

RAM-TOUGH 250

TECHNICAL DATA SHEET

1. **Product Name:** ram Tough 250 Rubberized Asphalt Membrane

2. **Manufacturer:**

Barrett Company
3422 Old Capitol Trail
Wilmington, Delaware 19808-6124

3. **Product Description:**

Basic Use: ram-Tough 250 is designed for waterproofing concrete structures such as roof decks, roof terraces, plazas, parking decks, reflecting pools, mud slabs, planters, tunnels, foundations and other special applications. Ram-Tough 250 can be applied on both horizontal and vertical surfaces. Wood Decks, Cement Board and Type X Gypsum Board are also acceptable substrates.

Limitations : ram-Tough 250 is not intended as a permanently exposed or traffic bearing membrane. Do not install ram-Tough 250 over lightweight structural concrete of less than 3,000 PSI without prior written approval from Barrett Company. Lightweight insulating concrete is not an acceptable substitute.

Consult your Barrett Company Representative for application procedures below 32°F. Applications below 0°F are not recommended.

Composition and Materials: ram-Tough 250 is a hot melt, fluid applied rubberized bitumen, specially formulated from unoxidized refined asphalt, SBS rubber polymer, recycled tire crumb rubber and inert mineral fillers.

Container and Weight: ram-Tough 250 is packaged in cardboard boxes weighing approximately 35 pounds set on shrink wrapped pallets containing 48 boxes each. The product is double wrapped in low density polyethylene. The theoretical weight of the installed membrane is approximately one pound per per square foot for the standard 180mil assembly. For the 215mil, fabric reinforced dual membrane assembly the weight of the installed membrane is approximately 1.5 pounds per square foot.

Coverage: ram-Tough 250 is either applied as a "SM" single application (standard membrane assembly) at an average thickness of 180mil, with a minimum of 125mils thickness or the most common installation of the ram-

Joint or crack, into which is centered and embedded a 6 inch strip of approved reinforcing and topcoated with another 125mil coat of ram-Tough 250. All flashing and

Tough 250, a 215 mil thick dual application that is fabric reinforced.

Dual applications are recommended for most applications including:

- Retrofit applications
- Over rough substrates
- Over wood plank, plywood or gypsum
- X-Type board secured to metal decking.
- Over concrete plank
- Other specialty applications

The dual application installation consists of an initial coat of membrane at a minimum thickness of 90mils, a spunbond polyester reinforcing fabric "Poly Felt 125" embedded into the hot fluid membrane followed by a second coat of membrane applied at a minimum rate of 125mils.

Material Standards: ram-Tough 250 meets or exceeds all of the performance requirements of the Canadian Government Specifications Board (CGSB) 37-GP-50M and applicable ASTM test methods.

4. **Technical Data**

Typical physical properties of ram-Tough 250 are shown in Table 1.

Installation

Surface Preparation: All concrete surfaces must be clean, dry, free of voids, projections, loose material, laitance, dust, oil, unapproved curing compounds or other contaminants. Structural weight concrete should be wet cured 28 days prior to the application of the membrane. Concrete should have a wood-float or wood troweled finish equal to ACI 301-11.7.3. All exposed metal shall be wire brushed to bare metal, free of paint, oil, rust and other contaminants.

Priming: ram surface conditioner and primer is sprayed or roller applied to concrete at a rate of approximately 300-600 square feet per gallon. Allow surface conditioner to dry tack-free before membrane is applied.

Application : Use a double jacketed melter with mechanical agitation specifically designed for application of hot-applied rubberized asphalt materials. Melter must be capable of maintaining the membrane temperature between 350°F and 400° F (177°C - 218°C). Construction joints, control joints and all cracks greater than 1/16 inch shall be treated with 125mil coat of ram-Tough 250 extending 6 inches beyond either side of the detail work should be completed prior to the application of the membrane.

ram-Tough 250 may be squeegee applied onto horizontal surfaces. Vertical surfaces may be troweled, screeded, roller applied or spray applied.

For the standard membrane assembly, (SM), ram-Tough 250 should be applied at 180mil thickness (3/16", 4.8mm) with a minimum thickness of 125mil (1/8", 3.2mm) in a continuous, monolithic coating.

