

## **Barrett ram-Tough 250 Advantages**

**Rubberized asphalt membrane for waterproofing and roofing which uniquely offers,**

1. Tenacious bond to substrate – no below membrane water migration
2. Triple protection at critical flashing points
3. Ease of detailing, follows contour and irregularities, no cutting & piecing
4. Self healing above 60°F
5. Installation at 0°F
6. Extra Thick – 10 mils and 215 mils – better seal of developing cracks – less surface prep
7. Uncured thermoplastic rubberized membrane requires no curing
  - a) Fast – ready for other trades immediately
  - b) Tolerates adverse weather immediately after installation
  - c) Easy to find and patch damage
  - d) Homogenous day to day laps
  - e) Easy to flash in subsequent details
8. 100% solids, no solvent fumes, installed thickness is finished thickness
9. Monolithic, one step, no seams, no mixing, no curing failures
10. Approved trained applicators only
11. Unbeatable track record, references, key projects.
12. Energy saving insulation systems at economical cost

## **Advantages Of Liquid Applied ram-Tough 250 Flexible Membrane Over Preformed Rubberized Asphalt Sheet Systems**

1. PRA is difficult to apply especially in cold weather. It becomes more brittle and less 'sticky', at 45°F; **ram-Tough 250** can be applied to 0°F on a frost-free deck.
2. PRA is not as thick as **ram-Tough 250** (40 to 70 mils vs. 180 mils) and that is significant in sealing new cracks in decks that form over the life of a structure as well as puncture resistance and general wear.
3. PRA is not monolithic and has extensive laps; **ram-Tough 250** is continuous and monolithic; no laps or seams.
4. Flashing is difficult with PRA at curbs and intricate details; with **ram-Tough 250** flashing is positive and simplified.
5. Since PRA is applied as a sheet, it is not as effective as **ram-Tough 250** on rough concrete due to localization bonding. Punctures may occur due to the loss of back-up support where the sheet spans low spots and below membrane water migration occurs.
6. The polyethylene sheet of PRA traps moisture, not allowing moisture vapor to escape to membrane may reseal. Delamination of the membrane from the deck generally occurs.
7. Long term storage of the PRA rolls often causes distortion of sheet thickness.
8. **ram-Tough 250** is applied by only approved applicators, unlike most PRA systems.
9. PRA requires high skilled application techniques. **ram-Tough 250** is fast and easy, minimizing application error.

# Advantages of Liquid Applied ram-Tough 250 Flexible Membrane Over Cold-Cure Type Membrane

1. No curing - provides many advantages:
  - Speed - **ram-Tough 250** is ready for subsequent operations immediately.
  - Much wider ambient installation temperature range - Cold-cure materials can not be installed below 40°F and often require 50°F and rising temperatures.
  - **ram-Tough 250** can be installed at 0°F.
  - **ram-Tough 250/PMR** is unaffected by adverse weather immediately after installation, unlike cold cure membranes which can require four to seven days to reach a "cured" state.
2. **ram-Tough 250** is three to six times thicker - better able to bridge developing cracks in the deck.
3. Detailing reinforcement - Triple membrane protection puts sheet reinforcement and two coats of membrane at critical joints where most leaks in other systems occur.
4. **ram-Tough 250** is self healing - Able to seal minor construction damage - unlike any other cold-cure material.
5. No two part systems to mix - Reduces applicator error and workmanship requirements.
6. When applying membrane in day to day operations, **ram-Tough 250** provides a continuous, monolithic weld when lapped - Cold-cure system obtains only a physical (not chemical) stick-type bond when lapped.
7. **ram-Tough 250** is 100% solids. No toxic or dangerous solvent - Initial installed thickness remains on deck. Cold cures "shrink" during cure to 40-60% of original thickness. Typically a 60 MIL "wet" thickness will cure to 30-45 MIL "dry" thickness.

# Advantages Of ram-Tough 250 Over EPDM Sheet Membrane

Like EPDM, rubberized asphalt has

- Comparable high productivity – quick application
- Membrane cost are competitive
- Similar historical exposure of 30+ years
- Approved applicator network
- Similar watertight warranties

Unlike EPDM, ram-Tough 250

- **ram-Tough 250** does not have any seams or joints – and forms a completely monolithic rubberized membrane – EPDM hoes have extensive seaming and jointing at roof projections and roof laps – they are the ‘wear links’ generally with under 10 pounds per inch peel strength.
- EPDM 45 mil cures sheet is prone to punctures and cuts, especially with soft rigid insulation below; **ram-Tough 250** at 180 mils is not only more resistant to cuts and punctures, it will generally ‘self-seal’ or cure minor cuts and punctures.
- **ram-Tough 250** leak repair is relatively simple – with 100% tenacious bonding, water cannot travel underneath the membrane – where it leaks below, the damage is above; EPDM sheet, loose laid or adhered, will allow water migration for hundreds of feet – leak tracing can be exasperating, it not impossible.
- EPDM requires use of special glues, adhesives, caulks, solvents, and other toxic materials related to worker health safety as well as logistical supply problems; thus special worker precautions should be required. **ram-Tough 250** requires no such accessories or the use of any toxic products.
- EPDM, a thermal setting material, is difficult to adhere together and cannot be fused or ‘welded’, demanding significant workmanship expertise; **ram-Tough 250**, a thermoplastic material, will weld and fuse into a monolithic membrane upon contact and it is less demanding of application expertise.
- EPDM adhesives, sealants and caulks are difficult to work with in cold weather and must be kept warm for at least four hours prior to application. **ram-Tough 250** can easily be applied at 0°F.
- EPDM at 45 mils thickness provides only one-fourth the protective thickness of **ram-Tough 250**’s 180 mils.
- **ram-Tough 250**, because of its tenacious bond, cannot suffer windstorm blow-off – EPDM ballasted membrane is prone to wind uplift problems.
- EPDM requires temporary water cut-offs each working night, and water travel under completed roofing from adjoining uncompleted roofing areas is always a common problem – which is eliminated with **ram-Tough 250**.

# Advantages of ram-Tough 250 Over Conventional Built-up Roofing Membrane

Following are some comparison between built-up roofing membranes and **ram-Tough 250** rubberized asphalt membrane.

1. **ram-Tough 250** never gets brittle and has far greater ability to accept deck movement than fiberglas felts and conventional asphalt or coal tar.
2. With **ram-Tough 250** cants are not required. It is an easy flashing at protrusions and intricate details (superior to cutting and placing felts or rolled goods.)
3. No lateral water migration with **ram-Tough 250** as is possible with insulated systems.
4. **ram-Tough 250** has far superior low temperature properties.
5. Self healing - better able to seal damage caused during construction
6. With **ram-Tough 250** no water cut-offs are required during construction.
7. **ram-Tough 250** can provide immediate, complete water tightness with balance of ballast or slab covering to proceed when convenient.
8. Even by up-grading to polyester reinforced modified bitumen rolled goods set in conventional asphalt, the assembly will only perform as well as the asphalt. This assembly has limited elastic properties, no self-healing properties, limited low temperature properties and inferior adhesion which allows for the potential of water migration.
9. Torch applied modified bitumen rolled goods exhibit inferior elastic and low temperature properties, no self-healing properties and seams every 3' that can potentially allow water entry.
10. Approved applicator policy assures competent, solvent contractors.