

“Asphalt Sealcoating Materials Explained”

There are several types of asphalt seal coating materials that contractors can apply to asphalt. These materials include Coal Tar Emulsion, Asphalt Emulsion and Oil Based sealers. This article will cover the different types and the benefits of each.

Coal Tar Emulsion

The first asphalt seal coating material that will be discussed is Coal Tar Emulsion. This material is created as a result from the “coking process” in steel manufacturing. It is comprised of a mixture of thousands of chemicals that are different in molecular structure than asphalt itself. This allows Coal Tar Emulsion to protect the asphalt from the harsh effects of UV rays, petroleum based products and water.

Coal Tar Emulsion is the most durable sealer on the market. The natural life span of an asphalt sealcoating job performed with Coal Tar is approximately 5 years. This time estimate depends on the traffic volume that the asphalt experiences on a daily basis. In comparison, the other sealers typically last 2-3 maximum for the same traffic volume. Currently, Coal Tar Emulsion is the sealer of choice for the vast majority of federal airport sealcoating projects, due to its ability to protect against the ill effects of Jet Fuel.

The asphalt sealers are petroleum based in chemical structure and the Coal Tar Emulsion is not. This is the biggest advantage that Coal Tar Emulsion has over the other sealers. When gasoline and oil is dispersed on to the asphalt pavement it has a natural tendency to bond with the asphalt due to their similarities in chemical structure. This bonding process deteriorates the asphalt binder that holds the stone together. This deterioration in the asphalt leads to raveling, which is when the stones start to separate from the asphalt.

Coal Tar Emulsions only down side is the blackish gray color. Many contractors will mix the darker Asphalt Emulsion with the Coal Tar sealer to get the best of both sealers.

Coal Tar Emulsion is a water based sealer. Water is used to enable the contractors to use it in a workable state. After the sealer has been applied, the water evaporates, which leaves a durable film. Many people have a tendency ask if an asphalt sealer is latex or oil based. This question is technically wrong because the Coal Tar Emulsion is not latex based; instead its main composition is Coal Tar itself.

Asphalt Emulsion

The next asphalt sealcoating material is Asphalt Emulsion. This material is fairly new to the asphalt seal coating world. It was created because the supplies of Coal Tar Emulsion have been diminishing in the recent past.

Asphalt Emulsion is an asphalt sealer that is derived from asphalt itself. The main benefit of an Asphalt Emulsion based sealer is the dark black color. Asphalt Emulsion restores the original color to the asphalt. As previously mentioned, Asphalt Emulsion is blended with the Coal Tar Emulsion to take advantage of the color and durability of both asphalt sealers. Contractors have the ability to determine the percentage of each sealer used in the mix design.

Asphalt Emulsion's biggest downfall is the fact that it does not hold up well against the effects of UV rays and petroleum based products such as gasoline and oil. Another potential problem with Asphalt Emulsion sealers is they do not retain sand as well as Coal Tar sealer. Although there are some decisive limitations in Asphalt Emulsion sealers, there have been great strides in correcting the composition of Asphalt Emulsion sealers in recent years. If Coal Tar Emulsion is not available, Asphalt Emulsion is the next choice for a quality asphalt sealing job.

Oil Based Asphalt Sealer

The last asphalt sealcoat material that will be discussed is the asphalt based oil sealer. This sealer is primarily used by asphalt paving contractors because it is located at the asphalt plants. Not many professional sealcoating companies use this type of sealer due to the inherent limitations.

An oil based asphalt sealer, known as asphalt rejuvenators, is comprised of asphaltic chemicals based with an oil composition. This asphalt sealcoating material has the same limitations as the Asphalt Emulsion sealer. Because it is a petroleum based product, it does not protect against petroleum products. Also, this material has a distinct odor that lasts for days. Another limitation to oil based sealers is that it takes a week to cure properly before line painting can be accomplished. Commercial property owners considering oil based sealer must take this into account.

In conclusion, a property owner or manager must take into account the pro's and con's of each asphalt sealer when selecting an asphalt maintenance contractor. Every contractor uses different material and mix design. No matter what asphalt sealing material is used, always make sure that the contractor is using sand in the material. The sand helps to restore traction to the surface that is lost from the seal coating process.