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12.01.1 BUR - General

- A.** These requirements are designed to establish the minimum project installation requirements for the IKO Built-Up Roofing (BUR) products.
- B.** The IKO BUR 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 glass BUR roofing products are covered under the CSA A123.17 in Canada and the ASTM D 2178 in the USA. The organic BUR roofing felts are covered under the CSA A123.3 in Canada.
- D.** Furnish and install the IKO BUR roofing system in accordance with 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 hot asphalt applied 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 BUR glass ply sheets are pre-formed sheets of roofing material consisting of an inorganic reinforcement mat of high-strength non-woven glass, coated top and bottom with premium asphalt. The top and bottom surfaces are finished to prevent sticking in the roll. The IKO BUR organic sheets are pre-formed sheets of roofing material consisting of an organic perforated reinforcement mat of high-strength cellulose fibers, saturated with premium asphalt.

12.02.1 Base Sheet Application for BUR Membranes

- A.** Install an SBS base sheet in accordance with the general requirements and the application procedures for hot-asphalt applied sheets found in Part 9 of this manual.

12.03.1 Ply Sheet Installation

- A.** Install the ply sheets using the method specified by the project designer.
- B.** The ply sheet side laps shall be a minimum of two inches (2") (50 mm).

- C. All the ply sheet end laps shall be a minimum of six inches (6") (150 mm).
- D. In all cases, the end laps of the ply sheets shall be staggered a minimum of twelve inches (12") (300 mm) from the successive ply sheet endlaps.
- E. Begin the installation at the low point of the roof. Unroll and align the ply sheet before attachment. Use chalk lines where necessary to ensure proper alignment.
- F. Wrinkles, fishmouths, and any other defect that would cause buckles or stress in the finished system must be removed and patched.
- G. Gang rolling of fiberglass felts is not permitted. Organic felts can be applied using this technique. A mini-mopper can be used for glass and organic felts as an option to hand rolling; however, a felt layer is not to be used with the glass felts.

12.03.1.1 Hot Asphalt Application of Ply Sheets

- A. Install the ply sheet in hot asphalt applied at the rate of twenty-five pounds per one hundred square feet (25 lbs./100 ft²) (1.2 kg/m²) plus or minus twenty 20 percent (%).
- B. The ply sheet side and end laps shall be fully adhered.
- C. The ply sheet must lay flat and be fully and uniformly bonded to the substrate. The organic ply sheets must be broomed to prevent voids and ensure embedment. The glass play sheets must be squeegeed to prevent voids and ensure embedment.
- D. The ply sheet must extend far enough to accommodate the flashing requirements illustrated in the detail section of this specification. Cant strips must be used with the glass ply sheet installations at all the terminations and vertical projections.
- E. To reduce the possibility of asphalt displacement due to "point loading," foot and machine traffic shall be kept to a minimum on freshly applied sheets. The asphalt dispensing equipment must have balloon tires and be positioned so as to minimize asphalt displacement. In order to permit the hot asphalt time to harden, do not travel over the freshly laid membrane before the asphalt solidifies.
- F. Discontinue applying asphalt over any substrate where the asphalt foams excessively.

12.03.1.2 Two Ply Interply Application of Ply Sheets

- A.** Install a nineteen and five-eighths inches (19 5/8") (498 mm) and a thirty-nine and three-eighths inches (39 3/8") (1 m) wide starter plies.
- B.** Install a second thirty-nine and three-eighths inches (39 3/8") (1 m) wide ply that laps the first thirty-nine and three-eighths inches (39 3/8") (1 m) ply by seventeen and five-eighths inches (17 5/8") (448 mm).
- C.** Lap the successive plies by twenty and eleven-sixteenths inches (20 11/16") (525 mm).

12.03.1.3 Three Ply Interply Application of Ply Sheets

- A.** Install three starter strip plies; one thirteen and one-eighth inches (13 1/8") (333 mm), one twenty-six and one-quarter inches (26 1/4") (667 mm), and one thirty-nine and three-eighths inches (39 3/8") (1 m) wide.
- B.** Install a second thirty-nine and three-eighths inches (39 3/8") (1 m) wide ply that laps the first thirty-nine and three-eighths inches (39 3/8") (1 m) ply by twenty-six and fifteen-sixteenths inches (26 15/16") (684 mm).
- C.** Lap the successive plies by twenty-six and fifteen-sixteenths inches (26 15/16") (684 mm).

