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Henry WDU 1005 DURATAC MODIFIED BITUMEN MEMBRANE

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SPEC NOTE: This Guide Specification includes materials and installation procedures for 2 ply SBS modified bitumen roofing membrane system over an un-insulated or vented wood deck roof assembly in accordance with the requirements of the NBC for the building envelope. This specification is ideally suited for premium performance roofing systems typical of commercial and residential projects. This specification should be adapted to suit the requirements of individual projects. It is prepared in CSC three part format and should be included as a separate section under Division 7 - Thermal and Moisture Protection.

PART 1: GENERAL

1.1 General Requirements

- .1 The General Conditions, the Supplementary Conditions, the Instructions to Bidders and Division One General Requirements shall be read in conjunction with and govern this section.
- .2 The Specification shall be read as a whole by all parties concerned. Each Section may contain more or less than the complete work of any trade. The Contractor is solely responsible to make clear to the Subcontractors the extent of their work.

1.2 Description

- .1 Supply labour, materials, plant, tools and equipment to complete the Work as shown on the Drawings and as specified herein including, but not limited to the following:
 - .1 Wood Roof Deck (by others),
 - .2 Self-Adhering Base Sheet & Base Sheet Flashing,
 - .3 Self-Adhering Cap Sheet & Cap Sheet Flashing,
 - .4 Metal Flashings and Accessories,

1.3 Related Work

- .1 Rough carpentry: Section [XXXXX]
- .2 Metal flashing and trim: Section [XXXXX]
- .3 Caulking: Section [XXXXX]

1.4 References

- .1 CSA A123.4-[M1979]: Bitumen for use in Construction of Built-Up Roof Coverings and Dampproofing and Waterproofing systems.
- .2 CAN/CGSB-37.9-[83]: Primer, Asphalt, Unfilled for Asphalt Roofing, Dampproofing and Waterproofing.
- .3 CAN/CGSB-37.29-[M89]: Rubber-Asphalt Sealing Compound.
- .4 CGSB 37-GP-56M-[80]: Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing.
- .5 CSA 0121-[M1978]: Douglas Fir Plywood.

1.5 Shop Drawings

- .1 Submit shop drawings in accordance with Section [XXXXX] - [XXXXX].
- .2 Provide complete layout for tapered insulation system.

1.6 Storage and Handling

- .1 Store Duratac™ membranes and accessories in a dry location, in original packaging.
- .2 If product is stored outside, it must be elevated on a platform and be protected with a waterproof cover, which will shed water away from the material.
- .3 Store all products in an upright position. Do not double stack unless product is on pallets and packaged as received from factory. Never stack more than two pallets high without racking.
- .4 In cold weather store Duratac™ membranes in heated area and take onto roof immediately prior to use.
- .5 Store adhesives and primers between 15 degrees C (60 degrees F) and 26 degrees C (80 degrees F), or restore to temperature range before use.
- .6 Store combustible materials away from heat and open flame.
- .7 Do not store Duratac™ membranes at ambient temperatures above 49 degrees C (120 degrees F).

1.7 Environmental Requirements

- .1 Duratac™ installations in temperatures below 10 degrees C (50 degrees F) can result in quality concerns.
- .2 Verify adhesion regularly during cold temperature applications.
- .3 Store rolls in heated location until needed on the roof.
- .4 It is recommended that when temperatures remain below +10 degrees C (50 degrees F) application should be suspended.

