

The need to seal coat to preserve parking lots is greater now than ever before for four simple reasons:

- 1. Diminished Quality of Asphalt Mix Design**
- 2. Oxidation from Ultra Violet Rays**
- 3. Increased Water Exposure**
- 4. Reduction in Initial Design and Development Costs**

We feel that in the past parking lots in Georgia have lasted as long as 20-30 years. Due to these four recent changes asphalt pavements are deteriorating more rapidly.

### ***What has contributed to the diminished quality of Asphalt Mix Designs?***

- As oil prices have increased over the past few years and continue to skyrocket, asphalt paving producers have been searching for new and better ways to stay competitive. They found as much as half of hot new mix asphalt can be made from recycling old roads and parking lots. Due to increased oil prices, most old asphalt pavements are worth more ground up and remixed than when they were new.
- Contractors have been adding “old” milled or ground up roads and parking lots to their mix design for several years. In theory this practice is a good idea. It’s the only part of a barrel of crude oil that can be reused. The recycled mix is also considerably less expensive to purchase, however, it just will not hold up as well as a 100% virgin mixture. The GA D.O.T. regulates the amount of this material used in their jobs, but producers self regulate its usage on non-governmental jobs.
- One of the biggest problems with using recycled mix is that by the time these “old” pavements are reclaimed, most of the stickiness in the tar has worn and weathered away. A larger concern is that unsuspecting developers and property

managers are spending thousands upon thousands of dollars for a new asphalt parking lot that could have been an old worn out city street!

### ***How Can a Property Owner or Manager Identify Oxidation?***

- Oxidation from ultra violet rays is one of the largest contributors to the deterioration of an asphalt parking lot. When hot mix asphalt is laid, the process of oxidation begins. As the heat from the sun beats down on the pavement, the light oils in the tar begin to evaporate. This evaporation is what creates oxidation, which causes the pavement to turn grey, harden and become less flexible as it ages.
- Pavement color change is the first physical sign of oxidation. In the past parking lots would remain black for at least a year. New parking lots are now beginning to grey in a matter of weeks.

### ***Why has Water Exposure to Asphalt Pavements Been Increased?***

- Poorer quality asphalt isn't just found in the recycled mix. Contractors also found that if they took sand out of their asphalt recipes they could reduce the amount of tar needed. This mix was originally designed for roads, as the mix works great for "rutting" from tires at traffic lights and intersections. Unfortunately this mix sometimes finds its way into parking lots. The end result is a more rocky or course which is aesthetically unpleasing, and allows for greater water penetration.
- It's not uncommon to see water pond and puddle on new parking lots. One of the problems is that most new parking lots have an irrigation system. Parking lots are now being attacked by water from underneath as well as on the surface. The pavement is constantly being exposed to water.

## ***What Effect has Initial Cost Reduction in Design and Development had on Asphalt Parking Lots?***

- Design engineers have been forced to control development cost, and one solution they've found is to construct flatter parking lots, thus reducing the size of storm water retention ponds. All new parking lots have storm water retention ponds; older parking lots were built on slopes with no retention pond, and when it rained the water would quickly run off the parking lot. Engineers have found that by designing flatter parking lots they could lengthen the water run off time to compensate for building a smaller retention pond. By constructing a smaller pond it appears that cost control has been achieved, but correcting the pavement damage caused from prolonged rain water exposure will prove to be a far greater expense in the end.

## ***What is the solution?***

- Seal Coating is crucial in extending the life of asphalt pavement. It isn't just for looks, and definitely isn't something to be put off. The most common mistake that owners and property managers make is waiting too long to start their seal coating maintenance program. Unfortunately, most wait until the pavement is well into the last few years of its useful life.
- Implementing a regular scheduled maintenance program of Seal Coating asphalt every 2-3 years is just as important as painting your house or changing the oil in your car every 3-5 thousand miles!

## ***What exactly is the Benefit of Seal Coating Asphalt Pavements Early?***

- The benefit of starting a seal coating maintenance program early is two fold.

- Sealer blocks water out and traps the light oils in so the asphalt remains soft and flexible, assuring owners and property managers that their parking lots will perform for years to come.

The four factors listed above reinforce the need in protecting one of a property owners' largest investments. Although some of the burden of the initial cost to construct has been lessened, the end loser is the asphalt pavement, which cannot perform as it has in the past.

**Footnote:**

Not all asphalt pavement contractors are hot mix asphalt producers. H.M.A. plants cost millions of dollars. Most H.M.A. producers are highway pavers. In turn, they sell the H.M.A. they produce to smaller contractors who typically pave private jobs such as parking lots and driveways.

**About the Authors:**

Rick Garrett, owner of Advanced Asphalt Coating, Inc. has twenty plus years of expertise in the production of H.M.A. and in the construction of roads and parking lots. Chris Wheeler, Vice President of Operations of Advanced Asphalt Coating, Inc. is a former asphalt mix designer and employee of GA D.O.T.