination of the organic membrane flashing shall be sealed with a troweling of plastic cement.

### 7.2.1 Flashing Heights 300 mm (12”) and Less (See Figure 1)

.1 The first ply of No. 15 organic felt shall extend a minimum horizontal distance of 100 mm (4”) over the primary membrane, measured from the toe of the cant. Succeeding flashing plies overlap the previous ply termination a minimum distance of 50 mm (2”) horizontally.

.2 The vertical extension of the first flashing ply shall extend across the sloping cant face and terminate the greater distance of 50 mm (2”) above the top of the cant or minimum distance 150 mm (6”) above the membrane surface.

.3 Succeeding plies shall overlap the first ply vertical termination a minimum distance of 25 mm (1”).

.4 Flashing end laps shall be staggered from the proceeding ply’s end lap by approximately 150 mm (6”).

.5 For curbs the last flashing ply shall extend dry over the top of the wood blocking and be mechanically fastened to it.

.6 For parapets the last flashing ply shall be mopped to the top of the parapet and turned down dry and be mechanically fastened to the outside face of the blocking.

.7 For cant edges, all flashing plies shall be fully mopped to the top of the cant with the last ply turned down dry over the fascia and mechanically fastened to it.

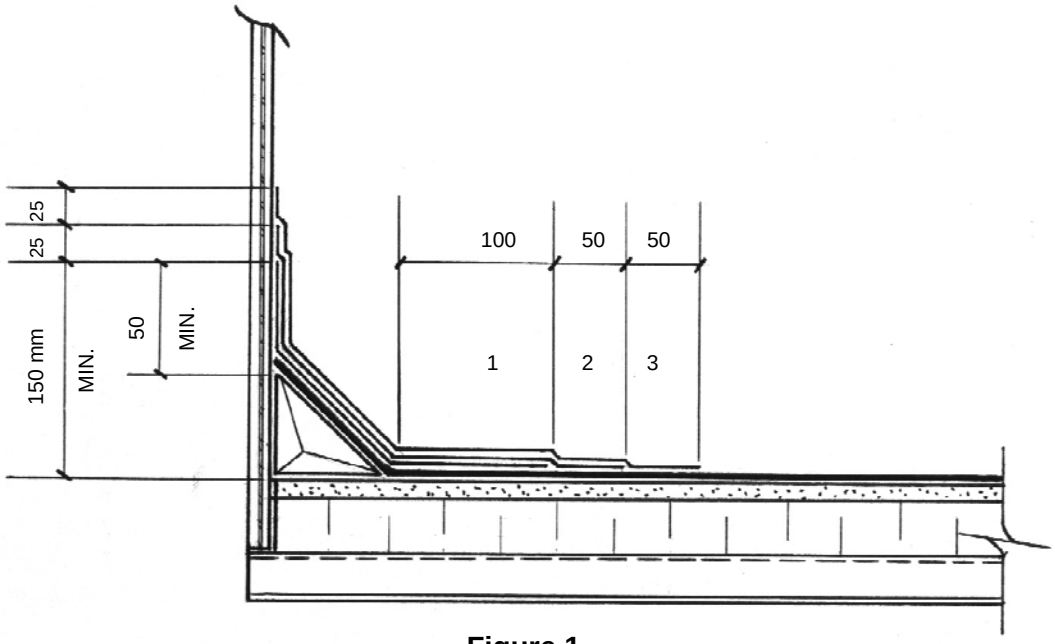


**Figure 1**

### 7.2.2 Flashing Heights Greater Than 300 mm (12”) (See Figure 2)

.1 The membrane flashing installation is the same except that the last flashing ply termination shall occur between the minimum distance of 200 mm (8”) and a maximum distance of 450 mm (18”) above the primary membrane.

.2 The vertical termination of the membrane flashing must be mechanically fastened to the supporting substrate and be sealed with a troweling of plastic cement.

.3 When waterproofing parapets or walls extending to a maximum height of 1100 mm (42"), a minimum one (1) millimeter thick self-adhering bituminous membrane must overlap the upper termination of the B.U.R. membrane flashing, cover an approved vertical substrate and the wood blocking and be mechanically fastened to the exterior face of the wood blocking.

