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7.01.1 Separation Panels — General

A. The following list of properties are associated with separation panels (sometimes referred to as coverboards) in roof construction:

1. Provides a suitable substrate to receive the membrane;
2. Protects the insulating layer(s) both during and after roof construction;
3. Provides deck-leveling to receive the membranes and helps retain deck integrity during roof re-cover;
4. Provides additional rigidity and resiliency to the overall roof system;
5. Serves as a protective layer over the combustible substrates;
6. Has enhanced code compliance ratings;
7. Bridges minor gaps in the underlying layers;
8. Its composite panels integral with the membranes may improve roof installation efficiency;
9. May mitigate deformations from below telegraphing through to the membrane;
10. Provides a divorce layer within the roof assembly, which may aid in the subsequent roof re-cover;
11. Preserves the insulation layer for subsequent roof re-cover; and
12. May provide additional R-Value.

B. Separation panels not manufactured by IKO and intended to be used in conjunction with an IKO warranted roof assembly must be approved by the IKO Technical Services department before work commencement.

C. IKO reserves the right to accept or reject any separation panel as an acceptable substrate for the attachment of an IKO roofing system.

D. Separation panels must be at all times protected from being directly exposed to the elements.

E. The separation panel must be able to withstand normal construction traffic without crushing.

F. On metal decks, the separation panel must be strong enough to span the flutes without breaking under typical rooftop traffic. Contact the panel manufacturer for maximum flute spanability on steel roof decks.

G. The separation panel manufacturer must accept responsibility for any manufacturing defects that occur in the panel.

H. Heat-fused modified bitumen membranes should not be directly torched to combustible separation panels.

I. Separation panel types and thickness may vary to meet code compliance. Consult the local building code for the current requirements.

7.02.1 Separation Panels — Types and Mandatory Compliances

A. Separation panels comprising a gypsum core and used as a thermal barrier over steel decks must be a minimum thickness of one-half inch (1/2") (12.7 mm). Gypsum panels shall comply with the CAN/CSA-A82.27 and ASTM C 1396.

B. Separation panels comprising wood fiber shall comply with the CAN/ULC-S706.

C. Separation panels comprising mineral fiber shall comply with the ASTM C 726.

D. Separation panels comprising polyisocyanurate shall comply with the CAN/ULC-S704. The IKOTherm CoverShield is a rigid, high compressive strength polyisocyanurate foam insulation with high thermal properties designed to be used as a separation panel.

E. IKO's Protectobase and IKO's ShieldBase composite separation panels with integral membranes are acceptable (see 7.05.1).

F. When using the Protectoboard with the IKO Millennium Adhesive, it is recommended to use minimum one-quarter inch (1/4") (6 mm) thickness boards.

G. Use of other separation panels not listed above must be approved by the IKO Technical Services department.

7.03.1 Separation Panel — Installation

A. Install only as much separation panel as can be covered with the completed roof assembly within the same day.

B. Do not install wet, damaged, warped, or defective separation panels.

C. Install separation panels in a staggered joint fashion in one direction. All the joints between the panels must be staggered a minimum of twelve inches (12") (300 mm) in both directions from the joints in the underlying insulation layer.

D. Install the separation panels so that the sides and ends of the boards make contact along the entire length and width. Do not kick the panels into place.

E. Fit the separation panels neatly around all the penetrations and nailers.

7.04.1 Separation Panel — Attachment

A. Where the separation panel is integral to the roof system's uplift resistance, the panel must be installed in accordance with the required attachment procedures.

B. Separation panels may be loosely laid, mechanically attached, hot-asphalt attached, or adhesive attached in accordance with the roof system specification.

C. Unless otherwise specified, the fastening requirements shall be in accordance with the patterns detailed in Part 5 of this manual.

7.04.1.1 Mechanical Attachment of Separation Panels

A. Only screws and plates are acceptable mechanical fasteners for the separation panels. All screws and plates used to attach the separation panels shall meet the corrosion resistance requirements of the FM Standard 4470 and must be accepted by IKO before installation.

B. The nail attachment of the separation panels to a nailable deck is not acceptable. See Part 9 of this manual for use and attachment of the separation panels in parapet flashing construction.

C. The separation panels not manufactured by IKO may require specific fastening types and rates; consult the panel manufacturer for requirements.

D. The following minimum penetration requirements shall apply to the mechanical fasteners used to fasten into each deck type. Penetration is measured from the top surface of the deck and includes the tapping point of the fastener.

- Steel: three-quarter inch (3/4") (19 mm)
- Concrete: one inch (1") (25 mm)
- Plywood or Wood Plank: one inch (1") (25 mm)

7.04.1.2 Hot Asphalt Attachment of Separation Panels

A. If hot asphalt attachment of the separation panel is selected by the architect, engineer, or building owner, then the following is required:

1. The specified panel must be compatible with asphalt, other roof system components, and the performance requirements of the selected IKO roofing system.
2. A full coat of asphalt shall be applied at the rates and temperatures referenced in Part 5 of this manual.

7.04.1.3 Cold Adhesive Attachment of Separation Panels

A. Before any cold adhesive application, ensure that the products are compatible and that their use meets the performance requirements of the roof system.

