

FlexGard[®]

High Performance Thin Overlay System

Engineered to outlast and outperform
Superpave mixes in thin mix applications

**Associated
Asphalt**



FLEXGARD® INSTALLATIONS AT WORK



NYC's 1st Avenue – before and four years after application of FlexGard® and StellarFlex® HiMA

FlexGard®

High Performance Thin Overlay System

A Thin Overlay System designed for a longer road ahead

Combining an optimized binder content with a specially formulated polymer-modified asphalt

The FlexGard® system features a slightly gap-graded mix gradation combined with polymer modified asphalt designed for long-life thin (¾"-1 ½"), high performance asphalt overlays. Developed to address the limitations of Superpave mixes in thin mix applications, the FlexGard® system is ideal for a wide range of long-term roadway maintenance demands, from quiet country two-lanes to crowded city streets.

The FlexGard® mix gradation (smaller than a 9.5 mm Superpave mix) enables a minimum asphalt content of 7% and allows overlays down to 3/4" thick with excellent workability and smooth, quiet surface texture. The higher asphalt content adds flexibility to the mix and ultimately provides greater resistance to fatigue cracking and longer pavement life.

FlexGard® mixes also include a StellarFlex® polymer modified asphalt. Selected according to roadway conditions and demands, the StellarFlex® binder further boosts pavement life and cracking resistance.

Bottom line? A FlexGard® system pavement will outperform conventional 1 ½" mill-and-fill construction, providing high resistance to fatigue cracking and longer pavement life.

BENEFITS

- ▶ Minimum 7% asphalt content increases fatigue life and durability
- ▶ High resistance to permanent deformation and cracking
- ▶ Excellent workability and flexibility
- ▶ Cost-effective production and application
- ▶ Smooth, quiet pavement



With FlexGard®, handwork is easy to perform and virtually invisible after rolling.

PAVEMENT APPLICATIONS

- ▶ Low-volume residential streets
- ▶ Medium-volume roads and streets
- ▶ High-volume roads (with appropriate StellarFlex® binder)
- ▶ Interstate highways
- ▶ Thin overlay on city PCC pavements with curbs and gutters
- ▶ Thin overlay for parking lots

Curb, contractor and budget-friendly

The FlexGard® system also installs easily around any existing infrastructure, including utilities and curbs as demonstrated in the NYC 1st Avenue project. FlexGard® can also open up installation options that eliminate or greatly reduce milling requirements and costs, as shown in the Kreitler Road project.

The 7% minimum asphalt content allows for easier field compaction and lower air voids in the finished mat, further supporting workability in the field and a more durable pavement. As a thin overlay mix, FlexGard® also helps reduce mix tonnage for additional cost savings.

In addition, FlexGard® includes a complete set of specifications that local owner agencies can use to advertise and administer the contract. The FlexGard® system provides material and construction specifications, pavement design, special mix design and asphalt binder. Equally important, any FlexGard® system mix can be produced locally using available aggregates and contractors. It can easily be placed by local contractors using standard practices and equipment.

1st Avenue, New York City, NY

For 53 blocks along NYC's 1st Avenue, a cracked and crumbling 18" thick jointed Portland Cement Concrete (PCC) pavement needed repair or replacement.

The PCC stretched from 72nd St. to 125th St., and removing it wasn't an option. Curb heights made a thick asphalt overlay impossible, but a conventional thin asphalt overlay wouldn't survive the NYC traffic for long. A mix of FlexGard® and StellarFlex® HiMA binder was installed instead – it's survived almost five years and counting.



Kreitler Road in Harford County, MD, before (left) and 9 years after (right) installation of FlexGard®

Kreitler Road, Harford County, MD

This rural, residential housing development sought a replacement solution for its cracking, 25-year-old roadway pavement.

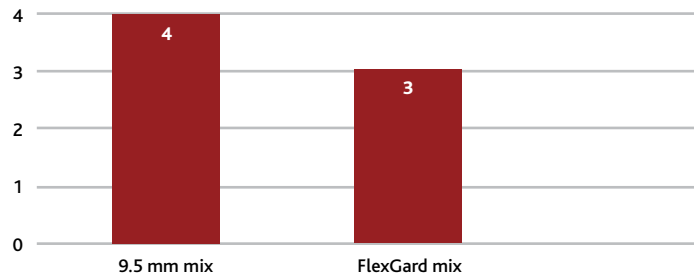
The aging surface layers included an 8" aggregate base course and a 3" asphalt mix surface.

Curbs were too high to allow a thick asphalt overlay, and pavement damage was too extensive for a conventional thin asphalt overlay to last. A FlexGard® mix was installed instead, lasting nearly a decade to date.

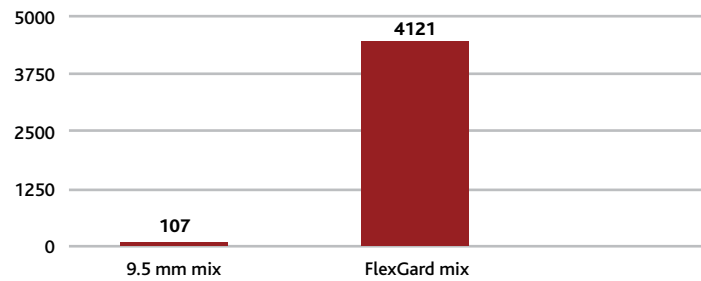
Proven to go the distance

The FlexGard® mix features a relatively high binder content (> 7% asphalt content) that provides excellent resistance to aging and fatigue cracking vs. a standard 9.5 mm mix. Despite the higher binder content, test results show that FlexGard® delivers superior performance due to the special polymer-modified binder used in the system. And because FlexGard® is a thin overlay mix, overall mix tonnage is lower, enabling lower costs per square yard than standard mixes.

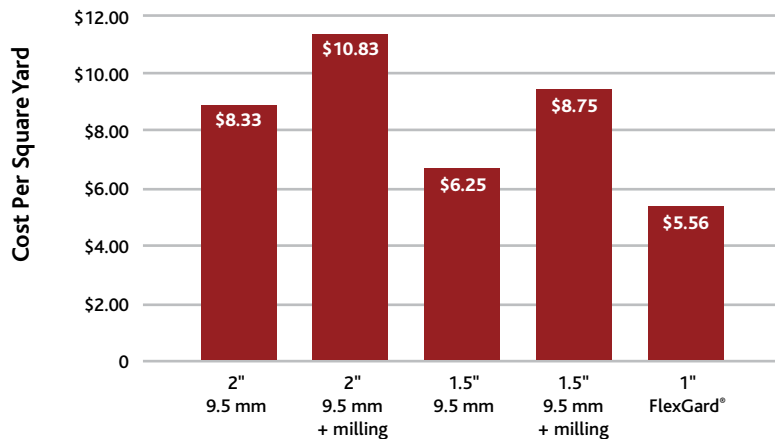
APA Rutting, mm



Texas Overlay Fatigue Cracking, cycles to failure



Cost Per Square Yard



110 Franklin Road SE, 9th Floor
Roanoke, VA 24011

www.associatedasphalt.com

As one of the largest independent asphalt resellers in the United States, Associated Asphalt stores, blends, hauls and sells a diverse mix of performance grade asphalt products. With a 5.3 million barrel capacity, we also supply quality paving grade asphalts, emulsions, modified and specialty polymer-modified asphalts throughout the Eastern United States, helping many contractors pave their own road to success.

For more information about StellarFlex FR™ and other Associated Asphalt products, call 800-542-5780.