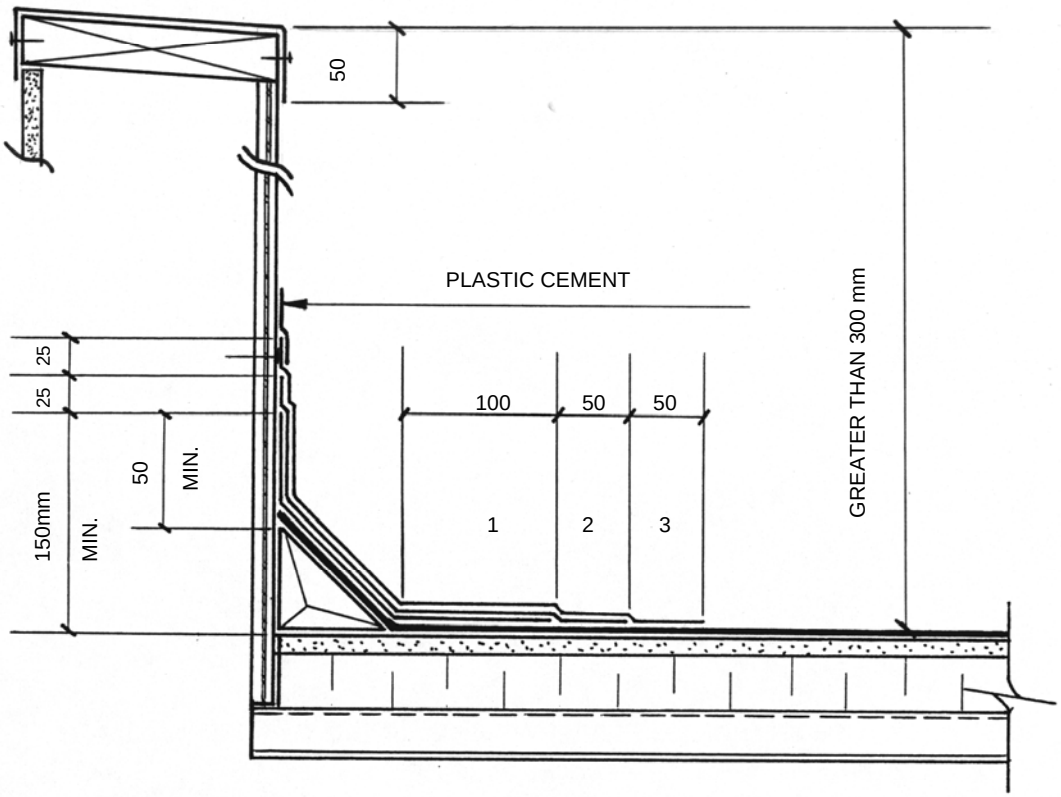


**Figure 2**

## 7.3 UPGRADED B.U.R. MEMBRANE FLASHING

.1 BUR membrane flashing installed at horizontal to vertical junctions may be comprised of a minimum of two (2) plies of No. 15 organic roofing felt and a third ply of compatible ARCA Warranty Ltd. accepted membrane flashing material adhered with the membrane manufacturers compatible adhesive.

## 7.4 MODIFIED BITUMEN MEMBRANE FLASHING (See Figure 3)

.1 Two (2) plies of an ARCA Warranty Ltd. accepted SBS modified bituminous membrane may be substituted for three (3) plies of No.15 organic felt membrane flashing at horizontal to vertical junctions.

.2 When a granular surfaced SBS modified bitumen cap sheet membrane flashing is specified, the flashing cap sheet need not be protected by a sheet metal base flashing. Where a sheet metal base flashing is specified to protect the SBS membrane flashing, the cap sheet membrane need not be granular surfaced.

.3 When sheet metal cap flashings protect the top of walls and parapets, the granular surfaced cap sheet shall terminate at the top inside face of the detail and need not be carried across the top of the wood blocking over the base sheet membrane.

.4 For cant edge details, both the base and cap sheet membrane flashing plies shall be fully adhered and extend to the top of the cant. The cap sheet ply shall be turned down the fascia and be mechanically fastened to the fascia plate.

.5 For combustible substrates, the base flashing ply shall be a self-adhering S.B.S. base sheet adhered in a compatible primer, approved by the membrane manufacturer. Round top nails shall supplement the adhesion of self-adhering S.B.S base sheet.

.6 For conventional designs, the SBS base ply membrane shall extend from the toe of the cant over the primary membrane a minimum horizontal distance of 100 mm (4"). The base ply shall completely cover the sloping cant face and extend vertically the greater distance of minimum 150 mm (6") above the primary membrane of 50mm (2") above the top of the cant. Base sheet side laps shall be minimum 75 mm (3") wide. The base ply shall be fully adhered to the primary membrane, the cant and the vertical substrate.

