



ARRTEKK®

Cationic (+) Rapid-Setting (CRS) Asphalt Emulsifier Chemistry

SUPERIOR CRS EMULSION VISCOSITY CONTROL WITH FASTER CHIP SEAL SWEEPING

CRS emulsions are among the most widely produced emulsions and are predominately used in chip seal applications – a type of pavement preventive maintenance application which functions as a protective layer for the pavement, sealing the pavement from water intrusion while adding a thin layer of surface rock. A common challenge when making CRS chip seal emulsions is achieving desired emulsion viscosity traits and keeping them consistent from production until road application. In addition, after application of the chip seal to the road, oftentimes the emulsion breaks and cures too slowly to facilitate timely sweeping. This delay allows more time during which loose surface rock can damage vehicle windshields, causing frustration and concern among agency stakeholders and the motoring public.

The ArrTekk line of CRS emulsifiers effectively addresses these challenges. Depending on the level of emulsion viscosity required, ArrTekk 737 or ArrTekk 706 emulsifiers can deliver desired viscosity characteristics that remain consistent through time with minimal asphalt content. By facilitating increased versatility in asphalt selection, both emulsifiers reduce asphalt and emulsion formulation costs, and save money and time spent on emulsion reprocessing due to viscosity problems. ArrTekk CRS emulsifiers also break and cure faster than conventional emulsifiers, enabling sooner sweeping of the chip seal, mitigating motorist windshield damage and allowing for increased chip seal production rates.

BENEFITS

IMPROVED PROFITABILITY

- Yields higher emulsion viscosity at lower asphalt residue percentage saving you money in asphalt costs
- Performs across a wide variety of asphalt sources offering formulation flexibility

BETTER OPERATIONAL EFFICIENCY

- Solubilizes quickly and with minimal mixing for faster soap solution production
- Consistent emulsion viscosity and stability during extended storage saves money and time in re-milling and reprocessing costs
- Can be used to produce CRS emulsions for a variety of applications

MITIGATES VEHICLE DAMAGE

- Faster emulsion breaking and curing allows for 50% sooner sweeping operation, diminishing motorist windshield damage caused by loose chip aggregate

LONGER-LASTING ROADS

- Embedded adhesion promoter technology creates strong chemical bonding between asphalt and aggregate chip for better sweep test performance, reduced chip loss and greater chip seal durability over time

MARKET APPLICATIONS

ASPHALT EMULSIONS USING:

- Non-modified asphalts
- Modified asphalts including those modified with:
 - Styrene-butadiene-styrene (SBS)
 - Styrene-butadiene rubber (SBR)
 - Ground tire rubber (GTR)

ASPHALT EMULSIONS INCLUDING:

- Chip Seal
 - CRS-2P, CRS-2L and CRS-2
- Cationic Medium-Setting (CMS) Mixing Grade
- Scrub Seal
- Sand Seal
- Hot-in-Place Recycling

AGGREGATE TYPES INCLUDING:

- Andesite
- Basalt
- Chert
- Dacite
- Diabase
- Diorite
- Dolomite
- Gneiss
- Granite
- Limestone
- Natural Sand and Gravel
- Quartzite
- Recycled Asphalt Pavement (RAP)
- Rhyolite
- Slag

ARRTEKK FEATURES

Comparison Criteria	ArrTekk 737	ArrTekk 706
Allows for higher emulsion viscosity at lower asphalt residue	✓	
Builds lower emulsion viscosity for asphalts prone to high-viscosity build		✓
Provides consistent emulsion viscosity through extended storage	✓	✓
Provides stable emulsion quality characteristics through extended storage	✓	✓
Allows for faster chip seal sweeping	✓	✓
Incorporates adhesion promoter technology	✓	✓
Can be used to make CRS and CMS emulsions for a wide variety of applications	✓	✓

THE ROAD SCIENCE ADVANTAGE

ArrMaz's Road Science division is a leader in the development of asphalt additives, emulsifiers, and paving and recycling system technologies for the asphalt industry worldwide. Our offerings span the entire customer value chain from producing key chemical components for asphalt refineries, terminals, emulsion plants and hot mix asphalt (HMA) plants, to providing laboratory and field engineering support of pavement applications. Road Science delivers responsive, comprehensive and dependable customer support focused on helping our customers succeed. Through our experienced staff of professionals and world-class American Association of State Highway and Transportation Officials (AASHTO) re:source accredited laboratory, we work alongside our customers helping them to:

- Improve product quality and consistency
- Improve product performance
- Bring new products to market
- Solve product problems
- Increase profitability
- Increase operational efficiency

Contact Road Science today and learn how ArrTekk CRS chemistry can help you make the grade.

Call +1-918-960-3800, email customerservice@roadscience.net or visit our website at roadscience.net for further information.

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