

GUIDE SPECIFICATIONS

SECTION 07 50 00 ELASTOMERIC MODIFIED BUILT-UP ROOFING KLB-100•3P•I•CS

PART 1 – GENERAL

1.01 RELATED SECTIONS

Section 02050 Demolition
Section 06100 Carpentry
Section 04500 Masonry Repair
Section 07220 Roof Insulation
Section 07600 Sheet Metal
Section 07710 Roofing Accessories
Section 07900 Caulking & Sealants

1.02 SUBMITTALS

- A. Submit Manufacturer's written approval or license of Applicator for installation of the herein specified roofing system.
- B. Submit Manufacturer's sample Twenty Year Labor and Material System Warranty and Manufacturer's Intent to Warranty Certification for this project.
- C. Submit most recent copy of Manufacturer's literature applicable to products and specifications to be used, as specified herein, including applicable flashing details.
- D. Submit three sheet samples, approximately 8 inches x 10 inches, of both ply sheet and flashing sheet.
- E. Submit evidence of Manufacturers history of production for the system specified herein. A minimum of fifteen (15) years experience is required. Documentation shall include job lists with project size, Architect of record, installing Applicator, telephone numbers and contact names.
- F. Submit, in duplicate, certification from the primary Manufacturer, properly attested by a corporate officer, stating that all materials being supplied comply with the specifications and requirements of the contract documents, including conformance to all federal, state and local building codes including United States Code Section 41:10, Subsections a-d, popularly known as the "Buy American Act".

1.03 QUALITY ASSURANCE

- A. All the materials specified herein are cited as a minimum standard of quality and shall not preclude consideration of equal or superior materials. All suggested "equivalent materials" or other substitutions are to be submitted to the Architect for consideration a minimum of ten (10) days prior to bid date. Submittal shall include all evidence of compliance or superiority of material from the proposed substitute Manufacturer. If accepted by the Architect, an addendum will be issued to all bidders for their consideration of the proposed substitute Manufacturer. Determination of equivalency of all substitutions shall rest exclusively with the Architect and such decision shall be final.
- B. All installation details and techniques shall conform to manufacturer's requirements and recommendations as published in the current N.R.C.A. Manual of Low Slope Roofing. In the event of conflict, the more stringent recommendation shall be followed.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to jobsite on pallets. Package labels shall indicate material name, production date and product code.
- B. Store materials in dry, protected areas in an upright position. Control temperature of storage areas in accordance with Manufacturer's instructions. Protect materials from moisture with breathable tarps on sides and top surfaces.

1.05 PROJECT CONDITIONS

- A. Follow local, state and federal regulations, safety standards and codes. When a conflict exists use the stricter requirements.
- B. Do not apply roofing materials unless proper bitumen application temperatures (EVT or approximately 350°F-475°F) can be maintained or when water in any form (i.e. rain, dew, ice, frost, snow, etc.) is present on the deck. Do not heat bitumen above 500°F. Under no circumstances should material be heated above flash point.
- C. Ensure roof deck is structurally sound to support the live and dead load requirements of the roofing system and sufficiently rigid to support construction traffic.

1.06 CODE COMPLIANCE

It shall be the Applicator's responsibility to ensure that the Work done under this project shall be in compliance with applicable code requirements, including obtaining any required permits prior to the start of the Work.

1.07 WARRANTY

Prior to project close out, the Applicator shall submit the Manufacturer's pre-approved no dollar limit Twenty Year Labor and Material Warranty.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

The Barrett Company is set forth as the referenced standard of quality. Other manufacturers of equal or better quality may request approval in conformance with specification requirements. Architect approved equals subject to all specification requirements.

2.02 ROOFING MATERIALS

A. Roofing Membrane System:

Project Specification: Barrett Co. **ram-Tough KLB-100•3P•I•CS** specification or approved equal as noted above in compliance with the minimum standard of quality as set fourth in following minimum specifications.

Materials required per 100 sq. ft. of roof area:

Poly•Felt 265 VP	3 plies
KLB-100 Elastomeric Bitumen	120 lbs. (approx.)
ram 306 Cap Sheet	1 ply

1. Ply Sheet: **ram Poly•Felt 265 VP**, shall comply with requirements set forth in ASTM D-5726 in addition to the following minimum specifications:

Material - Heat set, resin stabilized, spunbond polyester.

<u>TEST</u>	<u>METHOD</u>	<u>TYPICAL TEST RESULTS</u>
Basis Weight	ASTM D-3776	170 gm/m, 5.0 oz/yd ²
Thickness	ASTM D-1777	19.7 mils

Tensile Strength, lbf	ASTM D-4830	137 MD, 94 XD
Elongation, %	ASTM D-4830	26 MD, 28 XD
Tear Strength, lbf	ASTM D-4830	31 MD, 27 XD
Fatigue Life	ASTM D-8B	>10,000 cycles
Frazier Air Perm Ft ³ /Ft ²	ASTM D-1117	245 min

2. Elastomeric Bitumen: **ram-Tough KLB-100** shall comply with the following minimum specifications:

<u>TEST</u>	<u>METHOD</u>	<u>TYPICAL TEST RESULT</u>
Softening Point	ASTM D-36	200°F
Flash Point	ASTM D-92	min 550°F
Viscosity Brookfield, Model HAT #1 probe @ 50 RPM	ASTM D-3236	75-250 cp
Penetration (dmm)	ASTM D-5	30-70 dmm
Elongation @ 77°F min	ASTM D-2523	1000%
Resilience, 77°F	ASTM D-412	80% min.
Heat Resistance Penetration 77°F, 100 g, 5 sec	ASTM D-5	70 dmm max
Ductility	ASTM D-113	40 cm min.
Low Temp Flexibility	ASTM D-3111	0°F
Solubility	ASTM D-2024	99% min.

