

CARBONPLEX™ EMULSION ADHESIVE TECHNOLOGY PAVEMENT: TACK COAT - FOG SEAL - SEAL COAT

CarbonPlex™ Liquid Sealant is filled with an engineered hydrocarbon additive which is an asphalt derived, emulsified, high molecular weight thermoplastic. It exhibits a high softening point, good low temperature ductility and excellent hydrolytic stability to a broad range of emulsion systems including; (trackless) tack coats, fog seals and seal coats.

For the past several years industry applicators and property owners recognizing the inherent health problems associated with coal tar based sealers have searched for a more user friendly, qualified replacement. In addition to the industry, public agencies are aware of the cancer causing ingredients commonly identified as Polycyclic Aromatic Hydrocarbons (PAH's**) and have gone as far as to ban the use of such products containing these chemical compounds, as found by the U.S. Geological Survey's 20 year study, to be contaminating local watersheds. **Can there be a sealer free of such harmful ingredients?**

Yes! Recently, a CarbonPlex HB (Hard Base) sealant was formulated to eliminate PAH's within it's chemical make-up while proving to maintain or improve characteristics versus that of a coal tar sealant (FAA fuel resistance, scrub test longevity). Initial independent lab testing of this formulation displayed no detectable PAH's!

CARBONPLEX ADVANTAGES:

- Excellent substrate wet-out assures infill and sealing of micro capillary surfaces
- NO Polycyclic Aromatic Hydrocarbons (PAHs)
- Chemical resistance, rate of cure, final surface hardness and skid characteristics can be modified to meet a variety of specifications
- Fog coat applications of binder emulsion cures in as little as five minutes, in sunny conditions, to a track free surface
- High molecular weight (HMW) raises cohesive strength at all temperatures; with much improved abrasion resistance
- Very high softening point for some applications (>200°F)
- Improved ductility in cold climate
- Rapid rise in early green strength
- HMW binder passes kerosene resistance test, making sealants useful for airports and fueling ramps
- HMW binder much more UV/Infrared resistant for longer lasting black surface
- Cured adhesive and sealant films are highly water resistant immediately after "breaking", even under nighttime cure conditions and high humidities
- Safe to handle and store
- Not DOT regulated
- Easy clean up with water
- Cured container residue safe for municipal landfill

CHARACTERISTIC	TEST	RESULT
R & B Softening Point Range	ASTM D 36	150°F - 160°F
Ash Content		1%
Residue range (Dilute/Non-dilute)	ASTM D 86	28-62%
Viscosity @ 77°F		150-350 cps
Pump Stability		Passes
Cold 1000 cycles		
Hot		
Fuel Resistance	ASTM D 3370	Passes
Type I Slurry	WTAT 6 Day	<20 g
Nighttime Cure Rate		6 hours
P.T. -> 60°F		
A.T.>60°F		
Humidity >80%		
Daytime scuff/tear resistance		<1 hour
P.T. >100°F, A.T. >90°F		
Saybolt Viscosity, sec	ASTM D 88	140
25°C		102
50°C		
Rotational Viscosity, cps	Oregon Tank	134
25°C	Group	117
50°C	Procedure	140
75°C		
Settlement/Storage Stability; %		0.04
24 hr		0.02
5 day		
Sieve Test, %	ASTM D 244	0.01
Penetration, Drum	ASTM D5	2.0
4°C		9.0
25°C		1.59
60°C		
Ductility, 5cm/min, cm 25°C	ASTM D 113	22.5
Solubility, %	ASTM D 2042	98.98
DSR	AASHTO T 315	9.62
70°C		3.99
76°C		1.78
82°C		
Creep Stiffness (not aged)	ASSHTO T 313	128.3
+6.0°C Stiffness Mpa		365.5
0.0°C Stiffness Mpa		712.6
-6.0°C Stiffness Mpa		0.448
+6.0°C M Value		0.343
0.0°C M Value		0.241
-6.0°C M Value		
Patti Test (Adhesive Strength)	FHWA	154 psi
25°C		



CHARACTERISTIC	TEST	RESULT
PAH's -		
Acenaphthene	EPA Test Method	Not Detected
Acenaphthylene	SW846, Series #8270	Not Detected
Anthracene		Not Detected
Benzo[a]anthracene		Not Detected
Benzo[a]pyrene		Not Detected
Benzo[b]fluoranthene		Not Detected
Benzo[g,h,i]perylene		Not Detected
Benzo[k]fluoranthene		Not Detected
Chrysene		Not Detected
Dibenz[a,h]anthracene		Not Detected
Fluoranthene		Not Detected
Fluorene		Not Detected
Indeno[1,2,3-cd]pyrene		Not Detected
Napthalene		Not Detected
Phenanthrene		Not Detected
Pyrene		Not Detected

**PAH's are toxic to humans and other mammals, birds, fish, amphibians, invertebrates and plants, according to the U.S. Environmental Protection Agency.