

Special points of interest:

- APWA Fall Conference
November 1—3

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Handling and Storage of Driveway Sealer

Missouri Petroleum has added some products to our line of Enduraseal driveway sealing materials over the past few years. In addition to the standard Coal Tar Sealer in Heavy (uncut) and Regular (cut) concentrations, our company also offers Asphalt Based Sealers and a Coal Tar-Asphalt Blend in heavy and regular concentrations. By offering three different high quality products in two concentrations, we provide our customers with six material options. Our expanded line of driveway sealers give our customers cost competitive products to compete in today's commercial sealing market.



This 700 gallon truck mounted tank owned by Parking Lot Maintenance has a "Full Sweep" agitating system.

Since production methods vary among suppliers, contractors should follow the manufacturer's recommendations regarding mixing and application rates. Most suppliers produce material with different "water cut" requirements. Adding the improper amount of wa-

ter to the sealer may cause problems with set times, can contribute to tracking, and will create general quality issues. We can add the proper amount of water to your load at the plant or the amount of water that should be added to your

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Handling and Storage of Emulsions

It seems that every year a small percentage of our emulsion customers encounter problems with the storage or handling of our products. By adhering to a few simple rules, common errors involving emulsions can be avoided. We would like to offer the

following guidelines for using emulsified asphalts:

Emulsions should be maintained at temperatures between 120°F and 150°F. Every effort should be made to maintain the material at a constant temperature.

Never exceed the 150°F temperature threshold.

We suggest that you attempt to empty your tank at the completion of each project. Good practice dictates that the tank be emptied every two weeks.

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Handling and Storage of Driveway Sealer (cont.)

load will be noted on the receiving ticket. If you are working with a specification that contradicts our recommended application guidelines, please give us a call.

Slight adjustments can be made to the water content of the sealer to account for adverse curing conditions (extreme heat, seasonally cool temperatures or high humidity). Other actions on the contractor's part, such as performing work in the morning during hot periods and working during the warm part of the day during cooler parts of the season can insure quality projects.

Sealer should be mixed every morn-

ing. Different types of our sealer may be blended in the same pot, however, a slightly different surface sheen or color will result. For this reason, we recommend that products not be blended on large projects.

If you choose to use a sand additive, it should be blended on the job at a rate of 2 to 3 pounds per gallon. When blending sand to sealer, you should use a viscosity builder for proper suspension of the material during the curing process. We offer three quality additives (Polytough, Diamond Shield, and Black Elixir) that can be used with or without sand to harden the sealer and accel-

erate the curing process.

Tanks should be cleaned at the end of the year after one or two hard freezes have occurred. Tanks can then be chipped out.

Missouri Petroleum greatly appreciates the business of all of our commercial sealer customers. We are here to answer your questions and respond to your comments. If you feel that we can assist you in improving your business, please contact Mike Hartman at 314-378-3915 or at mhartman@lionmark.com.

Handling and Storage of Emulsions (cont.)

This ensures that all old material is used. Also, emulsions should not be left in your tank for more than a month.

Material left in the tank between jobs should be agitated once a week. Anionic emulsions should be mixed for 30 minutes while cationic emulsions should be mixed no longer than 10 minutes.

A critical note: Anionic and Cationic emulsions cannot be stored in the same tank. Mixing both of the emulsions will cause the asphalt to gel inside the tank,

requiring a very labor intensive and unpleasant clean up effort. When switching from anionic to cationic emulsions (or vice versa), storage tanks must be cleaned to remove any old material left in the tank. We recommend flushing the tank with MC-30 to eliminate any residue.

If you have any questions regarding the handling, storage or compatibility of emulsified asphalts, please call Bi-State Emulsions at 314-645-1818.



This 80,000 gallon emulsion tank at Bi-State Emulsions contains a steam coil heating system and a propeller style agitator.

Meet the Staff—Larry Messinger



In March of 2008, Larry Messinger was appointed as the dispatcher in Missouri Petroleum's Operations group. Larry is responsible for the coordination of all

trucking activities and yard operations. Larry started working for Missouri Petroleum in August of 1977 and, since that time, has operated most of the trucks and equipment used by the company. From 2003 to 2008, Larry served as a foreman for the slurry seal and micro seal division.

To relax Larry enjoys playing the guitar and surfing the net for investment ideas. He is also a life long Cardinal fan who follows the team closely. Go Cards!

