



INNOVATIVE CHEMICAL & PAVING TECHNOLOGIES FOR SAFER, LONGER-LASTING ROADS

ADDITIVES, EMULSIFIERS & SYSTEM TECHNOLOGIES

With increasing traffic volumes and dwindling government funding straining our aging pavement infrastructure, state agencies and the motoring public are demanding safer, longer-lasting roads with good ride quality and lower life-cycle costs. Road Science helps asphalt suppliers, emulsion producers and paving contractors meet this demand by innovating advanced chemistries and paving techniques to construct better roads.

With our experienced team of professionals and world-class American Association of State Highway and Transportation Officials (AASHTO) accredited laboratory in Tulsa, Oklahoma, Road Science will work with you to improve product quality and consistency, maximize product performance on the grade, solve product problems, and bring new products to market. We provide solutions for both challenging materials and performance specifications to create uniquely beneficial asphalt, emulsion, paving and preventive maintenance products.

BENEFITS



LONGER-LASTING ROADS

- Protection from pavement distresses such as raveling, rutting and pothole formation
- Improved crack-resistance
- Stronger tack coat bonding



IMPROVED WORKER COMFORT/ SAFETY AND PUBLIC PERCEPTION

- Easier mix handling, application and field compaction
- Improved emulsion viscosity control and storage stability
- Faster production rates and more efficient paving



BETTER OPERATIONAL EFFICIENCY

- Reduced asphalt volatile organic compounds (VOCs) including hydrogen sulfide (H₂S)
- Faster return of traffic and reduced user delays
- Reduced motorist vehicle damage and complaints
- Environmentally friendly road rehabilitation techniques



INCREASED PROFITABILITY

- Increased asphalt versatility and recycled asphalt pavement (RAP) utilization
- Reduced time and money spent on emulsion reprocessing and formulation adjustments

ARKEMA
INNOVATIVE CHEMISTRY

Road Science[®]

BUILDING A NEW LEADER IN
SPECIALTY SURFACTANTS

6502 South Yale Avenue, Suite 100, Tulsa, OK 74136

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ASPHALT CHEMICALS AND SYSTEMS TECHNOLOGIES

NovaGrip® | AD-here® | KO-here® | ColdGrip® | ArrMuls® | ArrTekk® | ACRA | deScent | TBRA | Revive® | BondTekk®
RoadArmor® | Recycle Plus® | ReFlex® | Encore® | Restore® | Fortress® | BinderTekk® | Strata®

| PRODUCT TYPES | APPLICATIONS | BENEFITS |
|--------------------------------------|--|---|
| Adhesion Promoters | <ul style="list-style-type: none"> Hot Mix Asphalt Paving | <ul style="list-style-type: none"> Creates stronger chemical bonding of asphalt to aggregate for longer-lasting roads Protects against rutting, raveling and potholes Better ride quality Worker-friendly additives for worker comfort and safety |
| Compaction Aids / Warm Mix Additives | <ul style="list-style-type: none"> Warm Mix Asphalt Paving | <ul style="list-style-type: none"> Makes compaction easier at reduced temperatures while promoting asphalt-to-aggregate adhesion Extends the paving season and lengthens haul distance Allows for higher use of RAP and recycled asphalt shingles |
| Cold Mix Adhesion Promoters | <ul style="list-style-type: none"> Cold Patch Stockpile Mix Cold Mix Paving | <ul style="list-style-type: none"> Easily coat a wide variety of cool, damp aggregates using pugmill Longer mix shelf and stockpile life Longer patch life Low VOC, environmentally friendly cold patch mix |
| Rejuvenators | <ul style="list-style-type: none"> Asphalt Paving | <ul style="list-style-type: none"> Enables more efficient RAP utilization, saving money in reduced mix costs Allows for easier mix placement and better workability |
| Odor Suppressants | <ul style="list-style-type: none"> Asphalt | <ul style="list-style-type: none"> Reduces dangerous H₂S gas emissions by up to 85% and other odor-causing VOCs by up to 90% Improved safety and comfort for workers and community residents Eliminates public odor complaints |
| Emulsifiers | <ul style="list-style-type: none"> Asphalt Emulsions <ul style="list-style-type: none"> Cationic Anionic | <ul style="list-style-type: none"> Fewer resources spent on emulsion reprocessing and formulation adjustments Improved particle size and long-term stability Better emulsion viscosity characteristics Faster traffic return |
| Pavement Sealer Emulsifiers | <ul style="list-style-type: none"> Clay-Stabilized Emulsions <ul style="list-style-type: none"> Asphalt Coal-Tar Petroleum Residue | <ul style="list-style-type: none"> Easier compounding at elevated temperatures Faster drying with stronger adhesion and better wearability Does not promote biological growth |
| Paving Technologies | <ul style="list-style-type: none"> Bonded Pavements Crack Relief Interlayers Strain Tolerant Pavement Layers Hot-in-Place Recycling Cold-in-Place Recycling Full Depth Reclamation | <ul style="list-style-type: none"> Longer-lasting, strain-tolerant overlays with exceedingly strong tack coat bond Improved ride quality and life cycle cost in composite pavements through significantly reduced reflective cracking Cost-effective and environmentally responsible options for road rehabilitation |

THE ROAD SCIENCE ADVANTAGE

In July 2019, Road Science became part of Arkema, strengthening its position as 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 asphalt mix 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.

Contact Road Science today and learn how our innovative paving solutions 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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