B. Should there be any doubt about the use of an adhesive not referenced in this manual, consult the IKO Technical Services department before using.

C. IKO-approved adhesives used to adhere separation panels shall follow the procedures outlined in the appropriate sections of Part 5 in this manual.

D. Secure the separation panels as specified by the system performance level required by adjusting the row spacing pattern of the adhesive and not the bead size.

7.05.1 Composite Separation Panels with Integral Base Sheet Membranes

A. **IKO Protectobase:** Factory laminated 180 g/m² non-woven polyester reinforced SBS modified bitumen base sheet with a thermalfusible or sanded top surface, which is heat bonded to a three-sixteenths inch (3/16") (4.5 mm) three feet by eight feet (3' x 8') (914 mm x 2440 mm) asphaltic core board (Protectoboard) comprised of a non-woven glass facing both the top and bottom with a mineral fortified oxidized asphalt core. The base sheet extends three and one-half inches (3.5") (90 mm) past the length edge on one side of the Protectoboard and one inch (1") (25 mm) past one end of the Protectoboard for joining.

B. IKO ShieldBase™: Factory laminated 180 g/m² non-woven polyester reinforced SBS modified bitumen base sheet with a thermalfusible or sanded top surface, which is heat bonded to a one-half inch (1/2") (12 mm) three feet by eight feet (3' x 8') (914 mm x 2440 mm) rigid, high compressive strength polyisocyanurate foam insulation panel (CoverShield™). The base sheet extends three and one-half inches (3.5") (90 mm) past the length edge on one side of the CoverShield and one inch (1") (25 mm) past one end of the CoverShield for joining.

C. IKO ShieldBase 180-Flex: Factory laminated 180 g/m² non-woven polyester reinforced SBS modified bitumen base sheet with a thermalfusible or sanded top surface, which is heat bonded to 2 three feet by four feet (3' x 4') (914 mm x 1220 mm) rigid, high compressive strength polyisocyanurate foam insulation panel (CoverShield). The base sheet extends three and one-half inches (3.5") (90 mm) past the length edge on one side of the CoverShield and one inch (1") (25 mm) past one end of the CoverShield for joining. Shieldbase 180-Flex should not be left in the folded position for extended periods of time. IKO ShieldBase 180-Flex should aways be handled in a manner that does not cause damage that would compromise the product.

7.05.2 Composite Separation Panels — Installation

A. Dry fit the composite separation panel (CSP) into position ensuring that the side laps and end laps are staggered from the insulation joints below by no less than twelve inches (12") (300 mm).

B. Begin the CSP installation at the lowest point of the roof or positioned such that the side lap of the base sheet bisects the drain locations. Ensure that the seams are not positioned so as to buck the flow of water.

C. If hot asphalt attachment of the CSP is selected by the architect, engineer, or building owner, a full coat of the asphalt shall be applied to the substrate at the rates and temperatures referenced in Part 5 of this manual.

D. For foamable adhesive application of CSP, apply beads of the IKO Millennium Adhesive with bead spacing no more than twelve inches (12") (300 mm) O.C. in accordance with IKO's recommendations and immediately place the CSP into the adhesive ensuring that the alignment is in the same position as the dry fit board. Immediately roll the CSP using a 75 lbs. roller for approximately one minute or until the foamable adhesive has ceased to rise.

E. Place the adjoining panels so that the panel board edges below the membrane fit snuggly to each other. After the glue has set, remove the release film from the sidelap of the bottom of the first sheet and remove the release film from the adjoining top of the second sheet and roll the seam to form a tight seal. The modified bitumen exposed within the side laps will bond immediately.

F. The end lap is covered by the one inch (1") (25 mm) extended base sheet, which forms a fire-resistant flap to protect the CSP from flame penetration during the application of the thirteen inch (13") (335 mm) IKO TorchTape (which is applied by heat-fusing).

G. Where it may be desirable to soldier end laps such that all end laps coincide, a single length of the IKO TorchTape may be heat-fused in a continuous piece. This practice is acceptable where circumstances dictate this application technique.

H. Continue laying the CSP over the substrate until the entire surface is covered.

I. Complete the installation with the application of the base sheet flashings in accordance with IKO's printed instructions for Modified Bitumen Flashing details.

J. For the mechanical installation of the CSP, the fastening requirements shall be in accordance with the patterns detailed in Part 5 of this manual, unless otherwise specified.

K. Only screws and plates are acceptable mechanical fasteners for the CSPs. All screws and plates used shall meet the corrosion resistance requirements of the FM Standard 4470 and must be accepted by IKO before installation.

L. Nail attachment of the CSPs to a nailable deck is not acceptable.

M. The following minimum penetration requirements shall apply to the mechanical fasteners used to fasten into each deck type. The penetration is measured from the top surface of the deck and includes the tapping point of the fastener.

- Steel: three-quarter inch (3/4") (19 mm)
- Concrete: one inch (1") (25 mm)
- Plywood or Wood Plank: one inch (1") (25 mm)

N. Should the Protectobase or ShieldBase CSP be temporarily exposed without the application of the cap sheet, it is recommended to heat the edges of the side lap and end lap joints with a propane torch and round nose the trowel to ensure that all the seams are sealed.

End of Section