Georgia-Pacific Chemicals & Flint Hills Resources

Antistrip Additives (TUFFTREK 2000 Series)

PG grade modification, recycling agents (TUFFTREK 4000 Series)

GP's capabilities in chemical innovation, manufacturing and marketing

Flint Hills Resources leadership in application knowledge

Anionic Emulsifiers (CTO producer)

Cationic Emulsifiers
TUFFTREK 4002 Renewable Oil Technology

Meets the needs for asphalt modification responsibly and economically

- Improve performance of High RAP Mixes
- Improve compatibility of SBS polymer in PMAC
- High flash point and low toxicity modifier
- Low PG asphalts for some blend stocks
- Add in-line for ease of incorporation
- Limit effects on mass loss
- Achieve multiple grades with single grade of asphalt
- Adjust stored/aged asphalt to desired spec.
- PG improvement with less modifier
- Higher performance with lower-cost asphalt

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Liquid Amine Anti-strip TUFFTEK 2001

- Long industry history of use in asphalt as antistrip
- Effective at low dosage (0.5%)
- Koch companies back-integrated in amine production

TYPICAL PROPERTIES

Flash Point, °C (°F) open cup 121 (250)
Amines, % 60-90%
Boiling Point, °C (°F)
100 mm Hg, with decomposition 249 (480)
TUFFTREK 3000 Series Emulsifiers

Tall Oil for Anionic High Float Emulsifier TUFFTREK 3100

- Produced from any of GP’s 9 U.S. Pulp Mills
- TUFFTREK 3100 contains 100% biobased content

TYPICAL PROPERTIES

Appearance  Brown viscous liquid
Acid Value, mg KOH/g  160
Moisture, %  2
Rosin Acids, %  38+
Sampling of all products available upon request.

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