

General Guide Specification

This specification is offered as a general guide and should be edited to meet specific project requirements

SECTION 07500

**RAM COLDTAR®
RESTORATION OF BITUMINOUS ROOFS
RCT•RES•RR•GS**

PART I - GENERAL REQUIREMENTS

1.01 RELATED SECTIONS

Section 06100 Carpentry
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.
- C. Submit most recent copy of Manufacturer's literature applicable to products and specifications to be used.
- D. Submit written statement from primary manufacturer stating that materials being supplied strictly comply with written specifications

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 Specifying Authority 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 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 Specifying Authority and such decision shall be final.
- B. Contractor shall have ten (10) years documented experience in the application of similar roof systems. Lack of proficiency as shown by past work under other contracts which, in the judgment of the Owner, might hinder or prevent the prompt completion of additional work, if so awarded, or involvement in any legal actions which relate to past or present performances shall be sufficient cause to reject any bid offer.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to jobsite on pallets. Package labels shall indicate material name and product code.
- B. Store moisture sensitive materials in dry, protected areas in an upright position. Control temperature of storage areas in accordance with Manufacturer's instructions.

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 moisture in any form (i.e. rain, dew, ice, frost, snow, etc.) is present on the deck, and do not apply if rain is expected within 12 hours.
- 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. The areas to be roofed shall have an approved moisture survey completed prior to bidding. Survey shall indicate all wet areas and be quantified for bidding purposes.
- E. Do not smoke or expose materials to open flames during application.
- F. To reduce the potential for odors entering the building, cover fresh air intakes, close windows and doors and any other opening which could allow odors to enter the building during application.

1.06 REGULATORY COMPLIANCE

- A. It shall be the roofing contractor's responsibility to obtain any required permits prior to the start of the job.
- B. Do not use with potable water collection systems.

1.07 WARRANTY

- A. Prior to project close out, the roofing contractor shall submit the Manufacturer's pre-approved Five (5) year material warranty.

PART II - 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 remain subject to all specification requirements.

2.02 ROOFING MATERIALS

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

Smooth surface	5 gallons per square, min. ram ColdTar
Granular surface	6 gallons per square, min. ram ColdTar
Gravel surface	8 gallons per square, min. ram ColdTar

- 1. Cold Process Elastomeric Bitumen:

Ram ColdTar cold process bitumen for repair and membrane surfacing flood coat shall be compatible with asphalt and coal tar bitumen and shall comply with the following performance values:

<u>Description</u>	<u>Method</u>	<u>Test Results</u>
Weight	ASTM-1475	7.6 lbs/gal
Viscosity	ASTM-D-2196	11,200 cps

Elongation	ASTMD-412	2000%
Tensile Strength	ASTMD-412	200 psi
Pliability at 0°C	ASTM-D-6511	Pass
Non-Volatile Matter	ASTM-D-4586	60%
Mineral Stabilizers	ASTM-D-4	3.8%

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 which shall comply with ASTM D-4586, Type I.
3. Sheet Flashing: Ram 306 SBS based, fabric reinforced, with granule surface, shall comply with ASTM 6164, Type II, Grade G.
4. Replacement Plies: Ram 40, coated ply sheet, reinforced with three layers of polyester and fiberglass fabrics, shall comply with the following performance values:

<u>Test</u>	<u>Method</u>	<u>Typical Results</u>
Breaking Strength, lbf/in	ASTM D-146	120 MD 130 XD
Pliability (½ inch radius bend)	ASTM-D-146	No Failures
Tear Strength	ASTM-D-1117	15 lbf MD
Asphalt	ASTM-D-228	10 lb/100 ft
Puncture Resistance	ASTM-E-154	120 lbf
Surfacing/Stabilizer max	ASTM-D-4601	65%
Weight	ASTM-D-228	32 lb/100 ft
Mass of De-saturated Polyester/Glass Mat min	ASTM-D-228	2.2 lb/100 ft

5. Termination Bars shall be extruded aluminum, 1/8 inch thick, and 1 inch wide with holes pre-punched 6 inches on centers.
6. Sealant: Ram Silicon Sealant shall comply with ASTM-C-1193 standard guide.
7. Surfacing Alternatives:

Specifier Shall Choose One of the Following;
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 - Gravel shall comply with ASTM-D-1863 specifications with nominal 3/8-inch diameter.
 - Aluminum coating shall be Ram Ultra Silver Energy Star® approved aluminized reflective coating.

- White primer and coating shall be Ram Ultra White primer and Ram Ultra White latex topcoat, Energy Star® approved.
- Mineral granules shall be as manufactured by 3M Company, number 11 size, in standard color as approved by Owner.

