GUIDE SPECIFICATIONS

SECTION 07500
COLD PROCESS BUILT-UP ROOFING
CP 80 · 3BS· I · CS

PART I - GENERAL REQUIREMENTS

1.01 RELATED SECTIONS

Edit to Project Conditions

Section 06100 Carpentry
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 warranty and Intent to Warranty Certification.

C. Submit most recent copy of Manufacturer's literature applicable to products and specifications to be used, including applicable flashing details.

D. Submit three sheet samples, approximately 8" x 10", of plysheets, capsheet and three (3) pints of cold-process bitumen.

E. Submit evidence of Manufacturers history of production for the system specified herein. A minimum of ten (10) years experience is required. Documentation shall include job lists with project size, Architect of record, installing Applicator, telephone numbers and contact names, if requested.

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 conformation with all federal, state, and local building codes including all U.S.C. Buy American requirements.

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 a substitution is approved, 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.

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.

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 when water in any form (i.e. rain, dew, ice, frost, snow, etc...) is present on the deck.

C. Ensure roof deck is structurally sound to support the live and dead load requirements of roofing system and sufficiently rigid to support construction traffic.

D. All air intakes on or near the roof shall be covered, all doors and windows closed and contractor shall provide other engineering controls as may otherwise be necessary on this project to prevent odors from entering the building. All engineering controls shall be instituted as agreed to with the Owner.

1.06 CODE COMPLIANCE

A. A Underwriter's Laboratory Class A approval for the roofing system is required.

It shall be the roofing contractor's responsibility to obtain any required permits prior to the start of the job.

1.07 WARRANTY

A. Prior to project close out, the roofing contractor shall submit the Manufacturer's pre-approved 10 year labor and material warranty.

PART II - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. The Barrett Company or approved equal in conformance with Paragraph 1.03.

2.02 ROOFING MATERIALS

A. Roofing Membrane System

Project Specification Standard of Quality: Barrett Co. **ram-Tough** No. CP 80 · BS · I · CS.

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

RAM 32 Ply Sheet	3 plies
CP-80 Elastomeric Bitumen	8-10 gallons
Cap sheet **ram** 306	1 ply

1. Interply Adhesive (Cold Process Mastic): Barrett **ram** CP-80 Cold Process Mastic, SBS Kraton Modified Asphalt Mastic for cold application built-up roofing, shall comply with the following performance values:

Test	Method	Specifications
Asbestos content	ASTM D-267	None
Density @ 77 degrees F	ASTM D-1475	8.61 lb/gal
Flash point	ASTM D-3278	>100 deg F
Solids by weight	ASTM D-2823	73%
Asphalt content, min	ASTM D-146	51%
Uniformity & Consistency	ASTM D-4479	Pass
Base asphalt:		
Softening point	ASTM D-36	170-180 deg.
Penetration	ASTM D-5	10-15 mm

2. Ply Sheet**:** **ram**-32, fiberglass reinforced ply sheet shall meet ASTM D-4601-97a Type II and shall comply with the following minimum specifications:

Test	Method	Typical Results
Breaking strength, min lbf/in longitudinal and transverse	ASTM D-146	44
Pliability ½ inch radius Max, failures, 10 specimens	ASTM D-146	0
Moisture Content, % Max at time of Manufacturer	ASTM D-146	1

3. Cap and Sheet Flashing: **ram** 306, Kraton® SBS based, fabric reinforced, with granule surface. Cap sheet shall comply with ASTM 6164, Type II, Grade G.

B. Related Materials

1. Primer: **ram** Primer/Surface Conditioner shall comply with ASTM D-41.

2. Mastic: **ram** Mastic, flashing mastic shall be trowel grade SBS modified cold process cement.

3. Pipe and Stack Flashings: Four pound lead closed boot, supplied by primary materials Manufacturer and installed in accordance with published flashing details.

4. Cant Strips - Impregnated fiber cant strip in compliance with ASTM C-208.

5. Nails: As specified or recommended by the fastener Manufacturer for specific application and accepted by membrane Manufacturer.

6. Roof Insulation - See Section 07220.

7. Sheet Metal - See Section 07600.

PART III - EXECUTION

3.01 PREPARATION

A. Remove all trash, loose debris and ponding water from roof deck. Do not proceed with any work if temperatures are below 40°F or rain is likely.

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 **ram**-32 in cold process CP 80 at the rate of 2 gallons per 100 SF, per ply, overlapping starter plies in shingle fashion. At least three plies of **ram**-32 ply sheet shall cover the roof surface at every point.

   Interply adhesive shall provide a continuous film without voids, holidays, fishmouths or wrinkles. Broom felts to ensure complete embedment of all plies. In no place shall felt touch felts. Complete installation of all plies each day and coat finished plies each night.

B. Rooftop Equipment & Pitch Pockets

1. All air conditioners and mechanical roof top units shall be lifted as required for proper installation of flashings as per detail drawings.

C. Roofing Drains

1. All drains, new and existing, shall be flashed with new sheet lead flashing weighing 4 lbs/sq.ft., 36 inches square, set in **ram** Mastic over new roofing and flashed with two additional plies of **ram**-32 and CP-80 bitumen.

D. Base Flashings

1. Bridge all junctions of vertical and horizontal surfaces with 45° cant strips. All roofing plies shall extend a 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. Starting with two plies of **ram**-32 overlapped 4 inches and 8 inches onto the horizontal roof surface and follow with one ply of **ram** 306, overlapped 12 inches onto the horizontal roof surface, with side laps off-set 18 inches from **ram**-32 backer sheets. Minimum height for base flashing is 8 inches, and counter flashing must be provided. All flashing plies shall be set in a full coating of CP80 or **ram** Mastic.

Base flashings shall be secured with termination bar, mechanically fastened 8 inches, on center, with fasteners approved for the substrate receiver. Counterflashing must be provided.

E. Surfacing

1. After the membrane installation has been approved by the Manufacturer install granule surfaced cap sheet in a uniform application of cold process elastomeric bitumen at the minimum rate of 3 gallons per 100 SF. Cover sidelap bleed out with loose granules matching the color and size of the cap sheet granules.

3.03 FIELD QUALITY CONTROL

A. Roof Cuts:

Test cuts may be taken by a representative of the Architect or Manufacturer at their discretion. Test cuts should be 3 inches by 48 inches (1 square foot) and should run perpendicular to 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 Manufacturer.

2. Send roof cuts to SRI, Madison, Wisconsin for laboratory examinations. Provide allowance of $500.00 per test required in bid proposal.

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 Manufacturer's procedures.

B. Correct deficiencies in roof, if any, (determined by roof cut analysis) as prescribed by Manufacturer and approved by 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

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

Note: Substituting polyester felts for fiberglass felts will dramatically improve the performance of the roof system. The puncture, tear, elastic recovery and fatigue resistance characteristics of the polyester felts compliment the elastomeric characteristics of the CP 80 resulting in a more durable and longer lasting roof membrane.

More information is available on the **ram**-32 (fiberglass) and the **ram**-30 (polyester) product data sheets or from your local Barrett Representative.

Warranty coverage is increased with polyester felts.

Specification Alterations for Polyester Upgrade; Specification No. CP80·3P·I·CS.

2.02.A and 3.02.A.1
Change **ram**-32 to **ram**-30

2.02.A.2

2. Ply Sheet: **ram**-30, polyester reinforced ply sheet shall comply with the following minimum specifications:

Test	Method	Typical Results
Elongation, %	ASTM-D-1682	40%
Flex Fatigue	ASTM D-2262	10,000 cycles
Tear Strength, lb	ASTM D-2262	25 lbs.

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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