



ASPHALT PAVING 101

Asphalt paving is a common road and parking lot surface in homeowner associations. While cheaper to install than concrete, it must be regularly maintained to achieve its longest useful life. Asphalt has two major weaknesses that limit its useful life:

1. Poor resistance to UV radiation (sunlight). Asphalt pavement is a combination of rock, sand and liquid asphalt that binds everything together. UV radiation

breaks down the asphalt glue so that it no longer holds the rocks and sand together, gradually eroding the top surface. The most obvious sign is the gradual change in color from black to gray. Next, the asphalt begins to look rough, and piles of sand appear in the low areas of the parking lot. In the later stages, the bigger rocks fall out. Because the asphalt is oxidizing under the UV radiation, it loses its flexibility. Flexibility is extremely important because asphalt can take great loads and bounce back to its original condition. As asphalt loses flexibility it becomes brittle, cracks and breaks.

2. Poor resistance to petroleum products. Petroleum products like oil and gas cause damage since asphalt is a petroleum-based product. Gasoline and oils will dissolve the asphalt, soften the structure, and cause major damage to asphalt. Based on the poor resistance to UV radiation and chemicals, it is logical to conclude that some sort of coating should be used to protect the asphalt from the harmful elements. Asphalt can be effectively protected by using a seal coating which acts as a barrier between the harmful elements and the asphalt. A coal tar emulsion sealer is highly resistant to water, gas and oil, salt, chemicals, and UV radiation. Before seal coating, the asphalt must be cleaned to be free of all dirt, vegetation, and other foreign debris using blowers, sweepers, brooms, and sometimes high-pressure washers. Once the pavement is cleaned, existing oil spots should be primed so that the sealer will adhere. Normally two coats of sealer are applied by squeegee or spray. Once the seal coating is completed, it is important to keep traffic from the sealed surface for 24 hours. Traffic before 24 hours will cause premature wear and increased tire marking. During this cure period the striping can be accomplished so that after the 24 hours, your parking lot is completely ready for traffic.

Another great asphalt preventive maintenance is crack sealing which should be done in conjunction with seal coating. If cracks are left unattended, water could penetrate to the base to destroy its strength and load bearing capabilities. It is evidenced by "alligator" cracking, sunken areas, and potholes. Cracks at least 1/8" or wider should be treated with a hot poured crack sealant which remains effective for 3-7 years. Seal coating and crack sealing can double or triple the useful life of the asphalt at a fraction of cost of an overlay. Seal coating also gives great curb appeal and the impression of good overall maintenance. There is much to gain by caring for paving. Engage in no fault asphalt maintenance practices.

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