3. Cap Sheet and Flashing: **ram 306** shall comply with ASTM D-6164, grade G, Type I minimum specifications.

B. Related Materials

1. Primer: **ram Primer/Surface Conditioner** shall comply with ASTM D-41 requirements.
2. Pipe and Stack Flashings: **ram Pipe Boot** in lead or 16 oz. copper supplied by primary materials Manufacturer and installed in accordance with published flashing details.
3. Cant Strips: Impregnated fiber cant strip and tapered edge shall comply with ASTM C-208 requirements. Manufacturer shall be approved by membrane Manufacturer.
4. Flashing Mastic: **ram Mastic**-trowel grade SBS modified cold process cement.
5. Nails and Mechanical Fasteners: As specified by the fastener Manufacturer for specific application and approved by membrane Manufacturer.
6. Roof Insulation - See Section 07220.
7. Sheet Metal - See Section 07600.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Remove all trash, loose debris and ponding water from roof.
- B. Inspect roof deck surface, all perimeters and all roof projections. Notify Architect and roof materials manufacturer of any unsatisfactory conditions prior to proceeding.
- C. Install new insulation for days work in accordance with Section 07220.

3.02 APPLICATION

A. Roofing Membrane:

1. After new insulation has been properly installed, starting at the low points of the roof set three plies of **Poly•Felt 265 VP** in solid moppings of **KLB-100** elastomeric bitumen, overlapping starter plies in shingle fashion. At least three plies of **Poly•Felt 265 VP** shall cover the roof surface at every point.

Bitumen interply mopping shall be approximately 25-30 pounds per 100 square feet, per mopping and provide a continuous film of bitumen without voids or holidays. Broom in all **Poly•Felt 265 VP** plies from the side of the

sheet. Do not walk on installed plies until bitumen is thermoset cool. In no place shall felt touch felt nor shall there be any evidence of "fishmouths" or wrinkles. Bitumen shall "bleed-out" at all side laps.

2. Complete installation of all plies each day including cap sheet.
3. Install **ram 306** Cap Sheet in full mopping of specified bitumen. Ensure that mopping exceeds the roll width. Broom or roll the cap sheet in place after installation. Bitumen must bleed out side laps. Install loose granules over bitumen bleed at side laps while bitumen is warm and with tack. Finished membrane appearance shall not show evidence of visible bitumen.

B. Rooftop Equipment & Pitch Pockets:

1. All air conditioners and mechanical roof top units shall be lifted to allow new roofing and flashing under unit as required. Minimum height for all curbs is 8 inches. Raise or lower equipment as shown or required. New equipment dunnage, flashing and metal coping shall be installed as shown or required. Install new neoprene wearpads between the unit supports and dunnage.
2. Install new pitch pockets as per Manufacturer's requirements with integral rain hoods and fill with **KLB-100** Elastomeric Bitumen. Provide metal umbrella flashings over pitch pockets.

C. Roofing Drains:

1. All drains shall be flashed with new sheet lead flashing weighing four pounds per square foot, set in **ram Mastic** over the new roofing and flashed with two plies of **Poly•Felt 265 VP** and elastomeric bitumen.
2. Lead flashing shall be primed and allowed to dry prior to installation.

D. Base Flashings:

1. Bridge all junctions of vertical and horizontal surfaces with 45° cant strips. All roofing plies shall extend minimum of 2 inches above the top of cant.
2. The flashing system shall be a component of, or attached to, the roof deck or roof deck system. Apply flashing only after the built-up roofing has been installed. Start flashing system by mopping in two plies of **Poly•Felt 265 VP** overlapped 4 inches and 6 inches onto the horizontal roof surface.
3. Complete with one ply of **ram 306**, overlapped 8 inches onto the horizontal roof surface, with side laps off set 18 inches from **Poly•Felt 265 VP** backer sheet. Apply mastic seal and granules at all base flashing seams. Minimum height for base flashing is 8 inches

4. Base flashings shall be mechanically fastened 8 inches, on center, with fasteners and termination bar approved for the substrate receiver. Counter flashing must be provided.

3.03 FIELD QUALITY CONTROL

A. Roof Cuts:

Test cuts may be directed by a representative of the Architect or manufacturer at their discretion. Test cuts should be 3 inches by 48 inches and should run perpendicular to the direction of the felts to provide a representative sample of the roofing work. Test cuts generally will not exceed 1 per 100 squares of roof area.

1. Follow field audit criteria outlined by ASTM Standard D 3617-83.
2. Send roof cuts to: Structural Research Inc., Madison, Wisconsin, or Manufacturer approved, equally accredited laboratory, for laboratory examinations. Applicator shall allow \$500.00 for testing fees per 100 squares of roof area. Laboratory reports shall be submitted by the laboratory directly to the Architect.
3. Repair sampled areas by filling in the cut-out area then use a "feathered in" patch consisting of same number of plies as in the roof specification following the Manufacturer's and NRCA procedures

- #### B. Correct deficiencies in roof, if any, (determined by roof cut analysis) as prescribed by material Manufacturers and approved by the Architect.

3.04 CLEANING

- A. Remove equipment, trash, debris and any excess material from the jobsite.
- B. Repair any damage and remove any stains caused by work of this Section.

3.05 PROTECTION

General Contractor and the Owner shall protect finished roof areas from damage during subsequent construction not related to roofing.

MAINTENANCE:

Semi-annual inspections and a systematic maintenance program are recommended to the Owner and Architect. Consult your Barrett Representative or Barrett Approved Applicator for further information.

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