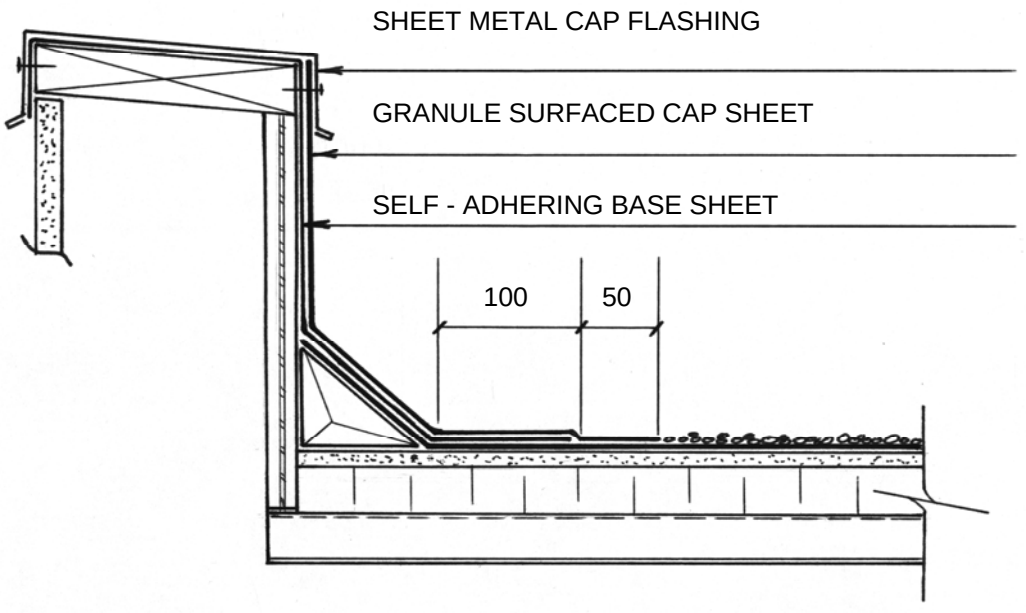


**Figure 3**

.7 The SBS cap sheet flashing ply shall completely cover the base sheet membrane ply and extend horizontally on to the primary membrane an additional 50 mm (2”) past the base sheet termination. Extend the cap sheet a minimum distance of 200 mm (8”) above the primary membrane. Membrane flashing cap sheet end laps shall be staggered from the base sheet end laps. The cap sheet shall be thermally fused (torched) to the S.B.S. base flashing ply.

Added June 23, 2005

.8 When using S.B.S. modified bitumen membranes, the maximum membrane flashing height is restricted to 1100 mm (42"). A variance request must be submitted to the Technical Committee when membrane flashing height is to exceed 1100 mm (42")

## 7.5 MEMBRANE FLASHING AT HORIZONTAL METAL FLANGES (See Figure 4)

### 7.5.1 Roof Drains

.1 For internal roof drains, the membrane flashing shall be comprised of a minimum of three (3) plies of No. 15 organic felt adhered in hot bitumen and a minimum 25 kg/m² (5 lb/ft²) lead drain flashing. The lead flashing shall be sized to extend a minimum distance of 150 mm (6”) beyond the hopper flange.

.2 The exposed lead drain flashing surface shall be primed prior to the application of the three (3) plies of No. 15 organic felt membrane flashing.

.3 Size the first membrane flashing ply to cover the lead flashing and to extend a minimum distance of 100 mm (4”) onto the primary membrane. In a mopping of hot bitumen adhere the first flashing ply to both the lead flashing and primary membrane.

.4 The second and third flashing plies, adhered in hot bitumen, shall cover and overlap the previous ply by a minimum distance of 50 mm (2”) onto the primary membrane.

