



All States Materials Group's crumb rubber modified asphalt (CRMA) is a high performance binder for hot mix asphalt (HMA). It is composed of performance graded asphalt blended with rubber from recycled tires and conforms to the ASTM Specification D-6114 for Asphalt-Rubber Binder. The tire rubber is finely ground at ambient temperatures then blended with asphalt at temperatures exceeding 350°F. The high temperature causes the oils in the asphalt to swell the elastomeric rubber polymer, resulting in a high viscosity elastic binder material that remains flexible at low temperatures and stiff at high temperatures. The tire rubber contributes polymer, carbon black and anti-oxidants. The result is a very adhesive and cohesive high viscosity binder that yields high film thickness on the aggregates, superior durability and resistance to oxidative aging, rutting, raveling, delamination, shoving and thermal and reflective cracking.



### CRMA Benefits

- ✓ Yields a high film thickness
- ✓ Resists oxidative aging
- ✓ Resists cracking at low temperatures and rutting at high temperatures
- ✓ Prevents raveling of open- and gap-graded mixes
- ✓ Can reduce HMA lift thickness, preserving curb reveal and clearances under overpasses
- ✓ Uses recycled material, reduces scrap tire inventories
- ✓ Durable, high performance binder extends the life cycle of your HMA pavements thus reducing user costs associated with construction

### CRMA Uses

All States Materials Group's crumb rubber modified asphalt is formulated for durability and high performance applications. It is manufactured at one of our facilities or on-site with a portable blending unit, adhering to strict quality control for consistency and performance. The blending unit's onboard computer system integrates seamlessly with that of the HMA plant allowing the CRMA to be pumped directly to the plant. The result is a ready-to-use binder for traditional hot mix plants and placement with conventional HMA paving equipment. While designed for applications where high performance is needed, it may be used for any HMA paving project, and has proven effective on streets, highways and airfields.

It is an ideal product for stress absorbing membrane interlayers (SAMI). The high film thickness makes it ideal for special mixes such as open-graded friction courses (OGFC), stone matrix asphalt (SMA) and gap-graded mixtures including NovaChip. These mixes give outstanding performance in heavy-duty applications. The open graded mixes greatly improve visibility in wet weather and substantially reduce road noise, but have had some problems with raveling when conventional asphalts were used. The crumb rubber asphalt's more durable & thicker film reduces drain down and aging of asphalt, giving the durability to make these mixes most effective. To account for the rubber, the designs are a little different; typically higher voids in mineral aggregate (VMA) and higher binder contents (typically 20% higher) are needed. Contact us for more information on how you can use crumb rubber modified asphalt on your HMA paving projects to gain durability and improve life cycle costs.