For a dual membrane assembly, (DM), ram-Tough 250 is initially applied to the primed substrate at a minimum thickness of 90mil. The Poly Felt 125 fabric reinforcing is embedded and broomed into the membrane while it is still warm and tacky. A second coat of ram-Tough 250 is then applied at a minimum thickness of 125mil, fully encapsulating the fabric reinforcing within the membrane.

If a water test is to be conducted, provide a minimum depth of 2 inches of ponding water for a period of 48 hours. Flood testing prior to the placement of an approved protection layer is preferred.

Complete ram-Tough 250 specifications and guideline details are available upon request.

5. Availability and Costs

Availability: Can be obtained through Barrett Company representatives and over 500 Distributors located nationally.

Costs: ram-Tough 250 systems are competitively priced with BUR Systems. For project specific information contact your local Barrett Company representative or Barrett Company directly.

6. Guarantees

Contact Barrett Company for specific warranty information. Long term 10, 15 and 20 year labor and material complete system warranties are available for most systems.

7. Maintenance

Standard N.R.C.A. semi-annual inspection procedures are recommended. Damaged ram-Tough 250 is easily repaired by removal of damaged material and coating with new ram-Tough 250. Emergency repairs can be made with conventional BUR repair materials.

8. Technical Service

Technical support is available throughout the U.S.A. by a trained network of sales representatives and a technical staff.

9. Filing

SWEETS Architectural Catalog, 07100, BAR. Additional product and technical information can be obtained upon request.

10. PHYSICAL PROPERTIES

Properties	Test Method	Test Requirement	Test Results	Comm
Color	NA	NONE	N.A.	Black
Softening Point	ASTM-D-36	NONE	83°C (181°F)	Pass
Solids Content	CGSB-37-GP-50	100%	100%	Pass
Ratio of toughness to peak load	CGSB-37-GP-50	Min.0.040	0.059	Pass
Low temperature crack bridging capacity	CGSB-37-GP-50	No Cracking No Adhesion No Splitting	No Cracking No Adhesion No Splitting	Pass
Toughness, J	CGSB-37-GP-50	Min. 5.5	11.7	Pass
Penetration 0.1 mm	CGSB-37-GP-50	Max 110 @ 25° C (77° F) Max 200 @ 50° C (122°F)	80 @ 25° C 55 @ 50° C	Pass
Flow, MM	CGSB-37-GP-50	Max 3 @ 60°C (140°)	0.50 @ 60° C	Pass
Flash Point	CGSB-37-GP-50 ASTM-D-92	Min 260° C (500° F)	327°C (820°F)	Pass
Water Resistance 50° C (122°F) for 4 days	CGSB-37-GP-50 ASTM-D-92	No delamination No blistering No Emulsification No deterioration No pinholes	No delamination No blistering No Emulsification No deterioration No pinholes	Pass
Adhesion	CGSB-37-GP-50	Min 1	1.2	Pass
Viscosity	CGSB-37-GP-50	Min 2, Max 15	4 Sec.	Pass
Water Vapor Permeability	CGSB-37-GP-50	Max 1.7 0.35 g max gain	0.18 ng/Pa.m2.s	Pass
Water absorption	CGSB-37-GP-50	Min 0.18 0.18 g max loss	0.22 g gain	Pass
Low Temperature flexibility & adhesion	CGSB-37-GP-50	No Cracking No delamination No adhesion loss	No Cracking No delamination No adhesion loss	Pass
Heat stability	CGSB-37-GP-50	Aged Samples, No change in viscosity, penetration flow or low temp flexibility	Aged Samples, No change in viscosity, penetration flow or low temp flexibility	Pass

OTHER QUALITY PRODUCTS & SERVICES AVAILABLE FROM THE BARRETT COMPANY

- RAM-TOUGH Elastomeric BUR Systems
- Barrett Specification Reroof Systems
- Coatings and Mastics
- Polyester and Fiberglass Fabrics
- Highway membrane for Bridge and Parking Decks
- Thermography Services
- Construction Management and Direct Contract Services for Reroofing Projects

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