

NOVAGRIP™

Next-Generation Asphalt Mix Performance-Improving Additives

WORKER-FRIENDLY LIQUID ANTI-STRIP CHEMISTRY FOR ALL ASPHALTS

With today's rapidly aging infrastructure, government agencies, asphalt producers and contractors are being challenged to build longer-lasting roads with technologies that not only perform well, but are also cost-effective and operationally efficient, while ensuring worker comfort and safety. Traditional anti-strips do not fully address these challenges. Many traditional liquid anti-strips help pavements last longer, but when added to asphalt, most emit smoke and foul-smelling fumes that are uncomfortable for plant and paving crew personnel as well as citizens. Moreover, these liquid anti-strips pose operational challenges since they are incompatible with some asphalt modifiers. While hydrated lime can extend pavement life, it poses serious health hazards to workers exposed to caustic dust that can be generated during handling.

Road Science's NovaGrip line of next-generation liquid anti-stripping additives fully addresses today's challenges. NovaGrip safeguards workers from the hazards of traditional anti-strips by using chemistry that is less hazardous and safer for workers, while eradicating the smoke, odor and dust problems typical of traditional additives. NovaGrip's adhesion promoting technology makes roads last longer by creating powerful chemical bonding between asphalt and aggregate that lasts even with prolonged exposure to water. Additionally, NovaGrip additives add operational flexibility to the asphalt terminal or mix plant since they are compatible with all asphalt modifiers.

BENEFITS

SAFER & WORKER-FRIENDLY

- Safer chemistry poses fewer health hazards and risks to workers
- Odorless in hot asphalt for improved plant and paving crew comfort
- Smokeless in hot asphalt eradicating the need for vapor control equipment and eliminating worker and citizen complaints
- Non-hazardous and non-regulated transport option available, offering the highest worker safeguards possible while reducing compliance and logistics costs

IMPROVED OPERATIONAL EFFICIENCY

- Compatible with polyphosphoric acid (PPA)
- Eliminates need to have more than one additive at terminal or mix plant
- Compatible with all aggregate types
- Improves mix workability for easier handwork
- Remains effective in asphalt stored at 300 °F for several weeks to months

LONGER-LASTING ROADS

- Extends pavement life by promoting better chemical adhesion of asphalt to aggregate
- Protects pavement from stripping and moisture damage caused distresses such as raveling, rutting and pothole formation

MARKET APPLICATIONS

ASPHALT PAVING USING:

- Non-modified asphalts
- Modified asphalts including those modified with:
 - Polyphosphoric acid (PPA)
 - Styrene-butadiene-styrene (SBS)
 - Styrene-butadiene rubber (SBR)
 - Ethylene-vinyl acetate (EVA) polymers
 - Ground tire rubber (GTR)

AGGREGATE TYPES INCLUDING:

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

NOVAGRIP VS. TRADITIONAL ANTI-STRIPS

Comparison Criteria	Traditional Anti-Strips	NovaGrip 975	NovaGrip 1016	NovaGrip 1212
Safe for workers		✓	✓	✓
Odorless		✓	✓	✓
Smokeless		✓	✓	✓
Compatible with PPA modified asphalt		✓	✓	✓
Protects against moisture damage	✓	✓	✓	✓
Improves mix workability	✓	✓	✓	✓
Efficacy with prolonged storage in asphalt	✓	✓	✓	✓
No heated storage required		✓		✓
Passes adhesion tests with most challenging asphalt and aggregate combinations				✓
Non-hazardous			✓	
Non-regulated for transport			✓	

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 AASHTO Materials Reference Laboratory (AMRL) accredited laboratory, we work alongside our customers 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 NovaGrip can help you make the grade.

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

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