



May 7, 2018

**Subject: Alternative to Refined Coal Tar and Asphalt Emulsion Pavement Sealer**

**Dear Sir or Madame,**

Seal coating is a cost effective way to protect and beautify pavement surfaces. Seal coats provide a thin coating on the surface that protects the underlying pavement from UV rays from the sun (which can oxidize the asphalt causing it to become brittle); from moisture (which could develop cracks and possibly compromise the base layer supporting the asphalt and lead to rutting and greater cracking); and with some sealer types (i.e. refined tar based sealers or addition of polymers) protect from the damage caused by gas and oil leaks (which can soften and break down asphalt). Seal coating can also restore a dark color to the pavement to improve safety (as paint lines become more visible for cars to navigate parking lots) and aesthetics. Fine sand is often incorporated in the seal coat to help provide a non-slip surface. Seal coats are typically comprised of an asphalt or refined coal tar emulsion, select mineral fillers, and sometimes polymers.

Pavement sealers are manufactured using different base materials. The “base” is the binder, or glue, that holds the film together. The most common types are refined coal tar and asphalt emulsion based sealers. Refined coal tar sealers have been used for decades as they have excellent durability, resistance to oil, gas, water, and UV rays. This sealer type has more recently undergone greater scrutiny for potential impact on the environment and health. Asphalt emulsion sealers do not have these same concerns, but generally do not perform as well as the refined coal tar sealers.

**GemSeal® Black Diamond** is a premium petroleum-based emulsion pavement sealer, designed for application to pavement surfaces. This product uses a new product base that contains no coal tar or environmental impact of coal tar, and achieves improved performance over asphalt emulsion. **GemSeal® Black Diamond** weatherproofs asphalt surfaces, seals against penetration by water, oil, and blocks the destructive drying action of the sun by forming a tough protective membrane with a deep black color. **GemSeal® Black Diamond** extends the service life and enhances the appearance to provide a cost effective preventive maintenance coating of asphalt surfaces.

*Steam Cracked Petroleum*, like asphalt, is made from crude oil, but is further refined. This helps impart additional properties that make it superior to standard asphalt emulsion such as fuel resistant, will remain dark/black for longer than asphalt sealers, and greater overall durability. *Steam Cracked Petroleum* based sealers generally appear to be less susceptible to environmental and application conditions verse asphalt sealers, making it potentially more user-friendly in less than ideal conditions.

Because the two main options for pavement sealers were previously either refined coal tar or asphalt emulsion-based products, many specifications were written to fit one or the other. **GemSeal® Black Diamond** exceeds the performance of standard asphalt emulsion pavement sealers and passes performance standards for refined coal tar sealer types.



The table below shows various industry specifications for which **GemSeal® Black Diamond** meets or exceeds:

STANDARD	PROPERTY	RESULTS
ASTM D2846	Scrub Resistance of Paint Coatings - Modified	Pass
ASTM D2939-5	No separation or settlement that cannot be overcome by moderate stirring	Pass
ASTM D2939-22	Wet film continuity - uniform homogeneous	Pass
ASTM D2939-23	Resistance to volatilization	Pass
ASTM D2939-13	Drying time, firm set, 8hr max	Pass
ASTM D2939-14	Resistant to heat - No blistering, sagging, or slipping	Pass
ASTM D2939-25	Resistance to kerosene - No penetration or softening	Pass
ASTM D2939-15	Resistance to water - No blistering or re-emulsify	Pass
ASTM D2939-16	Flexibility - No flaking, cracking, or loss of adhesion	Pass
ASTM D3910	Wet Track Abrasion	Pass
ASTM D4072	Solubility in Toluene	
FAA P-625	Emulsion Seal Coat	Pass
FAA P-630	Fuel resistance - Emulsion without Additives	Pass
FAA P-631	Fuel resistance - Emulsion with Additives	Pass
EPA 8021	VOC content	<2 g/l

**GemSeal® Black Diamond** has been approved for use in coal tar restricted areas across the country. Many government websites in coal tar banned areas do not specify approved products, or may make reference to the City of Austin, TX for product listing. *GemSeal Black Diamond* has been listed as an approved alternative sealer on several government websites, which include:

- City of Austin, TX government website (<<https://www.austintexas.gov/content/1361/FAQ/2511>>)
- Montgomery County, MD website (<<http://www.montgomerycountymd.gov/DEP/water/coal-tar-ban.html>>)
- Prince George's County, MD website (<http://www.princegeorgescountymd.gov/sites/EnvironmentalResources/Resources/Pages/Coal-Tar-Sealant-Ban.aspx>)

**GemSeal® Black Diamond** was introduced into the market over four seasons ago, and has had strong success in many locations throughout the country. Many properties have been sealcoated with **GemSeal® Black Diamond** which continues to perform in preserving the underlying pavement today.

Sincerely,

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