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- 1.8 Protection
 - .1 Protect membrane from site damage during application. Cover traffic areas with appropriate protection to serve as walkways so as to prevent any damage to the membrane.
- 1.9 Submittals
 - .1 Submit in writing, a document stating that the applicator of the primary membranes specified in this Section is recognized by the manufacturer as suitable for the execution of the Work.
 - .2 Prior to commencing the Work submit copies of manufacturers' current ISO certification. Membrane, primers, sealants, adhesives and associated auxiliary materials shall be included.
 - .3 Prior to commencing the Work submit references clearly indicating that the membrane manufacturer has successfully completed projects on an annual basis of similar scope and nature for a minimum of fifteen years. Submit references for a minimum of ten projects.
 - .4 Prior to commencing the Work submit manufacturers' complete set of standard details for the air/vapour barrier and roofing membrane systems showing a continuous plane of air tightness throughout the building envelope.
- 1.10 Quality Assurance
 - .1 Perform Work in accordance with the printed requirements of the membrane manufacturer and this specification. Advise designer of any discrepancies prior to commencement of the Work.
 - .2 Maintain one copy of manufacturers' literature on site throughout the execution of the Work.
 - .3 At the beginning of the Work and at all times during the execution of the Work, allow access to site by the roofing membrane manufacturers' representative.
 - .4 Weather application issues and surface conditions can affect adhesion and are beyond Bakor's control. Use of hot air welder may be required to achieve proper adhesion. It is the responsibility of the roofing contractor to ensure adhesion of this product during application. Bakor, therefore, limit our liability to replacement of defective material only.
 - .5 At the request of the [architect] [engineer] [consultant], submit documentation certifying that the roofing membranes comply with CGSB 37-GP-56M.
 - .6 Materials used in this Section, including air/vapour barrier membranes, primers, mastics, adhesives and sealants shall be fully compatible and shall be sourced from one manufacturer.
 - .7 At the request of the [architect] [engineer] [consultant], submit copies of the membrane manufacturers' current certification to ISO 9000.
- 1.11 Alternates
 - .1 Submit requests for alternates in accordance with Section [XXXXX] - [XXXXX].
 - .2 Alternate submission format to include:
 - .1 Submit evidence that alternate materials meet or exceed performance characteristics of Product requirements and documentation from an approved independent testing laboratory certifying that the performance of the roofing membrane system including air vapour barrier and transition sheets, exceed the requirements of the National Building Code.
 - .2 Submit copies of manufacturers' current ISO certification.
 - .3 Submit references clearly indicating that the membrane manufacturer has successfully completed projects on an annual basis of similar scope and nature for a minimum of five years.
 - .4 Submit manufacturers' complete set of standard details for the roofing membrane systems showing a continuous plane of air tightness throughout the building envelope.
 - .3 Submit requests for alternates to this specification a minimum of fifteen (15) working days prior to tender closing for evaluation. Include a list of 10 projects executed over the past five years.
 - .4 Acceptable alternates will be confirmed by addendum. Substitute materials not approved in writing prior to tender closing shall not be permitted for use on this project.
- 1.12 Warranty
 - .1 Contractor hereby warrants that the modified bituminous roofing and membrane flashings will stay in place and remain leak proof in [accordance with GC24], but for two [2] years.
 - .2 Roofing membrane manufacturer hereby warrants that the membrane and membrane flashings will remain in a watertight condition and will not leak as a result of faulty materials or faulty workmanship for a period of ten [10] years. Scope of warranty shall include material and labor required to return the membrane to a watertight condition.

