AEROSIL® Fumed Silica
Cable Gel Applications

Use of AEROSIL® fumed silica for cable gels gives excellent performance when it comes to shear-thinning, providing quick recovery and the gel does not require heat to be applied.

- Supports to isolate sensitive optical fibers from external forces.
- Protects the fibers from moisture.
- Provides thickening to help the gel to stay where it is placed.
- Helps to form a seal to keep out contaminants like dust, dirt, and water.
- Is non-conductive / does not negatively influence di-electrical properties.

AEROSIL® fumed silica improves properties of oil-based filling compounds for wire and cables to protect fibers (e.g. optical fibers) as it...

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### AEROSIL® fumed silica recommendation by base oil and required properties

<table>
<thead>
<tr>
<th>Base Oil</th>
<th>Hydrophobicity</th>
<th>Viscosity</th>
<th>Oil Separation</th>
<th>Cone Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polybutene</td>
<td>Hydrophilic</td>
<td>AEROSIL® 200</td>
<td>AEROSIL® 300</td>
<td>AEROSIL® 200</td>
</tr>
<tr>
<td></td>
<td>Hydrophobic</td>
<td>AEROSIL® R 974</td>
<td>AEROSIL® R 202 (R 208) +</td>
<td>AEROSIL® R 202 (R 208) +</td>
</tr>
<tr>
<td>Polypropylene Glycol</td>
<td>Hydrophilic</td>
<td>AEROSIL® R 106</td>
<td></td>
<td>AEROSIL® R 202 (R 208) ++</td>
</tr>
<tr>
<td>Polyalpha-olefin (PAO)</td>
<td>Hydrophilic</td>
<td>AEROSIL® 200 ++ AEROSIL® R 106 ++</td>
<td>AEROSIL® R 974 ++</td>
<td>AEROSIL® R 202 (R 208) ++</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>Hydrophilic</td>
<td>AEROSIL® R 106 ++ AEROSIL® R 974 ++</td>
<td>AEROSIL® R 202 (R 208) ++</td>
<td>AEROSIL® R 106 ++</td>
</tr>
<tr>
<td>Silicon Oil</td>
<td>Hydrophilic</td>
<td>AEROSIL® 200 HV AEROSIL® R 974 ++</td>
<td>AEROSIL® R 202 (R 208) ++</td>
<td>AEROSIL® R 106 ++</td>
</tr>
<tr>
<td></td>
<td>Hydrophobic</td>
<td>AEROSIL® R 202</td>
<td>AEROSIL® R 300 Good with all types</td>
<td>AEROSIL® R 202</td>
</tr>
<tr>
<td></td>
<td>Hydrophobic</td>
<td>AEROSIL® R 974 ++</td>
<td>AEROSIL® R 106 ++</td>
<td>AEROSIL® R 974 ++</td>
</tr>
</tbody>
</table>

### Premium product recommendations

- AEROSIL® R 816: Provides overall the best effects in most base oil systems and gives outstanding stability.
- AEROSIL® R 805: Provides excellent performance in oil separation and cone penetration due to high hydrophobicity as well as giving outstanding stability.

### Symbols

- ++ = Low Hydrophobicity
- ++ = Medium Hydrophobicity
- +++ = High Hydrophobicity
As Evonik supports you in selecting the best suited AEROSIL® product and optimizing current formulations through our Application Technology Group. 

Evonik Resource Efficiency GmbH
Business Line Silica
Rodenbacher Chaussee 4
63457 Hanau-Wolfgang
Germany

PHONE +49 6181 59-12532
FAX +49 6181 59-712532
aerosil@evonik.com