

ASPHALT: SEALCOATING



by Gordon Miller
President

April 2012

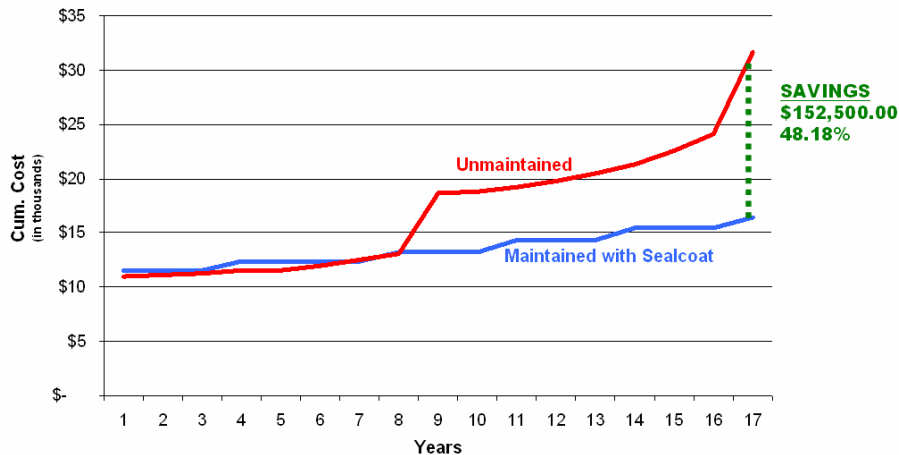
General Pavement Management www.gpmincorporated.com

Asphalt pavement requires regular maintenance to ensure its life reaches its full potential. Sealcoat is an effective means of periodically treating the surface of asphalt pavement, typically on a three to five year basis. The parking lots and roads in common interest developments are the “welcome mat” to those communities. It is important to keep the asphalt pavement in good condition to maintain aesthetics (curb appeal!) and maximize property values. But more importantly, the replacement cost of the asphalt pavement is so great that maximizing its useful life just plain makes good financial sense.

Untreated asphalt pavement that is not sealcoated will fail from oxidation and erosion within 15 years and will require, at a minimum, a costly asphalt overlay. Sealcoat applications are 1/10th the cost of an overlay. New asphalt should be sealcoated one year after its installation and on a three to five year basis thereafter. Each sealcoating cycle will be accompanied by repairs to areas of the pavement that failed prematurely from erosion or sub-grade failure, and crack sealing. With these maintenance procedures, asphalt pavement’s life is extended to 25 or 30 years.

According to a study by the Pavement Coatings Technology Center at the University of Nevada at Reno, spending the money to sealcoat saves almost half the life-cycle costs associated with an asphalt pavement system.

Cumulative Parking Lot Maintenance Costs over 15 years



Sealcoat is a mixture of emulsified asphalt oil, water, fine aggregate, wood fiber, co-polymers, and colorant. It is applied cold with squeegees or spray units, depending on the application's requirements. Sealcoating is common on roads and parking lots, often where there is a desire to keep pavement "beautified," though its actual purpose is to protect and preserve the asphalt pavement.

Manufacturers mix the material in a concentrated form. It is stored in tanks and then transferred to supply yards or directly to contractors in bulk. From those bulk storage tanks contractors transfer the sealcoat into their application rigs, and then deliver it to work sites. Every time the material is transferred, water is added to it. Further, additional water is added at the time of application to ensure the material is at a viscosity that will penetrate into the pavement being sealed and that it remains workable in higher ambient temperatures. While the concentrated material is intended to be diluted to 10% or 15%, some contractors over-dilute the material to save money. It is important that the sealcoat is not over-diluted because doing so means the emulsified oil and fillers are displaced to a point where the film thickness of the application is too thin after it cures.

The thickness of paints and sealcoats is measured in mils (1/1000 of an inch.) Sealcoat should be applied with two coats, and after it dries, it will measure somewhere in the realm of 20 mils, depending on the condition of the pavement. So it is, in fact, a very thin application. However, if applied properly, a two coat application should last for a minimum of three years, if not four or five. Much like paint, one coat of sealcoat will provide less than half the protection and lifespan as two coats. Single coat applications will result in the need to sealcoat more frequently, which is costly when you consider the labor costs related to the set-up and prep-work do not change for a two coat application.

Often, owners choose to sealcoat their pavement prematurely for aesthetic reasons, long before sealcoat has worn from the surface of the pavement. Unfortunately, over-sealcoating is detrimental to a pavement's performance as a buildup of sealcoat tends to result in delamination of the material. To avoid this, pavement should be evaluated on a yearly basis, usually by the architectural committee, to keep an eye on sealcoat wear, crack development, and the occasional pavement failure. Total pavement failure doesn't occur overnight, so if a close eye is kept on pavement throughout its lifespan, more effective use of the owner's resources will be maintained. Just because the Reserve Study indicates a sealcoat is "due" isn't a reason to blindly apply a sealcoat. The surface should be evaluated and determined necessary before the expenditure is made.

Sealcoat is a cost effective means of protecting and beautifying asphalt pavement while extending its useful life and minimizing its overall cost. With hot-mix asphalt material costs expected to skyrocket in the coming years, an association can't afford to defer the maintenance of its pavement and risk the early deterioration of its pavement system. Your pavement should be considered a significant asset of the community. Save money by managing it properly with Reserve Studies, site inspections, and the help of qualified civil engineers and pavement experts.