

# EVERYTHING ASPHALT

## Base Stabilization



*"An emulsion-stabilized base waterproofs the flexible base, making the intrusion of water less likely. Any desirable characteristics that you gain from densities and strength of aggregate will remain constant, because asphalt emulsions waterproof the flexible base."*

*Roads & Bridges, 2005*

### Strengthened, Flexible Base

When asphalt emulsions are used for base stabilization and full depth reclamation (FDR), the result is a strengthened base that is flexible and resistant to fatigue and cracking. New base material or reclaimed materials (including any bituminous surface) can be remixed. FDR is a cost-effective technique for correcting deficiencies, reclaiming distressed pavements and providing structurally sound bases for existing roads. Virgin aggregate is sometimes added to increase the structural capabilities of the base.



Structure is built down into the pavement during the process. After stabilization, the new base is ready for surfacing.

### Martin Asphalt Products for Stabilization

<b>CSS-1</b>	Cationic slow setting asphalt emulsion used for many applications, including stabilization and FDR.
<b>AES-300</b>	High float anionic medium setting emulsion. The high float property prevents flow of the asphalt from the mixture.
<b>AES-300RP</b>	Polymer modified high float rejuvenating medium setting asphalt emulsion. This emulsion has polymers for durability and elasticity, a rejuvenator oil to improve aged asphalt pavement and high float chemistry for full depth reclamation of bituminous pavements.
<b>SS-1</b>	Anionic slow setting emulsion used for many applications, including stabilization and FDR.
<b>MS-2</b>	Anionic medium setting emulsion used for many mix applications including base stabilization and FDR.

### Benefits

- Bases can be prepared for new pavements or upgrading existing roads.
- The asphalt gives a flexible but strong base resistant to fatigue, cracking and moisture damage.
- Pavements experiencing severe distresses can be reclaimed.
- Using materials in-place minimizes hauling and use of virgin materials.
- Drainage and crowns can be re-established.
- The existing road material is reused and recycled.
- The process builds structure down into pavement, minimizing needs for road re-alignment.
- Reclamation can be used as a first step in stage construction, adding more structure as needed to meet increasing traffic.
- Base stabilization and full depth reclamation are low cost processes for improving road structure and widening roads.

### Preparation and Construction

Full depth reclamation is an ideal treatment for thin bituminous pavements needing upgrading or rehabilitation. The candidate may have high severity distresses such as ruts, cracks, potholes and base problems. Depending upon the severity of the base distress, base corrections may need to be made or base rock added. The base should be strong enough to support the equipment. The road should have good drainage, or provision made for correcting the drainage. Full depth reclamation is also a good choice for strengthening shoulders.

Following laboratory testing of materials from the road, an emulsion mix design is performed. Based on that design, a reclaimer pulverizes the existing and any added base materials and uniformly four to 10 inches deep (10-25 cm) and mixes in the asphalt emulsion. The stabilized material is compacted with a padfoot compactor to work out the moisture. The road is then bladed to level the surface and compacted in preparation for a new surface.

### Martin Asphalt Makes It Easy

Through Martin Asphalt, you get **Everything Asphalt**—a full range of products for your pavements. In addition, you receive technical assistance in selecting the right materials and application. The company's AASHTO Certified Laboratory makes sure the products meet your specifications. And your products are delivered both on spec and on time via Martin's Gulf Coast network of production plants, storage facilities and transportation fleet including ocean-going and inland barges, rail cars and tanker trucks. Contact us for more information on products for your stabilization projects.