

South Carolina Stress Absorbing Membrane Interlayer (SAMI)*

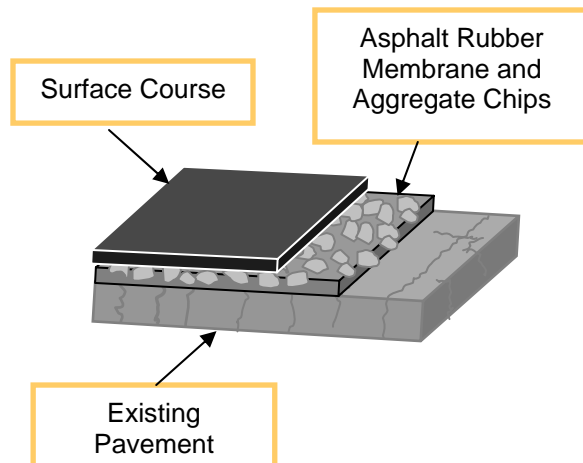
Summary

- Rate of Placement: 0.6 to 0.8 gal/sy for rubber-modified asphalt binder and 28 to 32 psy for cover aggregate
- Rubber Content: 20% by weight of the liquid asphalt
- Rubber Type: Ambient Crumb, #40 mesh
- Tires Used: 1,425 to 1,900 tires per lane-mile of pavement when used with R-M DGSC overlay
- Tires Used: 725 to 970 tires per lane-mile of pavement when used with conventional DGSC overlay
- Advantages
 - Prevents reflective cracking
 - Increased pavement lifespan
 - Reduced maintenance requirements
 - Lower LIFECYCLE cost than conventional pavement (due to reduced maintenance requirements)
 - Beneficially utilizes waste tires
- Disadvantages
 - Higher initial cost than conventional pavement
 - Requires either use of blending unit or coordination with supplier for pre-blended binder
 - Requires use of some specialized equipment (distributor truck with larger spray nozzles than normal)
 - Lack of public awareness (general public, contractors, and public officials)
 - Lack of access to specifications

A stress absorbing membrane interlayer (SAMI) consists of a layer of hot, rubber-modified asphalt cement binder (black "glue") applied to an existing, cracked pavement, which is then covered with a layer of crushed stone. The SAMI is compacted and swept clean before being covered with a new layer of HMA surface course. SAMI is a maintenance application that is used to prevent cracks in an old pavement from causing cracks in the overlying new pavement surface. This increases the lifespan of the pavement and as a result, reduces the maintenance requirements of the pavement.



Although initially more expensive than just constructing a conventional overlay without a SAMI, they are actually less expensive over time due to their longer service life and reduced maintenance requirements. For a one-mile section of a two-lane road, the construction of a SAMI with a conventional asphalt overlay can utilize 1,940 scrap tires, while the construction of a SAMI with a rubber-modified asphalt overlay can utilize 3,800 scrap tires.



*Note: Several other states use SAMI (also known as Asphalt Rubber Membrane Interlayer, or ARMI, in some states), but with varying rubber contents and sizes.