12.03.1.4 Four Ply Interply Application of Ply Sheets

- A.** Install four starter strip plies; one nine and twenty-seven thirty-seconds inches (9 27/32") (250 mm), one nineteen and eleven-sixteenth inches (19 11/16") (500 mm), one twenty-nine and seventeen-thirty-seconds inches (29 17/32") (750 mm), and one thirty-nine and three-eighths inches (39 3/8") (1 m) wide.
- B.** Install a second thirty-nine and three-eighths inches (39 3/8") (1 m) wide ply that laps the first thirty-nine and three-eighths inches (39 3/8") (1 m) ply by thirty and one-sixteenth inches (30 1/16") (764 mm).
- C.** Lap the successive plies by thirty and one-sixteenth inches (30 1/16") (764 mm).

12.04.1 Multiple Ply “Hybrid” Membrane Roofing System

- A.** Apply one (1) layer of the SBS modified bitumen base sheet, mopping grade, or one (1) ply of #15 perforated organic felt to the suitable substrate and follow with additional ply sheets of glass felt as previously indicated in the sections detailed above. Consult the IKO Limited Warranty brochure as posted at www.iko.com/comm for the membrane options to achieve specific Limited Warranty terms.
- B.** Alternately, two plies of IKO 180-SS-Base sheet may be installed with flood coat and gravel surfacing.

12.05.1 Separation Layer

- A.** Where a BUR roofing membrane system is installed over an insulated deck using a wood fiber or other such separation panel of a similar composition, a layer of #15 perforated organic felt can be applied first before the application of the separation panel system. The felt “separation layer” is not included in the ply count but rather facilitates a well-defined surface to act as a protective layer guarding the insulation against damage when re-roofing is required. In this way, the insulation layer is retained without damage.

12.06.1 Built-Up Roof Surfacing

12.06.1.1 Flood Coat and Gravel - Single Pour

- A.** IKO Built-Up Roofing Systems must be surfaced with gravel or clean slag aggregate being nominally three-eighths inches (3/8") (9 mm) to five-eighth inches (5/8") (20 mm), round stone free of fines and dust. Round washed river stone is preferred.
- B.** The aggregate shall be applied to a flood coat of asphalt that is applied at the rate of sixty pounds per one hundred square feet (60 lbs./100 ft²) (2.9 kg/m²). The asphalt shall be the ASTM D312 Type III or Type IV or CSA A123.4 Type II or Type III asphalt.
- C.** While the asphalt is still hot, embed the gravel surfacing at the rate of four hundred pounds per one hundred square feet (400 lbs./100 ft²) (19.5 kg/m²).
- D.** The aggregate must be dry before it is embedded into the asphalt. Before application in cold weather, it may be necessary to heat the aggregate.

12.06.1.2 Flood Coat and Gravel - Double Pour

- A.** After the “single pour,” sweep all loose gravel from the surface of the roof.
- B.** The aggregate shall be applied to a flood coat of asphalt that is applied at the rate of sixty pounds per one hundred square feet (60 lbs./100 ft²) (2.9 kg/m²). The asphalt shall be the ASTM D 312 Type III or Type IV or CSA A123.4 Type II or Type III asphalt.
- C.** While the asphalt is still hot, embed the gravel surfacing at the rate of two hundred and sixty pounds per one hundred square feet (260 lbs./100 ft²) (19.5 kg/m²) to provide a total weight (including asphalt) of not less than seven hundred and twenty pounds per one hundred square feet (720 lbs./100 ft²) (36 kg/m²).

12.07.1 Flashing Installation - General

- A.** Flashing shall be installed as specified by the project designer.
- B.** Refer to the flashing details in Part 9 of this manual.
- C.** Modified bitumen base flashings shall extend out onto the field of the BUR roof membrane a minimum of six inches (6") (150 mm) from the toe of the cant or the field/parapet intersection. The cap flashing shall extend a minimum of two inches (2") (50 mm) beyond the end of the base flashing.

End of Section