**Molydag® 254N**

**Resin bonded MoS2 lubricant coating**

**DESCRIPTION**

Molydag 254N is one of a series of Acheson resin-bonded lubricant coatings designed to provide dry film lubrication in a variety of industrial, consumer, and military applications. **Molydag 254N** is a synergistic combination of MoS2 and other lubricants dispersed in an epoxy / phenolic resin solution. **Molydag 254N** can be applied by standard brush, dip, spray-tumble, or spray techniques. **Molydag 254N** provides lifetime lubrication and good corrosion resistance for components which are inaccessible after assembly, but nevertheless must continue to function reliably. **Molydag 254N** provides an effective performance, even as a very thin film (12 μm), thus there is little interference with operating tolerances. **Molydag 254N** meets the requirements of GE's A50TF147, Classes A and C.

**BENEFITS**

- Good adhesion to metals
- Low coefficient of friction
- Good wear life (resistance to fretting and galling)
- Corrosion resistance
- Resistance to many chemicals and solvents

**TYPICAL APPLICATIONS**

- Construction equipment
- Business machines
- Jet engine parts
- Woodworking equipment
- Mining equipment
- Cold-heading machinery
- Threaded connections
- Farm machinery
- Aircraft fasteners
- High tension nuts and bolts

**TYPICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Pigment</th>
<th>Molybdenum disulphide and other lubricating solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binder</td>
<td>Epoxy / phenolic resin</td>
</tr>
<tr>
<td>Solids content</td>
<td>54 - 56%</td>
</tr>
<tr>
<td>Viscosity (Brookfield 20°C, 20 rpm)</td>
<td>200 - 1000 mPa.s</td>
</tr>
<tr>
<td>Flashpoint</td>
<td>-4°C</td>
</tr>
<tr>
<td>Density</td>
<td>1340 kg/m³</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>27.5 m²/kg at 10 μm</td>
</tr>
<tr>
<td>Diluent</td>
<td>Methyl Ethyl Ketone</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>24 months from date of qualification under original seal</td>
</tr>
</tbody>
</table>

**TYPICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Colour</th>
<th>Dark grey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static coefficient of friction</td>
<td>0.14</td>
</tr>
<tr>
<td>Service temperature</td>
<td></td>
</tr>
<tr>
<td>-continuous</td>
<td>150°C</td>
</tr>
<tr>
<td>-intermittent</td>
<td>175°C</td>
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</tbody>
</table>

A fully run-in coating has a service temperature of 340°C (continuous) and 400°C (intermittent).

**METHOD OF USE**

Surface Preparation

The performance obtained by a coating of **Molydag 254N** depends on the care given to substrate preparation, application and curing. The following pretreatments are recommended:

**Steel**

Grit or vapour blast, degrease and chemically pretreat with lubrite 2*, Granodine 11* or Bonderite 100*.

**Stainless steel**

Grit or vapour blast, degrease

**Aluminium**

Degrease or solvent clean and pretreat with Alone 1200* or equivalent. Coating may also be applied over anodised surface

**Copper alloys**

Degrease or solvent clean, grit blast, or chemically pretreat with Ebonol C**

* Parker + Amchem ** Enthone, Inc. Equivalent products are available from Turco, Detrex, MacDermid and others.
Mixing
Molydag 254N lubricant is supplied as a one-component concentrate at a solids concentration of 54 - 56%. Dilution depends on the method of application to be used and the coating thickness desired. A 1 : 1 blend of toluene and MEK or only MEK (methyl ethyl ketone) can be used as a diluent. Mixing is best accomplished by mechanical agitation.

Application
Molydag 254N may be applied by spray, dip-, spray-tumble or brush methods according to individual application requirements.
For spray application, external atomising type spray guns are recommended.
Adjust the spray gun to provide a well-atomised spray at 25 to 40 psi (1.8 to 2.8 kg/cm²) air pressure. For maximum corrosion resistance, apply multiple thin coats with a ten-minute air dry period between coats to minimise pin holes. Oven curing is required only after the final coat of lubricant is applied.
Note: It is recommended that an agitator-type spray cup be used to maintain product suspension.

Curing
A normal cure schedule is a cure of 60 minutes at 150°C. However, performance may be improved with a cure of 60 minutes at 200°C. For example, this cure cycle increases the Falex endurance life.

<table>
<thead>
<tr>
<th>STORAGE/HANDLING</th>
<th>Keep container tightly closed when not in use. Store in a cool, well ventilated area. Empty containers may retain hazardous properties.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH &amp; SAFETY</td>
<td>Please consult Material Safety Data Sheet.</td>
</tr>
<tr>
<td>NOTES</td>
<td>Molydag® is a registered trademark of Henkel AG &amp; Co KGaA.</td>
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</tbody>
</table>
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