Easy to use.
Proven performance.
Lowest temperatures.

NuStar
WARM MIX ASPHALT

Made with

EvoTherm
WARM MIX ASPHALT TECHNOLOGY
NuStar’s warm mix asphalt product, featuring water-free warm mix asphalt additive Evotherm® 3G, offers new advantages to asphalt contractors and road building engineers looking for innovative warm mix alternatives.

Easy to Use
New systems at NuStar’s asphalt terminals add and blend Evotherm 3G into conventional asphalt, and the warm mix asphalt binder can then be taken to the asphalt mix plant ready to use. There is ZERO capital investment for the contractor – no equipment to buy, install, calibrate, or maintain. Plus, there is no plant labor cost to blend the additive into the asphalt at the mix plant, and no inventory that requires tracking and ordering. No special procedures are needed – once the Evotherm 3G is mixed into the binder, just produce the asphalt mix at substantially lower temperatures. Evotherm 3G can be utilized through any type of mix plant and is compatible with any grade of liquid asphalt.

Proven Performance
Evotherm has performed successfully in hundreds of projects spanning the globe on all types of asphalt pavements, including heavily traveled interstates. Evotherm has been on the US National Center for Asphalt Technology Pavement Test Track since 2005. On the test track, Evotherm has demonstrated proven results – pavements that can stand up to the equivalent of 10-15 years of heavy truck traffic, barely registering a dent. Evotherm test track sections have endured over 20 million ESALs with less than 1/8 inch of rutting.

Evotherm 3G produces warm mix asphalt at temperatures 50-100°F lower than conventional hot mix asphalt with workability that paving crews will appreciate.
Lower Temperatures

Not all warm mix technologies are created equally. What differentiates Evotherm from other technologies is the ability to produce and pave warm mix at low temperatures - often as much as 100°F cooler than conventional hot mix. Reducing mix temperatures directly impacts many performance properties. Compared to other warm mix technologies, paving with Evotherm will significantly increase RAP utilization, haul distances, paving seasons, and pavement service life. Additionally, the low temperatures made possible with Evotherm dramatically decrease fuel consumption and emissions. Evotherm has consistently documented energy and emissions reductions from 30-60%...savings that go right to your bottom line.
Realize the Benefits of Evotherm

Worker safety & job-site emissions
By lowering pavement placement temperatures, the jobsite becomes a more comfortable odor-free working environment. Contractors using Evotherm have reported increased worker productivity and decreased worker fatigue. Paving with low temperature Evotherm technology eliminates the emissions for which asphalt paving is most scrutinized.

Workability
Mixes made with Evotherm have workability equal to or better than their hot mix versions. Polymer-Modified Asphalt (PMA) mixes, high Recycled Asphalt Pavement (RAP) mixes, and Recycled Asphalt Shingle (RAS) mixes have historically presented challenges to paving crews performing hand work. PMA and high RAP mixes with Evotherm have been shoveled and raked with routine effort at temperatures as low as 230°F. Handwork areas have a smooth and uniform appearance after compaction. With Evotherm, warm mix does not need to be relegated to main-line paving. Parking lots and driveways are ideal uses for warm mix asphalt made with Evotherm.

Greenhouse gas emissions & fuel savings
Few industries have the opportunity to reduce fuel consumption by 15-30% and emissions by 30-60% without expensive new equipment or significant cost increases. The fuel savings are a direct benefit to a contractor’s bottom line, and the emissions reductions benefit more than the environment. For instance, depending on a mix plant’s annual permitted stack emission cap, the reduced fuel usage and emissions can allow them to produce more tons of mix per year.

Easier compaction
Mixes made with Evotherm consistently achieve roadway densities more easily than conventional HMA. Even difficult to compact materials such as polymer modified asphalt and coarse mixes are easier to compact at lower temperatures using Evotherm. Better compaction means bonuses are easier to attain.

Extended hauls & paving season
The temperature of Evotherm mixes is much closer to ambient temperature than conventional HMA, so low temperature Evotherm mixes do not lose energy as quickly. A reduced rate of heat loss, combined with improved compaction, makes Evotherm an effective solution to cooler temperature paving and longer hauls – extending the paving season and the radius of operation for mix plants.

Less wear on hot mix plants
Extending the life of capital assets and equipment helps asphalt plants stay competitive. Evotherm lessens the wear and tear on your equipment due to its lower processing temperatures.

Increased production
Driving productivity gains within mixing facilities is of critical economic importance. Using Evotherm allows for increased throughput and production volumes by decreasing plant process temperatures. Running low temperature Evotherm reduces burner demand and allows increases in plant production rates. Contractors using Evotherm have reported production increases of greater than 20 percent.

Longer lasting roads
Paving with Evotherm at lower temperatures reduces binder aging. Materials testing has shown that Evotherm warm mix asphalt has potentially 7+ years of additional service life compared to conventional hot mix. Additional studies are ongoing to further quantify this tremendous benefit.

Protection against moisture damage
Evotherm 3G contains a very effective anti-strip chemical additive that can eliminate the need for additional protection from moisture damage for asphalt mixes. In side-by-side testing, Evotherm 3G has been proven to provide protection against moisture damage, as measured by the AASHTO T-283 Tensile Strength Ratio (TSR) test, equal to or better than high performance anti-strip additives available on the market today. Why use two additives in your warm mix when you only need one?

Increased RAP usage
Because Evotherm-treated binders experience less oxidation than conventional mixes, our warm mix asphalt technology allows for higher usage of recycled materials. Studies have found that 35% RAP Evotherm mixes have the same binder properties as 20% RAP HMA. Increasing the amount of recycled content in our industry without compromising performance is a tremendous benefit to contractors, agencies, and the environment.

To contact a NuStar Asphalt Sales Representative, please go to our website: www.nustarenergy.com
(Go to the “Contact Us” link and select “Marketing, Supply & Trading”)

Evotherm 3G with 25% RAP paved at 188°F