Starting Formulation

**SF 2006**

**Black Semi-Gloss Enamel**

**EPON™ Resin 1007F / Beetle 227-8**

**Features**
- Excellent chemical resistance
- Excellent flexibility and adhesion

### Formula

#### Part A - Grind Charge (Ball Mill)

**Pigments**
- Raven 500 Beads
  - Supplier: Columbian Chemicals Co.
  - Pounds: 13.0
  - Gallons: 0.87
- Celite 281
  - Supplier: Manville Filtration & Minerals
  - Pounds: 13.0
  - Gallons: 0.68

**EPON Resin 1007F Solution**
- EPON Resin 1007F
  - Supplier: Hexion
  - Pounds: 259.8
  - Gallons: 29.53
- Ethyl 3-ethoxy propionate
  - Supplier: Eastman Chemical Products, Inc.
  - Pounds: 139.4
  - Gallons: 17.71
- Xylene
  - Supplier: Shell Chemical Co.
  - Pounds: 31.8
  - Gallons: 4.44
- Toluene
  - Supplier: Shell Chemical Co.
  - Pounds: 104.7
  - Gallons: 14.61

**Total Part A**
- Pounds: 561.7
- Gallons: 67.84

#### Part B - Letdown (In Mill)

**Urea Resin and Solvents**
- BEETLE 227-8
  - Supplier: Cytec Industries
  - Pounds: 117.8
  - Gallons: 14.18
- Propylene glycol methyl ether acetate
  - Pounds: 62.6
  - Gallons: 7.80
- Xylene
  - Supplier: Shell Chemical Co.
  - Pounds: 70.5
  - Gallons: 9.84

**Total Part B**
- Pounds: 250.9
- Gallons: 31.82

#### Part C - Silicone Oil Addition

**Dow-Corning 200 Fluid Solution**
- (1.0% nonvolatile in Propylene glycol methyl ether acetate/toluene; 1/1 by weight)
  - Pounds: 2.6
  - Gallons: 0.34

**Total Part C**
- Pounds: 2.6
- Gallons: 0.34

**Total Part A & B & C**
- Pounds: 815.2
- Gallons: 100.00

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Mixing Instructions

Part A
- Pounds: 561.7
- Gallons: 67.84

Part B
- Pounds: 250.9
- Gallons: 31.82

Part C
- Pounds: 2.6
- Gallons: 0.34

Part A + B + C
- Pounds: 815.2
- Gallons: 100.00

Charge the pigments, EPON Resin 1007F and solvents to a ball mill, and grind the mixture for at least 45 hours (pigment agglomeration may result in the finished paint if shorter grinding times are employed). Let down in the mill with the BEETLE 227-8 and remaining solvents. Transfer material into a suitable container and add the diluted silicone oil solution. The silicone oil addition should be made in a separate mixing tank to avoid contamination of the mill.

Typical Handling

The finished paint formulation should have a viscosity suitable for spray application with no additional letdown. This coating system should be baked for 20 minutes at 350 °F.

Typical Formulation Table 1 / Formulation Properties

<table>
<thead>
<tr>
<th>Properties</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPON Resin 1007F/BEETLE 227-8 ratio (solids)</td>
<td>By weight</td>
<td>70/30</td>
</tr>
<tr>
<td>Nonvolatile content by weight</td>
<td>%</td>
<td>28.2</td>
</tr>
<tr>
<td>Weight per gallon</td>
<td>lb/gal</td>
<td>8.2</td>
</tr>
<tr>
<td>Pigment : Binder Weight Ratio</td>
<td></td>
<td>0.13/1.0</td>
</tr>
<tr>
<td>Pigment volume concentration (PVC)</td>
<td>%</td>
<td>7.1</td>
</tr>
<tr>
<td>Volatile Organic Compound (VOC)</td>
<td>lb/gal</td>
<td>5.82</td>
</tr>
<tr>
<td></td>
<td>g/L</td>
<td>698</td>
</tr>
<tr>
<td>Gloss, 60 degrees</td>
<td>hrs</td>
<td>50-55</td>
</tr>
</tbody>
</table>

Storage

Recommendations regarding storage conditions can be obtained by visiting our web site at www.hexion.com.

General Information

These are starting formulations and are not proven in the user’s particular application but are simply meant to demonstrate the efficacy of the products and to assist in the development of the user’s own formulation. It is the user’s responsibility to fully-test and qualify the formulation, along with the ingredients, methods, applications or equipment identified herein ("Information"), by the user’s knowledgeable formulator or scientist, and to determine the appropriate use conditions and legal restrictions, prior to use of any Information.

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for more information should be directed to Hexion.

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