Royal Geoguard 600 Mid-Ash

Medium Ash - Natural Gas Engine Oil

Royal Geoguard 600 Mid-Ash is designed to provide superior performance in two and four-cycle engines not requiring ashless type oil. It is very beneficial in four cycle engines that use ash containing oils to retard the wear in the control valve and valve stem areas. It is useful on engines operating on natural gas or landfill gases. This medium or mid range ash oil contains a unique additive combination of a detergent/dispersant. It provides resistance to oxidations and bearing corrosion as well as low temperature deposit control. This additive system minimizes the formation of sludge, deposits and varnish and helps keep the engine clean. The oil is low in phosphorus making it suitable for use with engines having catalytic converters.

The superior level of cleanliness along with the other advantages makes the Royal Geoguard 600 Mid-Ash the best choice for the leaner spark-ignited engines that require the low to mid ash oils.

Product Features:
- Multi-weight oil gives improved starting in low temperature conditions
- Reduces oil consumption
- Controls piston and port deposits

Customer Benefits:
- Retards nitrination and oxidation
- Improves protection against ring and line wear
- Better viscosity control
- Compatible with engine equipped with catalytic converters

Applications:

Recommended for use in two and four-cycle natural gas engines where the manufacturer specifies medium ash oil
CF-2, CD-II or CD
Caterpillar
Cooper Bessemer
Cummins
Dresser Rand – Categories I, II & III

John Deere
Worthington
Waukesha
Superior
## Typical Properties

### Royal Geoguard 600 Mid-Ash

<table>
<thead>
<tr>
<th>Product Number</th>
<th>145</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAE Grade</td>
<td>15W40</td>
<td>-</td>
</tr>
<tr>
<td>Viscosity @40°C, cSt</td>
<td>97</td>
<td>ASTM D445</td>
</tr>
<tr>
<td>Viscosity @100°C, cSt</td>
<td>14.0</td>
<td>ASTM D7042</td>
</tr>
<tr>
<td>Viscosity @ 100°F, SUS</td>
<td>497</td>
<td>Calculated</td>
</tr>
<tr>
<td>Viscosity @ 210°F, SUS</td>
<td>75</td>
<td>Calculated</td>
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<tr>
<td>Viscosity Index</td>
<td>147</td>
<td>Calculated</td>
</tr>
<tr>
<td>Cold Cranking, cP</td>
<td>&lt;7000 (-20°C)</td>
<td>ASTM D5923</td>
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<tr>
<td>Pour Point, °C</td>
<td>-27</td>
<td>ASTM D97</td>
</tr>
<tr>
<td>Flash Point, °C</td>
<td>&gt;200</td>
<td>ASTM D92</td>
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<tr>
<td>API</td>
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<td>Calculated</td>
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<tr>
<td>Nitrogen, % Weight</td>
<td>0.10</td>
<td>Spectroscopy</td>
</tr>
<tr>
<td>Phosphorus, % Weight</td>
<td>0.03</td>
<td>Spectroscopy</td>
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<tr>
<td>Sulfated Ash, % Weight</td>
<td>0.6</td>
<td>ASTM D874</td>
</tr>
</tbody>
</table>

These properties are typical of the current production. Variations that do not affect product performance are to be expected depending on blending and manufacturing locations. The information above is subject to change without notice.

### Health and Safety:

This product is unlikely to have any adverse health implications or safety hazards when used for its intended application. Avoid contact with skin, use resistant gloves when handling used oil. If skin comes in contact wash immediately with soap and water. For complete information on safe handling and product characteristics please refer to the Safety Data Sheet (SDS) found on our website, [www.royalmfg.com](http://www.royalmfg.com) or call (918)-584-2671.

### Packaging options:

- Quarts
- 1 Gal Jugs
- 5 Gal Pails
- 55 Gal Drums
- 275/330 Gal Totes
- >2000 Gal Bulk