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10.01.1 APP Modified Bitumen Membranes — General

A. These requirements are designed to establish the minimum project installation requirements for IKO APP roofing products.

B. IKO APP roofing products, when installed according to the requirements of this manual, the roof system specifications, and good roofing practice, are intended to function as a roof covering on low-sloped roofs (typically defined as less than 2:12 pitch).

C. The product specifications for the APP roofing products are covered under the CAN/CGSB-37.56-M in Canada and the ASTM D 6222 in the USA.

D. Furnish and install the IKO APP roofing system in accordance with the instructions and details published by IKO. This part of the IKO Technical Specification Manual is intended as a procedural and application guide for installing the IKO heat-fused membranes. Reference to other parts of this manual is necessary to ensure that the completed roof system is installed in accordance with the IKO requirements.

E. The IKO APP base sheets (Armourplast Classic) are pre-formed sheets of roofing material consisting of an inorganic reinforcement mat of high-strength non-woven polyester, coated top and bottom with APP (atactic polypropylene) polymers and premium asphalt. The bottom surface is finished with a heat-fusible film and the top side with a mineral parting agent. The base sheets are designed to be the initial roofing membrane layer in a multi-ply roof membrane and are not intended to be left exposed.

F. The IKO APP cap sheets (Armourplast Granular) are pre-formed sheets of roofing material consisting of an inorganic reinforcement mat of high-strength non-woven polyester, coated top and bottom with APP (atactic polypropylene) polymers and premium asphalt. The bottom surface is finished with a heat-fusible film and the top surface with ceramic-coated mineral granules. These cap sheets are designed to be the exposed roofing membrane layer in a multi-ply roof membrane.

10.02.1 APP Base Sheets Installation — General

A. The items listed below apply to all base sheet installations, regardless of the attachment method used, except where noted.

B. Install the base sheet using the method specified by the project designer or as required by these specifications and details.

C. All the base sheet side laps shall be a minimum of three and one-half inches (3 1/2") (90 mm).

D. All the base sheet end laps shall be a minimum of six inches (6") (150 mm).

E. The side and end laps of the base sheet shall be staggered a minimum of twelve inches (12") (300 mm) and twenty-four inches (24") (610 mm), respectively, from each other and from any subsequent ply sheet or cap sheet side and end laps.

F. All end laps shall have a forty-five degree (45°) section removed to form a positive water stop. See Part 11, drawing MB-1 for details.

G. All metal and concrete surfaces that come into contact with a heat-fused applied base sheet must first be primed with an IKO Mod-Bit Primer or IKO Standard Asphalt Primer in accordance with Part 5 of this manual.

H. Remove all the wrapping tape and labels before beginning the base sheet installation. The base sheets must be unrolled, allowed to relax, and then re-rolled before installation.

I. Begin the installation at the low point of the roof. Unroll and align the base sheet before attachment. Use chalk lines where necessary to ensure proper alignment. Ensure that the side laps are oriented so as not to buck the flow of water to drains. Note: If a drain is the lowest point, start here with the edge of the base sheet bisecting the centerline of the drain.

J. In two-ply applications, it may be convenient to use a half-width of base sheet as the starter ply, thus, allowing a full-width cap sheet to start, thereby maintaining the recommended lap staggering dimension.

K. Voids, fishmouths, and any other defect that would cause buckles or stress in the finished system must be removed and patched before the installation of the additional membrane layers.

L. The base sheet shall extend a minimum of two inches (2") (50 mm) above the top of the cant strip at all points where a cant strip bridges horizontal to the vertical surfaces or two inches (2") (50 mm) onto the vertical surface where no cant exists.

M. Where a cant strip is not used, and where it is not desirable to extend the base sheet onto the vertical surface, it is permissible to terminate the field base sheet on the horizontal surface at the junction with the vertical surface.

N. All field base sheet perimeters shall be restrained at their respective termination edges with screws and a termination bar in accordance with drawings MB-28 or MB-29 in Part 11 of this manual. Where the perimeter insulation thickness is greater than three inches (3") (75 mm), the base sheet must terminate on the parapet wall.

10.02.2 Heat-Fused Application of APP Base Sheets

A. For applications where an APP Modified Bitumen heat-fused base sheet is intended to be used with an APP Modified Bitumen cap sheet, follow the installation guidelines as dictated for heat-fused base sheet application in Part 9 of this manual.

10.03.1 APP Cap Sheets Installation — General

A. The items listed below apply to all the cap sheet installations, regardless of the attachment method used, except where noted.

B. Install the cap sheet using the method specified by the project designer or as required by these specifications and details.

C. All the cap sheet side laps shall be a minimum of three and one-half inches (3 1/2") (90 mm).

D. All the cap sheet end laps shall be a minimum of six inches (6") (150 mm).

E. The side and end laps of the cap sheet shall be staggered a minimum of twelve inches (12") (300 mm) and twenty-four inches (24") (610mm), respectively, from each other and from the side and end laps of the sheet below.

F. All the end laps shall have a forty-five degree (45°) section removed to form a positive water stop. See Part 11, drawing MB-1 for details.

G. All the metal and concrete surfaces that come into contact with a heat-fused cap sheet must first be primed with an IKO Mod-Bit Primer or IKO Standard Asphalt Primer in accordance with Part 5 of this manual.

H. Remove all the wrapping tape and labels before beginning the cap sheet installation. The cap sheets must be unrolled, allowed to relax, and then re-rolled before installation.

