# Water-Based Phenolic Inks

## For Aerospace Applications

MAST Technologies is a formulator of custom-filled inks and coating materials for aerospace applications. MAST Technologies has developed a custom water-based phenolic ink for use in aerospace and military applications. The product utilizes an industrial waterborne phenolic resin, which was originally designed for pre-preg and laminates. This unique MAST coating material can be loaded with a variety of fillers including conductive carbon particles, high temperature fillers, and low dielectric fillers. MAST Technologies has a 50 gallon ball mill, so large batch manufacturing may be accomplished.

### Typical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent</td>
<td>Water</td>
</tr>
<tr>
<td>Type</td>
<td>phenol-formaldehyde</td>
</tr>
<tr>
<td>Non-Volatiles</td>
<td>&gt;90%*</td>
</tr>
<tr>
<td>Storage Life</td>
<td>6 months at 40 deg F</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>1.5% Maximum</td>
</tr>
</tbody>
</table>

* may vary with specific ink formulation

### Typical Filler Types

- **Conductive Carbon:**
  
  100—1200 Ω/sq (3 mil wet drawdown)

- **EMI Shielding Conductive Particles:**

  < 30 mΩ * cm

### Typical Properties

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<tbody>
<tr>
<td>Viscosity</td>
<td>10 - 50 cP</td>
</tr>
<tr>
<td>Cure Method</td>
<td>Room Temp, Oven, Heat Blanket, vacuum bag</td>
</tr>
<tr>
<td>Environmental</td>
<td>Weather, jet fuel, hydraulic fluids, alcohols, acids, aromatic hydrocarbons</td>
</tr>
</tbody>
</table>

### Application

- Aerospace coatings
- Survivability coatings
- EMI Shielding
- High Temperature Applications
- Treatment of foams or honeycomb materials

### Mixing Equipment

- 0.5 gallon roller jar mill
- 1.5 gallon roller jar mill
- 50 gallon Abbe ball mill

### Method of Application

- Sprayed via HVLP sprayer
- Dipped
- Flow Coated

### Cure Parameters (typical)

- 300°F for 30—150 minutes
- Post cure at 500°F

- Quart Cans
- Gallon Cans
- 30 or 55 Gallon Drums

Please contact a MAST Technologies Technical Representative to discuss your specific application. Visit www.masttechnologies.com for more about capabilities.