

Highly Modified Asphalt (HiMA)

Next Generation in
Performance Pavement Design



Integrity Innovation
Resilience Results
Teamwork Cost Efficiency
Relationship Integrity Integrity
Integrity Resilience Problem Solving
Resilience Peak Performance

Pavement Performance with a Competitive Edge

The ability to maintain roads in an environment where traffic demands are rising and repair budgets are decreasing is the number one issue facing road owners in every region. Finding innovative and cost effective solutions to this challenge is what Kraton Polymers does best.

Our technology enables roads to do what they are designed to do—Keep traffic moving.

Less maintenance and longer road life means:

- ▶ Reduced highway spending
- ▶ Fewer delays and congestion
- ▶ Greater safety for drivers and highway workers

Kraton Highly Modified Asphalt (HiMA) is the newest innovative polymer solution that delivers up-front cost savings and superior pavement performance in the Base Course, as well as improved fatigue resistant Overlays and Wearing Courses.

HiMA – Our New and Innovative Advanced Polymer Technology

Innovative Base Course Solution

- ▶ 30% to 40% thickness reduction that delivers upfront cost savings
- ▶ Superior fatigue resistance and durability
- ▶ Allows for height restricted applications such as bridge underpasses
- ▶ Lower viscosity binder offers contractors greater ease-of-use and workability
- ▶ Eco-friendly solution consumes less raw materials and energy
- ▶ Delivers even greater durability and service life at standard thickness levels

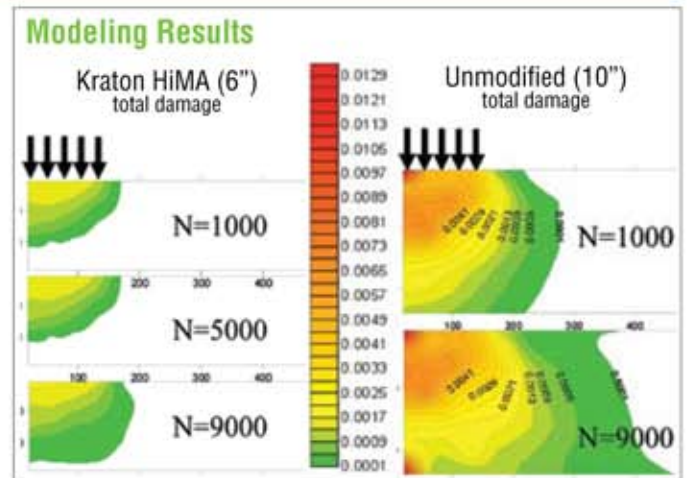
Exceptional Binders for Overlays and Wearing Courses

- ▶ Superior rutting and crack resistance through highly elastic binders
- ▶ Reduced maintenance costs through extended overlay performance
- ▶ Cost-effective solution for crack resistant overlays on failed concrete roads
- ▶ Superior stone retention for porous asphalt applications reduces vehicle damage
- ▶ Additive-free workability at lower temperatures (warm mix)
- ▶ Reduced lift thickness possible through added strength

The Core of HiMA Technology: Kraton D 0243 SBS Polymers for Paving Solutions

Features of Kraton D 0243

- ▶ Creates low viscosity binders
- ▶ Offers superior compatibility over a wide range of challenging asphalts
- ▶ H₂S reduction—Improved safety through self cross-linking technology eliminates the need for sulfur
- ▶ Proven track record in paving applications since 2006
- ▶ Global supply ability



Kraton Polymers innovative technology and expertise leads the way.

Formulating and Paving HiMA Binders

HiMA – Greater Flexibility and Workability for Formulators and Road Contractors

- ▶ Binders can be produced and hot mix can be paved using existing standard equipment and personnel
- ▶ Unique compatibility with asphalts allows for expanded asphalt quality buying options
- ▶ No chemical additives are required to meet specifications
- ▶ Low viscosity binder allows for warm mix applications without additives
- ▶ Workability in the field consistent with standard unmodified grades

Kraton Polymers—The Proven Track Record in SBS Technology

In the 1970s, Kraton engineers and product developers discovered that the addition of styrene-butadiene-styrene (SBS) copolymers improved the properties of modified asphalt. As a result, Kraton Polymers created the polymer-modified asphalt market and SBS soon gained popularity for commercial roofing in Europe and the United States; in the late 1970s and early 1980s, respectively. Road technologies shifted in the early 1990s, leading to a dramatic increase in the use of SBS-modified asphalts, especially for climates with large temperature swings. Once again, Kraton Polymers technology and expertise led the way, and our polymers continue to gain greater acceptance for paving applications throughout the world.

As the industry leader, Kraton continues its efforts to deliver innovative polymers to meet the changing demands of infrastructure in the 2000's. Our HiMA solution delivers superior performing roads with upfront cost savings, reduced maintenance requirements, and fewer raw materials than conventional systems.

Proven SBS Technology

- ▶ Provides superior strength and elasticity to roads
- ▶ Elastic modifier of choice for over 20 years and growing
- ▶ Provides both insert rutting and crack resistant properties in one technology
- ▶ Cost-effective solution that meets high performance standards in all climates and conditions
- ▶ SBS modified asphalt binders are fully recyclable and non-hazardous

Kraton is the Global Leader in SBS Polymers for Paving Applications

- ▶ The leader in innovation for asphalt modification using SBS
- ▶ Commitment to product development and technical service with over 100 years of combined polymer modified asphalt experience
- ▶ The only true global supplier in the SBS industry to more than 700 customers in 60 countries



Kraton HiMA technology gives asphalt producers and manufacturers confidence and assurance that their products will meet the needs of the 21st century. Our polymers extend road life by allowing pavements to withstand heavy traffic loads and extreme climate conditions. Realize the benefits of a more durable and thinner asphalt base course and superior performing overlays, through enhanced durability as well as reduced lifecycle cost and eco-impact. Kraton Polymers is paving the way to strengthen and protect the world's transportation assets.

Kraton Polymers LLC, a subsidiary of Kraton Performance Polymers, Inc. (NYSE:KRA)

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***Our Core Values:
Integrity • Teamwork • Relationships • Problem Solving • Resilience • Results***