Larry can be reached in the dispatcher's office at 314-219-7326.

Identifying Distresses in Asphalt Pavements

In our last newsletter, we challenged our readers to identify various surface defects, to state reasons for the distressed surface conditions and to make recommendations for corrective measures for the pavement sections. We would like to thank all who participated in this challenge and congratulate the following individuals for providing the correct answers in a very timely manner:

1st received correct entry: Thomas Anna—MoDot; 2nd received correct entry: Matt Gardiner—Byrne & Jones; 3rd received correct entry: Larry Brooks—MoDot; 4th received correct entry: William Korte—St. Louis International Airport; 5th received correct entry: Dennis Harris—St. Louis County.

Here are the answers:

Photo 1

Block cracks are formed when cold temperatures shrink the asphalt pavement. The shrinking pavement exerts tensile stress on the asphalt surface causing it to crack. Cracks first start at 50 foot intervals when the pavement is new and get progressively closer as the pavement ages, oxidizes and stiffens. The picture depicts major block cracking with crack spacing as close as a foot apart. Corrective action: Overlay/Reconstruct pavement.

Photo 2

Pavement flushing usually occurs when the asphaltic concrete mixture is poorly designed or manufactured. A high asphalt cement content, low voids in the mix or a combination of both can create a flushed pavement. As the temperature of the semisolid asphalt rises and begins to flow, the material is pushed to the surface when there is insufficient voids in the mix to absorb the



asphalt cement. Minor flushing can often be corrected with a surface treatment. Major flushing (as pictured) usually requires removal and replacement of the damaged surface.

Photo 3

Reflective cracks result when the crack pattern of the underlying pavement reflects through the asphalt overlay. These cracks are generally more pronounced over rigid concrete panels. Reflective cracks are difficult to repair. It's best to plan for reflective cracking during the overlay process. A stress absorbing membrane interlayer between concrete and asphalt lifts can reduce the amount of reflective cracking. Paving fabric lodged between a wedge course and surface overlay will also retard the reflective cracks from the underlying concrete panels.

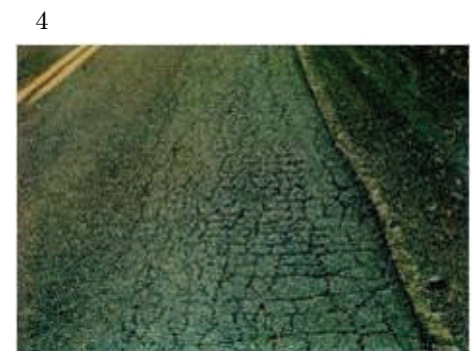


Photo 4

Alligator cracks occur in two ways. On well designed roads, alligator cracks develop during the last phase of the pavement's life. This load related deficiency occurs in the advanced stages of longitudinal stress cracking. On inadequately designed pavements, base conditions play a role in the deterioration of the asphalt. As expansive soils take water, they expand and as they dry they shrink. Freeze/thaw cycles also affect the sub-grade's movement. The cyclic movement of the base applies pressure to the asphalt mat which ultimately results in concentrated pockets of alligator cracks. Alligator cracked pavement and the underlying failed base should be removed and replaced.



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Over 75 Years*

We're on the web:

www.missouripetroleum.com

Innovative Developments in the Asphalt Industry

We plan to dedicate a portion of future newsletters to coverage of new and innovative developments in the asphalt industry. "Green Construction" is the trend of the future so we will be focusing our efforts on some environmentally



Immediate "drain down" is demonstrated with the Porous Asphalt in the parking areas.

friendly construction methods. Two of the topics we are researching are Porous Asphalt Drainage Systems and the use of Reclaimed Asphalt in Slurry Seals.

Porous pavement systems, like the one pictured, can offer enhanced safety by eliminating tire spray during rains. When used in conjunction with subsurface storage systems, porous pavements can work as part of a storm water retention plan.

Recycled Asphalt Pavement (RAP) has been used in slurry seals in at least 10 cities and counties in California. Some of the pavement has a



The aggregate in this slurry is comprised of 100% Recycled Asphalt Pavement.

5 year old application of the RAP slurry and is performing well. The introduction of 100% RAP in the slurry mixture reduces the need for emulsion by 20% and eliminated the need for virgin materials.