I. Begin the installation at the low point of the roof. Unroll and align the cap sheet before attachment. Use chalk lines where necessary to ensure proper alignment. Ensure that the side laps are oriented so as not to buck the flow of water to drains. Note 1: If a drain is the lowest point, begin positioning the cap sheet over the center of the drain here. If the roof was started with a full base sheet width, then a half-width cap sheet will need to be the first cap sheet installed to maintain the correct lap staggering offset. Note 2: Where the first cap sheet is installed centered over a drain, the non-selvage edge of that sheet will need to be prepared for the lapping of subsequent cap sheets such that the adjoining cap sheets come together in the middle, facing the drain. A suitable three and one-half inch (3 1/2") (90 mm) side lap must be created by either applying IKO Mod Bit Primer to the lap area or by suppressing the granules with a heated trowel and torch along the entire sheet length.

J. The finished cap sheet installation shall be smooth, flat, and fully adhered upon completion. Defects during installation shall be addressed immediately.

K. The cap sheet shall be terminated on the horizontal surface at the intersection of any vertical surfaces. The field cap sheet shall be applied such that when complete no base or ply sheet layer is left exposed on any horizontal surface. It is not necessary to carry the field cap sheet up a vertical surface to cover any base/ply sheets, as this will be addressed by the flashing system.

L. During the installation of the cap sheet, small surface imperfections, which may occur, can be aesthetically repaired by the addition of matching coloured ceramic-coated mineral granules. Typically, the loose granules are broadcast onto the affected area and manually pressed into the sheet surface.

10.03.2 Heat-Fused Application of APP Cap Sheets

A. Where an APP Modified Bitumen heat-fused cap sheet is intended to be used with an APP Modified Bitumen base sheet for application, follow the installation guidelines as dictated for heat-fused cap sheet application in Part 9 of this manual.

10.04.1 APP Membrane Flashing Installation — General

A. Flashing shall be installed where specified by the project designer.

B. Flashing of common details, where referenced, shall be completed in accordance with the detail drawings in Part 11 of this manual.

C. The following substrates require an overlayment of one-half inch (1/2") (12.7 mm) plywood suitable for exterior construction:

1. Textured or spalled masonry;
2. Stucco;
3. Exterior insulated finishing systems;
4. Cobblestone;
5. Corrugated metal panels; and
6. Uneven or unstable substrates of any kind.

Note: The plywood shall be mechanically fastened in accordance with the project requirements.

D. It is not permissible to use a propane torch to attach heat-fused modified bitumen membranes to combustible substrates at any time. The sheets must be mechanically attached, cold-applied, hot asphalt attached, or self-adhered over the combustible surfaces.

E. The minimum base flashing height shall be eight inches (8") (200 mm) above the finished surface of the roof.

F. The cap sheet flashing shall extend six inches (6") (150 mm) onto the field of the roof, and the base sheet flashing shall extend eight inches (8") (200 mm) onto the field of the roof.

G. The maximum flashing height of a single section of membrane base flashing shall not exceed twenty-four inches (24") (610 mm) above the surface of the roof. Above this height, the membrane shall be terminated at the uppermost edge using a termination bar. Apply additional sheets “shingle fashion” until the required height has been covered. Alternately, it is acceptable to carry the base flashing up and over the entire parapet and secure on the facia with nails in lieu of a termination bar.

H. For heat-fused base sheet flashings, all the inside and outside corners shall include a reinforcing gusset in accordance with the detail drawings MB-23 and MB-24 in Part 11 of this manual.

I. Flashing sheets must be installed in no more than thirty-nine and three-eighths inches (39 3/8") (1 m) wide sections to be manageable and must always be parallel to the machine direction.

J. On re-cover projects, remove all existing flashings. New flashings shall be installed.

K. Unless otherwise specified, the membrane flashing must be mounted directly to the roof penetration.

L. A flashing system is required at all the roof penetrations and perimeters to seal the edges of the roofing system properly. Roof penetrations and perimeters would include, but are not limited to, air vents, curbs, HVAC units, soil pipes, plumbing vent stacks, expansion joints, gas pipes, conduit, support beams, parapet walls, adjoining walls, gravel stops, and drip edges. Polyester reinforced flashing material is required for both layers in all flashing details.

M. Roof penetrations, as well as all perimeter details, should be constructed to shed water immediately away from all the membrane flashings.

N. Masonry, brick, block, and all metal components that come into contact with membrane flashing must be prepared with an appropriate IKO primer or adhesive.

O. Counterflashing is recommended at the adjoining walls as well as some parapet walls when "through-wall" flashings have not been incorporated into the original design. If a surface-mounted counterflashing is used, then the surface that makes contact with the substrate must provide a constant seal and the surface above the termination must be watertight.

P. When membrane flashing extends to the wood nailer at the top of the parapet wall or over the top of a parapet, the top of the parapet must receive a metal or stone coping.

Q. When the flashing does not extend over the top of a parapet wall, and the metal or stone coping, reglet mounted counterflashing, or surface mounted counterflashing cannot be installed the same day as the membrane base flashing, the top edge of all base flashings must be flashed-in with a temporary night seal. All temporary flash-in materials must be completely removed before heat-fusing the flashing cap sheet.

R. Wood curbing and combustible parapets must be covered with a mechanically fastened, glued, or self-adhered base sheet or IKO Protectoboard when intended to receive a heat-welded base flashing. The minimum nail head size to secure the base sheet, as well as the top of the final flashing membrane, is fifteen-sixteenths inch (15/16") (23.8 mm) diameter or cap nails with one inch (1") (25 mm) diameter metal disks. The minimum fastener density to attach one-eighth inch (1/8") (3 mm) Protectoboard shall be one nail per one square foot.

S. When the flashing extends to the building facia, the flashing shall be fastened directly to the facia with nails in accordance with the project specifications.

T. Membrane flashing should be trimmed into sections and dry fit into place before installation.

End of Section