AD-HERE® ULTRA SE1
Asphalt Mix Performance-Improving Additive

TECHNICAL DATA SHEET

COMPACTION AID AND LIQUID ANTI-STRIP IN ONE
AD-Here ULTRA SE1 is an asphalt additive that allows for easier field compaction and stronger adhesion of the asphalt binder to aggregate. It safeguards pavements against destructive forces such as traffic loading, water intrusion and oxidation, leading to reduced pothole formation, cracking and rutting for safer, smoother and longer-lasting roads.

AD-Here ULTRA SE1 is smokeless and odorless in hot asphalt, and is used to design mixes that conform to typical specifications including AASHTO T283: Method of Test for Resistance of Compacted Bituminous Mixture to Moisture Induced Damage, AASHTO T324: Method of Test for Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA) and AASHTO R35: Standard Practice for Superpave Volumetric Design.

APPLICATIONS
Asphalt Paving

FEATURES

EASIER FIELD COMPACTION
Enables increased mat density with fewer roller passes, even with high recycled asphalt pavement (RAP) mixes

RELIABLE ANTI-STRIPPING EFFECTIVENESS
Passes tensile strength ratio (TSR) and Hamburg Wheel Tracking tests with wide variety of asphalt and aggregate combinations

NO ODOR AND NO SMOKE
Improves plant-personnel and paving-crew comfort
Addresses odor concerns and citizen complaints in communities neighboring terminals and mix plants

DOES NOT IMPACT PERFORMANCE GRADE OF MODIFIED ASPHALTS
No reduction in dynamic shear rheometer (DSR) values when used in SBR-modified or PPA-modified asphalts

BETTER MIX WORKABILITY
Enables easier hand-work in paving applications

HEAT STABILITY
Remains effective several weeks to months in hot asphalt

NO HEATED STORAGE REQUIRED
Easy to handle and pump in cold temperatures

COMPATIBILITY

ASPHALT
Compatible with most asphalts including those modified with styrene-butadiene-styrene (SBS), styrene-butadiene rubber (SBR), ethylene-vinyl acetate (EVA) polymers, polyphosphoric acid (PPA), ground tire rubber (GTR) and recycled asphalt shingles (RAS)

AGGREGATE
Compatible with various aggregate types including granite, diabase, diorite, basalt, gabbro, rhyolite, andesite, dacite, chert, quartzite, gneiss, limestone, dolomite, marble, sandstone, natural sand and gravel, slag and RAP

USE AD-HERE ULTRA SE1 WHEN YOU NEED:
• Faster and easier compaction
• A PPA-friendly additive
• To eliminate smoke and odor at the terminal, mix plant or jobsite
• To pass TSR and Hamburg tests

Asphalt Paving

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918-960-3800 | www.roadscience.net
USAGE RECOMMENDATIONS

NEAT AND MODIFIED ASPHALTS:
- 0.25–0.75% by weight of total asphalt in mix
- Usage rate should be determined by user based on degree of aggregate coating and moisture sensitivity testing at desired production temperature

OPTIONS FOR ADDING AD-HERE ULTRA SE1 TO ASPHALT:
1. Add to asphalt storage tank and agitate mechanically or through pump circulation
2. Add at asphalt terminal by injecting into asphalt line as transport tanker is being charged
3. Add by in-line injecting into the asphalt line between the asphalt flow meter and the plant injection point, preferably after flowing through an in-line static mixer

PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance, 77 °F (25 °C)</td>
<td>Dark Colored Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Density, 77 °F (25 °C)</td>
<td>7.6 lb/gal</td>
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<tr>
<td>Viscosity, 77 °F (25 °C)</td>
<td>150 cP</td>
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<tr>
<td>TSCA Inventory</td>
<td>Listed</td>
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<tr>
<td>DSL Inventory</td>
<td>Listed</td>
</tr>
<tr>
<td>C.A.S. Number</td>
<td>Proprietary</td>
</tr>
</tbody>
</table>

The density and viscosity data reported are typical and not specifications. Typical ranges for density and viscosity values are ± 2 and ± 20%.

HANDLING AND STORAGE

Always handle AD-here ULTRA SE1 in accordance with Safety Data Sheet (SDS) and Road Science Asphalt Additives Handling and Storage Guidelines document. Avoid product contamination with other materials. Do not store product in excess of 140 °F (60 °C) for prolonged periods. Recommended product handling temperature range is 50–120 °F (10–50 °C).

AVAILABILITY

AD-here ULTRA SE1 is available for shipment in bulk by rail car and tank truck. Packaged quantities are available in 275 gal/1,000 L IBC totes (2,000 lb/907.2 kg net weight) and 55 gal/208 L steel drums (410 lb/186.0 kg net weight).

TECHNICAL SUPPORT

To request additional product information, contact your regional Road Science representative. You can also contact us at 918-960-3800 or customerservice@roadscience.net, or visit our website at www.roadscience.net.

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