

## TECHNICAL DATA SHEET – UltraArmor™

### DESCRIPTION

Blacklidge's UltraArmor™ is a specialized anionic asphalt emulsion formulated to “lock down” and secure aggregate on chip seal and other pavement surfaces. UltraArmor™ emulsion has also been successfully used in many other types of road building applications where a durable, high performing seal is desired. It cures within minutes to form a continuous coating of asphalt over the surface. The multiple advantages of UltraArmor™ include: improved aggregate retention, reduced binder aging, a long-lasting black surface, improved contrast for striping, and reduced water intrusion. UltraArmor™ applied on chip seals yields a long-lasting hot mix appearance at a fraction of the cost. UltraArmor™ should be diluted before use. Recommended dilution rate is 1:1 (emulsion:water).

### PHYSICAL PROPERTIES

- Boiling Point (°F): 212
- Specific Gravity (H<sub>2</sub>O = 1): 1.03
- Solubility in Water: Dispersible
- Appearance and Odor: Brown liquid with Mild Petroleum Odor

PARAMETER	TEST METHOD	MIN	MAX
<b>Tests on Emulsion</b>			
Saybolt Furol Viscosity, SFS @ 25 °C <sup>(1) (2)</sup>	ASTM D88	10	100
Storage Stability, 1 day, % <sup>(1)</sup>	ASTM D244	----	1
Particle Charge <sup>(1) (2)</sup>	AASHTO T 59	Negative	
Residue by Evaporation, Concentrate, % <sup>(1)</sup>	ASTM D244	50	-
Residue by Evaporation, Diluted, % <sup>(2)</sup>	ASTM D244	20	
Oil Distillate, % <sup>(1) (2)</sup>	ASTM D244	----	1.0
Sieve Test <sup>(1) (2)</sup>	ASTM D244	----	0.3
<b>Tests on Residue</b>			
Penetration @ 25 °C, dmm <sup>(1) (2)</sup>	ASTM D5	----	20
Softening Point, °C <sup>(1) (2)</sup>	ASTM D36	65	----
Solubility, % <sup>(1) (2)</sup>	ASTM D2042	97.5	----
Original DSR @ 82°C (G*/SIN d, 10 rad/sec) <sup>(1) (2)</sup>	AASHTO T 315	1	----

<sup>(1)</sup> Properties of UltraArmor concentrate

<sup>(2)</sup> Properties of Diluted UltraArmor

### LIMITATIONS

Proper storage, handling, and application guidelines must be followed carefully for best results. As with any emulsion, do not allow the material to freeze or boil because of aggressive heating. Freezing or boiling of UltraArmor™ will break the emulsion. UltraArmor™ IS NOT COMPATIBLE WITH CATIONIC EMULSIONS (CRS, CMS, CSS, CQS, etc.). All equipment should be thoroughly cleaned if cationic emulsion was previously present. It is highly recommended for the product to be applied when hot (160°F to 180°F). UltraArmor™ is applied with conventional distributors, typically at ambient temperatures. Application rates vary depending on the existing surface, so please consult applicable agency specifications to determine required application rates. In any application even, uniform coverage is critical to achieving the best fog seal. If the product is to be stored for an extended period of time, the material should be agitated and/or gently circulated prior to use. Please contact your Blacklidge Emulsions representative prior to first use for detailed storage and handling procedures.

### CAUTION

For industrial use only. Keep out of reach of children. Refer to SDS for further information.

THIS PRODUCT IS NOT SUBJECT TO THE CONTROLLED PRODUCT REGULATIONS.

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