PART 2: PRODUCTS

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- 2.1 Components and materials must be obtained as a single-source from the membrane manufacturer to ensure total system compatibility and integrity.
- 2.2 Roofing Membrane Manufacturer: **Henry Company Canada**,
15 Wallsend Drive
Scarborough, ON M1E 3X6
Tel: 1-800-523-0268
Fax: 1-877-223-1285
Web Site: www.bakor.com
- 2.3 Primers
- .1 Adhesive Primer for base sheet applications shall be Aquatac™ or Blueskin® Adhesive as manufactured by Henry-Bakor and be fully compatible with membranes.
 - .2 Primer for all metal drip edge, drain and vent flanges shall be Blueskin® Spray Prep.
 - .3 Adhesive Primer with low VOC content for self-adhering membranes at temperatures above -12°C shall be Blueskin® LVC Adhesive manufactured by Henry, a synthetic rubber based adhesive, quick setting, having the following physical properties:
 - .1 Color: Blue,
 - .2 VOC: <240 g/L,
 - .3 Solids by weight: 40%,
 - .4 Drying time (initial set): 30 minutes
- 2.4 Wood cants strips with sloped side to measure 140 mm in width. Wood cant strips to be dry and true before use. Wood Blocking including insulation stops and cant strips shall be construction grade spruce.
- 2.5 Membrane Base Sheet and Base Sheet Flashing
- .1 Membrane base sheet and base sheet flashing shall be Duratac™ Base Sheet manufactured by Bakor, a self-adhering SBS modified bitumen membrane having a glass reinforcement, meeting CGSB 37-GP-56M Type 2 Class C Grade 1. The lower surface shall be split back release film, the upper surface shall be a blue polyethylene film designed for direct self-adhesive cap sheet application.
- 2.6 Membrane Cap Sheet and Cap Sheet Flashing
- .1 Cap sheet and cap sheet flashing shall be Duratac™ SA Cap manufactured by Bakor, a self-adhering SBS modified bitumen membrane having a woven glass / polyester reinforcement meeting CGSB 37-GP-56M Type 1 Class A Grade 1. The upper surface shall have ceramic granules and the lower surface shall be split back release film.
- 2.7 Nails: 25 mm diameter. Round-Top steel cap nails, corrosion resistant roofing nails conforming to CSA B111.
- 2.8 Membrane Termination Sealant: Membrane termination sealant in compliance with CAN/CGSB 37.29, shall be POLYBITUME® 570-05 Polymer Modified Sealing Compound manufactured by Henry-Bakor.
- 2.9 Plastic Roof Cement in accordance with of CAN/CGSB-37.5. shall be Bakor 810-21 Wet/Dry Plastic Roof Cement.
- 2.10 Pitch Pocket Filler: Non-shrink 100% solids pourable filler Thermostik® 840-10 Internal Setting Roof Adhesive in conjunction with Blueskin® Spray-Prep as manufactured by Henry Company.
- 2.11 Exposed Sealant: Termination Sealant shall be HE925 BES Sealant manufactured by Henry-Bakor, a moisture cure, medium modulus polymer modified sealing compound having the following physical properties:
1. Compatible with sheet air barrier, roofing and waterproofing membranes and substrate,
 2. Complies with Fed. Spec. TT-S-00230C, Type II, Class A,
 3. Complies with ASTM C 920, Type S, Grade NS, Class 25,
 4. Elongation: 450 – 550%,
 5. Remains flexible with aging,
 6. Seals construction joints up to 25mm wide.

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PART 3: EXECUTION

- 3.1 Examination: Verify that all deck surfaces and substrates are acceptable for installation of the system including placement of wood cant strips.

- 3.2
 - .1 Self-adhered base sheets: Apply base sheet beginning at the low point of the roof and align membrane along centreline of roof drain. Remove release film and adhere to substrate following manufacturers' printed instructions.
 - .2 Carry to base of cant as specified.
 - .3 Start all roofing applications at the lowest point to ensure water runs over the laps of the membrane.
 - .4 Lap base sheet 65 mm (2 1/2") on sides and 65 mm (2 1/2") on ends.
 - .5 Reinforce around all projections and drains using base sheet flashing membranes.
 - .6 Use a hot air welder at lap seams and flashing applications as required ensuring adhesion.

- 3.3
 - .1 Self-Adhered base sheet flashings: Apply primer by roller at a rate of 7.2 m²/l (300 ft²/ US gal.) and allow to dry. Apply base sheet flashing as per manufacturers' instructions to primed and prepared substrates.
 - .2 Begin application 100 mm (4") from toe of cant or vertical and extend vertically as indicated. Mechanically fasten upper edge of base sheet flashing using 25 mm (1") round top nails on 200 mm (8") centres. Refer to manufacturers' standard details.
 - .3 Promptly apply firm pressure to the membrane using a roller to ensure full contact and uniform adhesion.
 - .4 Use a hot air welder at lap seams and flashing applications as required ensuring adhesion.

- 3.4
 - .1 Self-Adhered cap sheets: Apply cap sheets directly to base sheets.
 - .2 Layout and align membranes. Plan work so that both the side and end laps of the cap sheet are offset from those of the base sheet a minimum of 300 mm (12") for side and 450 mm (18") for end laps.
 - .3 Lap cap sheet 75 mm (3") on sides and 150 mm (6") on ends.
 - .4 At all end or head laps of cap sheets, where "T" joint occurs, cut corner of membrane to be overlapped, on a 45 degree angle. Apply membrane termination sealant to cover the granule portion at overlap areas and to fill the step where the membrane overlaps at "T" joints.
 - .5 Use a hot air welder at lap seams and flashing applications as required ensuring adhesion.

- 3.5
 - .1 Self-Adhered cap sheet flashings: Begin application 150 mm (6") from toe of cant or vertical and extend vertically as indicated.
 - .2 Use a hot air welder at lap seams and flashing applications as required, ensuring proper adhesion.
 - .3 Mechanically fasten upper edge of SA Cap Flashing using 25 mm (1") round top nails on 200 mm (8") centres.