PART III – EXECUTION

3.01 PREPARATION

- A. Remove all dirt and debris from roof surfaces.
1. On all graveled surfaces, all loose gravel shall be removed with power brooming and power vacuuming. Finish preparations using a power blower to remove any remaining dirt and dust.
 2. On smooth surface roofs, power-wash and allow to dry.
- B. Where existing roofing or insulation is wet, remove area down to deck or vapor retarder. Repair or replace deteriorated deck as necessary on unit price basis. Replace wet insulation with new insulation to match type and thickness. Mechanically fasten new insulation with approved fasteners at the rate of one for every two square feet of roof area. Install three (3) plies of Ram 40 over the new insulation in shingle fashion. Feather out successive plies onto properly prepared and cleaned adjacent roofing. On gravel surfaced roofs, remove all gravel 18 inches wide at perimeter of repair areas. All three (3) plies of Ram 40 shall be set into continuous applications of Ram ColdTar at the rate of 2 ½ gallons per 100 square feet, per ply, over the new insulation. Allow patches to adequately cure before proceeding. To accelerate work, patches can be made with hot applied bitumen in accordance with accepted industry standards.
- C. Membrane blisters and all other visible defects shall be cut open and allowed to dry. Dry flaps shall be sealed down in an application of Ram ColdTar. Cover entire area with two 2 additional plies of Ram 40 set into Ram ColdTar and feathered 36 inches onto the properly prepared roof surface roof. On gravel surfaced roofs, remove all gravel 18 inches wide at perimeter of repair areas.
- D. On gravel-surfaced roofs, scrape and remove all gravel down to the felts, 9 inches wide, at all base flashings and gravel stops.
- E. On gravel surfaced roofs spud off all gravel at roof drains, 40 inches square and install a 36 inch square piece of Ram 40 set into a uniform coating of Ram ColdTar at the rate of 3 gallons per square. The flashing sheet shall run under the drain clamping collars. Repair and replace all clamp collars and drain baskets as required.
- F. Remove or lift existing counter flashings.
- G. Remove all deteriorated, loose or otherwise defective base flashings and provide temporary base flashings of Ram Mastic and two plies of Poly•Felt 155 or Ram 40 to keep roof watertight.
- H. Refill pitch pockets using Ram Mastic. Peak and slope for drainage.
- I. After all repairs are completed, the repair work properly cured and roof surface is clean and dry, apply Ram Primer to asphaltic roof surfaces at the rate of one gallon per 100 square feet and allow to dry tack free. Coal Tar pitch roofs do not require any primer.

3.02 APPLICATION

- A. Trowel apply Ram Mastic to all prepared flashings and edge surfaces. Install one ply of Poly•Felt 155 or Ram 40. Apply second coat of Ram Mastic and embed Ram 306 granulated membrane to reinforce all flashings, metal edges and gravel stops. Mechanically fasten new termination bar 6 inches on centers, at the top of all flashing membranes. Seal top and vertical seams of all flashings with Ram

Mastic and fabric. Reset or install new counter flashings where required and caulk reglets with Ram Silicone sealant.

B. Just prior to use, turn Ram ColdTar pails upside down for 30 minutes. Turn right side up and mix by hand until thoroughly stirred. Do not use any mechanical mixing equipment which whips air bubbles into Ram ColdTar.

C. Squeegee apply Ram ColdTar over entire roof area at the following rates:

Smooth or granule surface, (with notched squeegee)	5-6 gallons per square min
Graveled surface, (with flat squeegee)	8-10 gallons per square
(Large size gravel aggregate may require additional Ram ColdTar)	

It is recommended that the Ram ColdTar be spread with the proper squeegee in two directions, 90 degrees to each other.

Finished application shall present a smooth, glossy finish.

3.03 SURFACING APPLICATION ALTERNATIVES

Specifier Shall Choose One Finish Below

- Gravel –As Ram ColdTar is squeegeed out, apply aggregate surfacing at the rate of 400 pounds per square before a skin develops on the Ram ColdTar.
- Ram-Ultra Silver –Allow the Ram ColdTar membrane to cure for 90 days. Apply Ram Ultra Silver at the rate of 1.5 gallons per square.
- Ram-Ultra-White - Allow the Ram ColdTar membrane to cure for 90 days. Apply Ram Ultra-White Primer at the rate of .5-.75 gallons per square. After the primer has dried, apply Ram Ultra-White in two coats totaling 1.5 to 2.0 gallons per square.
- Granules –As Ram ColdTar is applied, install granules at the minimum rate of 60 pounds per square before a skin develops on the Ram ColdTar. Allow the Ram ColdTar to set overnight before removing excess granules.

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.
- C. Immediately rinse or flush tools with mineral spirits or citrus cleaner after use. Use waterless hand cleaner on skin.

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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