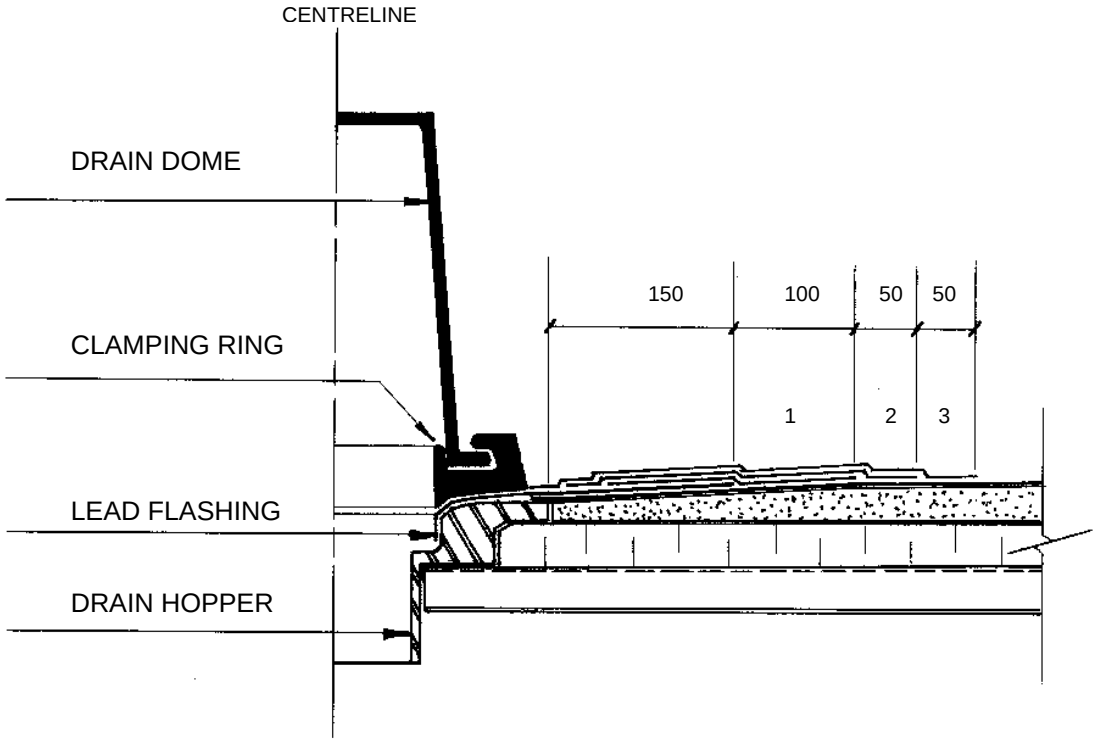


**Figure 4**

### 7.5.2 Miscellaneous Sheet Metal Flanges (See Figure 5)

.1 The top and underside surfaces of a plumbing vent, roof jack, gum cup, gravel stop, scuppers and miscellaneous sheet metal base flanges shall receive a coating of asphalt primer or plastic cement prior to installation. Before being set into place over the primary membrane, coat the underside of the horizontal sheet metal flanges with a troweling of plastic cement.

.2 A minimum of three (3) plies of No. 15 organic felt membrane flashing adhered in hot bitumen shall waterproof horizontal sheet metal flanges for both inorganic and organic felt BUR membrane systems.

.3 Size the first membrane flashing ply to cover the horizontal metal flange and to extend a minimum distance of 100 mm (4") onto the primary membrane beyond the flange edges. In a mopping of hot bitumen adhere the first flashing ply to both the metal flange and primary membrane. The second and third membrane flashing plies, adhered in hot bitumen, shall cover and overlap the previous ply termination by a minimum distance of 50 mm (2") onto the primary membrane.

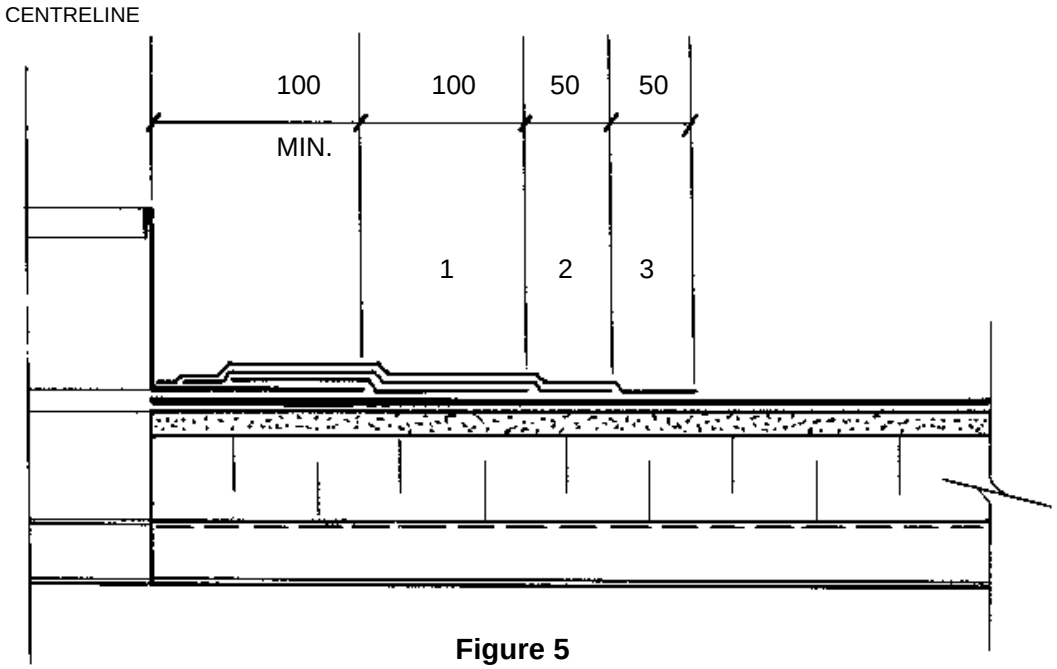


**Figure 5**